

# NEHRU GRAM BHARATI

(DEEMED TO BE UNIVERSITY)



Programme Outcomes, Programme Specific Outcomes,  
Course Outcomes and its Attainment

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<b>B.A.[Ancient History]</b>	
<b>Programme Outcome (POs)</b>	
PO1	The students will be able to understand the importance of our glorious past.
PO2	The students will be able to understand nature and scope of history.
PO3	The students will be able to understand the meaning of nationalism and the respect to word great national personality.
PO4	The students will be able to understand the political history of ancient India and civilization of ancient world.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The students will be able to understand background of our religion, customs, institutions, administration and so on.
PSO2	The students will be able to understand the social, political, religious and economic conditions of the ancient people.
PSO3	The students will be able to analyze relationship between the past and present in lively presented in the history.
PSO4	The students will be able to develop practical skills helpful in the study and understanding of historical events.

### Course Outcome- B.A.[Ancient History]

#### Semester-I

Paper- 1 st (Political History of Ancient India) From-6 th Century B.C to 184 B.C	CO1: To acquire the knowledge of Pre-Mauryan Period and Mauryan Period.
Paper – II (Civilization of Ancient World)	CO1: To acquire the knowledge of Greek Civilization, Roman Civilization and Spread of Buddhism and Islam

#### Semester-II

Paper : 1st (Political History of Ancient India) (From-185 B.C to 319 A.D)	CO1: To acquire the knowledge of Post Mauryan Period, Satvahanas, Sakas and Yavanas and Kushanas.
Paper 2nd (Civilization of Ancient World)	CO1: To acquire the knowledge about South East asia and Chinese Civilization of Han and Tang Period.

#### Semester-III

Paper 1st (Political	CO1: will acquire Political History, literary and Archaeological knowledge of Guptas like Samudragupta, Chandragupta-II, Kumargupta I and Skandgupta.
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History of Ancient India) (From 319 A.D to 467 A.D)	
Paper- 2 nd (Art and Architecture)	CO1: To acquire the knowledge about Harappan and Mauryan and Architecture and Paintings.

#### Semester-IV

Paper- 1 st (Political History of Ancient India) (From 467 A.D to 650 A.D)	CO1: will acquire Political History, literary and Archaeological knowledge of Late Guptas and History of Pushybhuti Dynasty with Special Reference to Harsha.
Paper-II Gupta Art & Architecture	CO1: acquire the knowledge about Locus in Traditional Nagar and Dravida Style their Distinctive Features & Form and Techniques in Temples of Orissa & Pali art. CO2: will acquire the knowledge of Salient features of Art and Architecture of early Medieval Northern India such as Gurjara-Pratihara Art , Chandela Art & Solanki Art (Mount Abu) CO3: will acquire the knowledge of about the salient features of Art and Architecture of South India i.e., Chalukya-Badami, Aihole, Pattadakel & Rastrakutas. CO4: Will acquire the knowledge about the Form and Technique of Pallava-Monoliths (Ratha) and Structural Temple- of Chola Temple.

#### Semester-V

Paper –I (Political History of Ancient India) (From 650 A.D to 1206 A.D)	CO1: Will acquire the knowledge about the Political History of Gurjara Pratihara, Rastrakuta, Pal Dynasty & Tripartite Struggle CO2: Will acquire the knowledge of Origin of Rajputas. CO3: Will acquire the knowledge about the Political History and cultural achievements of Chandel Dynasty and Foreign Invasions of Mahmood Ghajnavi and Turk invasion.
Paper-II (Early Culture and Civilization of India-I)	CO1: acquire the knowledge of all the definitions, scope, relationship of Paleolithic Cultures, Mesolithic Cultures, Neolithic Cultures & Harappan Civilization.

#### Semester-VI

Paper- I (Political History of India) (From 650 A.D to 1206 A.D)	CO1: Will acquire the knowledge about the Political History of Chalukyas of Badami and Kalyani. CO2: Will acquire the knowledge of Arab Invasion & Pandya Dynasty. CO3: Will acquire knowledge of Political History, Administration, Relation with Contemporary Powers, Cultural Achievements of Chola Dynasty.
Paper- II (Early Cultures and Civilization of India-II)	CO1: Will acquire the knowledge 1 st Urbanization, 2 nd Urbanization and Antiquity of Iron of Early Cultures and Civilization of India.
Paper- 3 rd (Indian Culture-II)	CO1: will acquire knowledge of Education and Educational Institutions, Centres of Learning Taxila, Nalanda, Vikramashila of ancient Indian culture, CO2: Will be able to differentiate between Saivism, Vaishnavism, Jainism, Buddhism. CO3: Will acquire knowledge of Sankaracharya, Bhakti Movement. CO4: Will acquire knowledge of Interaction Between Islam and Indian Society.

	CO5: Will acquire knowledge and interpret about the Social and Religious Movement in Nineteenth Century, Indian Nationalism and the Ideology of Ahimsa and Nehru's Socialism & Secularism
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<b>M.A.[Ancient History]</b>	
<b>Programme Outcome (POs)</b>	
PO1	The students acquire in depth knowledge in the field of Ancient History, Culture & Archaeology which make them sensitive enough to solve the issues related with mankind.
PO2	The postgraduates will be acquainted with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking of their respective subjects.
PO3	The program also empowers the post graduates to appear for various competitive examinations or choose the any post graduate or research programme of their choice.
PO4	The students will be ingnted enough through the knowledge of the special P.G. programmed to think and act over for the solution of the various issues prevailed in the human life to make world better than ever.
PO5	Students get knowledge of various research methods can realize importance of research to find solutions of the specific issue.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The understand background of our religions, customs, institution, administration and so on.
PSO2	The study of history to impart moral education.
PSO3	Analyze relationship between past and present is lively presented in the history.
PSO4	Understand the present exiting social, political, religions and economic condition of the people.

### Course Outcome- M.A.[Ancient History] Semester-I

After completion of the Course the student will be able to:

Paper I: Aspects of Ancient Indian Culture (Political, Social and Economic Institutions)	CO1: acquire introductory knowledge about ancient Indian Culture. CO2: will be aware of Political ideas and Institutions of Ancient Indian Culture. CO3: will be aware of Social & Economic Institutions of Ancient Indian Culture.
Paper II: Political History of Ancient India (From 6th Century B.C. to C. 184 B.C.)	CO1: will be aware of various Literary, Epigraphy and Numismatics sources of Political History. CO2: Will acquire knowledge of Beginnings of Historical Age such as Role of Buddhism and Jainism in the formation of kingship and state ; Mahajanpadas ; Political formation and second urbanization and Monarchical and Republican state of sixth century B.C. CO3: Will be aware of Political of Ancient India of Mauryan and Pre-Mauryan period.
Paper III: Indian Palaeography	CO1: Will be aware of Origin and antiquity of Indian Palaeography writing . CO2: Will have the knowledge of various phases of Development of Brahmi

	Script and Features of Mauryan Brahmi, Sunga Brahmi, Satvahana Brahmi , Saka Brahmi, Kushana Phase Brahmi. CO3: Will have knowledge of evolution of Brahmi from Kutila to Nagari Script and beginnings of the Southern alphabets.
Elective Paper IV (a) : Archaeological Theories (Archaeology Group)	CO1: will be aware of Ethnographical and Archaeological Perspective of Archaeological Theories. CO2: Will have sound knowledge of basic units of Archaeological Inquiry about Artifacts, Sites, Archaeological context, Classification & nomenclature of archaeological culture & artifacts and Interface between science and archaeology CO3: Will be aware of Time scales: geological, anthropological and archaeological, Geomorphology and archaeology and the succession of climate phases during the pleistocene and Holocene. CO4: will have knowledge about the Pleistocene Stratigraphy Chronology; Glaciers & glacial formations and River Valleys, terraces and sections.
Elective Paper IV(b) : Elements of Indian Archaeology: Prehistory and historical archaeology (Non Archaeology Group)	CO1: will understand Ethnographical and Archaeological Perspective of Elements of Indian Archaeology. CO2: Will be aware of various methods and techniques of Indian Archaeology. CO3: will be aware of various Palaeolithic, Mesolithic and Neolithic Cultures of India.
Paper V: Tourism Concepts & Principles	CO1: will be aware of basics of Tourism Concepts & Principles. CO2: will be aware of Types and forms of Tourism. CO3: will acquire knowledge about the Tourist transport and International Tourist Organizations.
Paper VI: Indian culture-I (Not for Anc. History Students)	CO1: will be aware of various Sources of study, Definition and characteristics and Factors of Indian Culture. CO2: Will have knowledge of Harappan Civilization, Pre Vedic & Vedic Religion and Indian Paintings related to Indian Culture.

## Semester-II

After completion of the Course the student will be able to:

Paper I: Aspects of Ancient Indian Culture (Religion, Philosophy, Literature and Art)	CO1: will have knowledge of various Sources, approaches and Early History of Religion and also to acquainten the students Later Religions such as Buddhism and Jainism; Vaisnavism and Saivism and Other minor sects. CO2: will be able to expose the students with Philosophy, literature and art os Ancient Indian Culture.
Paper II: Political History of Ancient India (From C. 185 B.C. to 319 A.D.)	CO1: will be aware of various Literary, Epigraphy and Numismatics sources of Political History of ancient India. CO2: Will acquire in-depth knowledge of Post Mauryan Period, Satvahanas, Sakas and Kushanas.
Paper III: Indian Numismatics	CO1: Will be able to attain in depth knowledge of origin and antiquity of Coinage in Ancient India. CO2: Will have the knowledge of local ancient coins, Indo-Greek Coins, Kushanas and Guptas Coinage in Ancient India.
ELECTIVE Paper IV: (a) Archaeological Methods and Techniques (Archaeology Group)	CO1: will be aware of traditional, Scientific and various Archaeological methods and techniques of excavation and its Stratigraphy & Stratification, Chronology, preservations & reporting.

Elective Paper IV: (b) Elements of Indian Archaeology: Protohistory and Historical Archaeology (Non Archaeology Group)	CO1: will have in-depth knowledge of Harappan and Non Harappan Chalcolithic Cultures CO2: Will be aware of Antiquity of iron and Iron ages of North and South India.
Paper V: Travel Agency Management	CO1: will be aware of basic Travel Formalities, CO2: Will gain knowledge of the procedures of approval of Travel Agents and Tour Operators. CO3: Will be aware of functions of Travel Agency and Itinerary Preparation. CO4: Will be aware of functions of Tour Operator, Market research and Package formulation CO5: Will have knowledge of Public and private Sector Travel Agency business.
Paper VI: Indian Culture -2 (Main Features of Ancient Indian Society and state) (Not for Ancient History Students)	CO1: will be aware of Literary and Archaeological sources of Indian Culture. CO2: Will be able to understand the Varnashrama and Caste System in Ancient India. CO3: Will have knowledge of Position of women in Ancient India, Characteristics of Ancient Indian Kingship and Guild, Trade and commerce of Kushanas & Guptas period of Ancient Indian Society.

### Semester-III

After completion of the Course the student will be able to:

Paper I: Political History of Ancient India (From A.D. 319 to 550 A.D.)	CO1: will have knowledge of Political History Early Guptas, Samudragupta, Chandragupta II and History of Late Gupta Period of Ancient India.
Paper II: Historiography and Theories of History	CO1: will be aware of Trends and approaches to the modern historiography of nineteenth and twentieth centuries. CO2: Will acquire in-depth knowledge of nature of Historical methodology and historical explanation.
Paper III: Social History of India (From Earliest Times to Circa 6th Century AD)	CO1: Will be able to attain in depth knowledge ancient Indian society and Ancient Social Institutions. CO2: will have knowledge about the Study of Labours and outcastes of Earliest times to Circa 6th Century AD.
ELECTIVE Paper IV: (a) Economic History of India (From earliest time of 6th century A.D.)	CO1: will be aware of Historical study of economy, Agriculture, Trade and Commerce, Corporate activities, Revenue system, Money lending and Currency Systems of earliest time of 6th century A.D. .
Elective Paper IV: (b) Pre-History : Palaeolithic Cultures (With Special Reference to India)	CO1: will have knowledge Outlines of Prehistoric culture of world CO2: Will be aware of Lower Palaeolithic, Middle Paleolithic and Upper Palaeolithic Culture of India.
Elective Paper IV: (c) Indian Protohistory	CO1: will gain in-depth knowledge of of Characteristic features, Origin and extent and Decline, Important Harappan Sites and Chalcolithic Cultures.
Elective Paper IV: (d) Ancient Indian	CO1: will be aware of Historiography, Approaches and Sources, Harrapan and Mauryan Architecture.

Architecture-I	
Elective Paper IV: (e) Ancient Indian Art and Aesthetics-I	CO1: will be have knowledge of Various Dynastic Art, Buddha Iconography and Jain Iconography.
Elective Paper IV: (f) Ancient Indian Religious and Philosophical Thoughts-I	CO1: will acquiant knowledge about the Foundation of Indian religion, various Sectarian Proliferation, Yajna ritual and Philosophical thoughts of Gita, Sankhya and Upnishads.
Paper IV: (g) Ancient Indian Religious and Philosophical Thoughts-II	CO1: will acquiant knowledge about the Religious trends, Systems and Thoughts of Saktism, Tantrism, Saiva schools and sects, Vaisnava school and sects.
Paper V: Tourist Resources of India	CO1: will have knowledge of Tourism Resources on the Natural sites like and other popular and pilgrimage sites and handi crafts of India.
Paper VI: Indian culture-3 (Ancient Indian Religion and Philosophy) (Not for Ancient History Students)	CO1: will have an Introductory knowledge of Saivism, Vaisnvism Sects, Jainism, Buddhism, Shankaracharya and Bhakti Movement.

## Semester-IV

After completion of the Course the student will be able to:

(1) CORE COURSE Paper I: Political History of Ancient India (From A.D. 550 to 1200 A.D.)	CO1: will have in-depth knowledge of History of Post-Gupta Period. CO2: will be aware of History of Pushyabhauti dynasty and Chalukyas of Badami. CO3: Will have knowledge of Political History of Gurjar-Pratihara, Palas, Rashtrakutas, Tripartite Struggle, Chandellas, Chahamanas, Ghaznavi's invasion & Turk invasion.
Paper II: Social History of India (From Circa 7th Century A.D. to 12th Century A.D.)	CO1: Will be aware of the trends and approaches to study of ancient Indian society Transitional Phase from Ancient to Early Medieval Period & Socio-economic changes during the early medieval period CO2: Will acquire in-depth knowledge Historical Study of Vertical classification of Society, Institutions, Position of Women, and position of Education in the Society
Paper III: Oriental Tradition of Historiography With Special Reference to India	CO1: Will be able to attain in depth knowledge of History of Vedic and Puranic Traditions and Epics, Buddhist & Jain Traditions and Charit Literature. CO2: will have knowledge about the Kashmir chronicles and Modern historians of ancient India.
ELECTIVE Paper IV: (a) Economic History of India (From Circa 7th century A.D. 12th Century A.D.)	CO1: will gain in-depth knowledge about the History of Agriculture, Trade and Commerce, Industries and Corporate life, History of Revenue and Monetary Systems and Settlement of Debts.
Elective Paper IV: (b) Paper IV: Pre-History: Mesolithic and Neolithic Cultures (With Special Reference to	CO1: will have knowledge about the Palaeo-environment of Holocene, Mesolithic and Neolithic cultures in India. CO2: Will be aware of Mesolithic and Neolithic tool technology and typology and Rock-Art.

India)	
Elective Paper IV: (c) Indian Iron Age/Historical Archaeology of India	CO1: will gain in-depth knowledge of General Features of Iron Age/Early Historical Archaeology of India Emergence of Iron in India and Origin and Antiquity of Iron. CO2: Will be aware of various Early Iron Age Cultures, Northern Black Polished Ware Culture and Sites. CO3: Will have knowledge about Second Urbanization, Indo-Roman Contacts and various Megalithic Culture of ancient India.
Elective Paper IV: (d) Ancient Indian, Art and Aesthetics-II	CO1: will be aware of Historiography, Approaches and Sources of various Dynastic Art, Hindu Iconography, Terracotta Traditions and Painting traditions of Ancient India.
Elective Paper IV: (e) Ancient Indian Architecture-II	CO1: will be have knowledge of Origin and growth of temple architecture-Socio-religious and technical factors and Principles of Vastu Vidya. CO2: Will be aware of the distinctive features , forms and techniques of Gupta Temples, Orissa Temples and Khajuraho Temples, Chalukyan temples, Pallava-Monoliths (Ratha) and Chola temples.
Elective Paper IV: (f) Ancient Indian Religious and Philosophical Thoughts-III	CO1: will be aware of the religious and philosophical thoughts of Jainism, Buddhism, Ajivika, Smarta traditions, Syadvad and Sunyavad.
Paper IV: (g) Paper IV: Ancient Indian Religious and Philosophical Thoughts-IV	CO1: will acquiant knowledge about the Ascetic tradition, Bhakti-Alvar and Naynar , Buddhism-Tantric phase and decline, Jainism-schools and sects, Minor cults and Philosophical thoughts of Ancient India.
Paper V: Tourism Policy and Planning	CO1: will be aware of methods of Formulating Tourism policy and Role of government and Tourism Policy of Uttar Pradesh and Rajasthan. CO2: Will have knowledge about Conceptual Meaning of Tourism planning , Warsaw Convention & Open sky policy.
Paper VI: Indian culture (Not for Ancient History Students)	CO1: will have an knowledge of Social and Religious Movement in Nineteenth Century, Freedom Movement, Indian Nationalism, The Ideology of Ahimsa, Pt. J.N. Nehru: Ideals of Socialism, secularism, Tagore's Humanism and Subhash Chandra Bose.

<b>B.A.[Education]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Students develop an understanding of Concepts, theoretical frameworks, perspectives and methods of inquiry.
PO2	Students are trained to think rationally and critically.
PO3	Students learn to appreciate diversity and develop cultural sensitivity.
PO4	Recognition of self as an individual with strengths and weaknesses.
PO5	Students imbibe human values and become responsible citizens.
PO6	Eligible for admissions to post-graduate programs for further studies.

## Course Outcome - B.A. [Education]

Semester-I

After completion of the Course, the student will:

Paper- 1 Introduction of Education	CO1: be able to understand the meaning, nature , scope and aims of Education. CO2: be able to explain the factors of education and their interrelationship. CO3: be aware of different agencies of education and acquainted with the concept of child-criticism and play-way in education.
Paper – II History of Indian Education	CO1: be acquainted with the salient features of education in India during ancient and medieval period. CO2: be acquainted with the development of education in British India. CO3: be ware of significant points of selected education commissions and National policy of Education in Independent India.

#### Semester-II

After completion of the Course, the student will:

Paper- 1 Psychological Foundation of Education	CO1: be able to understand the meaning of psychology and will b acquainted with its different aspects. CO2: have knowledge of the patterns of different aspects of human development and will be able to relate this with that of education. CO3: be acquainted with the cognitive approach of development and will understand the process and factors of cognition.
Paper – II Philosophical Foundation of Education	CO1: Understand the meaning and relation of philosophy and education. CO2: Understand the Importance of Philosophy of education. CO3: be acquainted with the Indian & western schools of Philosophy and their impact on education. CO4: have developed understanding of philosophy for development of humanity.

#### Semester-III

After completion of the Course, the student will:

Paper- 1 Sociological Foundation of Education	CO1: understand the nature, scope and relation between Sociology and Education. CO2: able to explain the concept of Social Groups and Socialization process. CO3: be able to understand the concept of social changes and social interaction in education. CO4: be aware of social communication in education.
Paper – II Guidance and Counselling	CO1: have knowledge about the concept, types of guidance and Counselling.. CO2: be able to find out the basic data necessary for guidance.

#### Semester-IV

After completion of the Course, the student will:

Paper- 1 Educational Measurement & Evaluation	CO1: understand the concepts of measurement and evaluation in education. CO2: be acquainted with the process of evaluation and different types of measuring instruments.. CO3: understand the concept of validity and reliability and their importance in educational measurement. CO4: be acquainted with the principles of test construction.
Paper – II Emerging Trends in Education	CO1: be aware of emerging trends in education such as Environmental Education, Distance Education, Population education, Value education and Teacher education.

#### Semester-V

After completion of the Course, the student will:

Paper- 1 Educational Organization Management and Planning	CO1: understand the concept of an ideal organization in educational institutions. CO2: have knowledge about the essential functions of educational management. CO3: able to understand different aspects of planning.
Paper – II	CO1: understand the use of educational technology (ICT and e-learning) in

Technology in Education	education and for communication, CO2: be acquainted with the system approach. CO3: be acquainted with the instructional techniques and different models of teaching.
Paper – III Statistics in Education	CO1: understand the need and importance of statistics in education. CO2: be able to calculate frequency distribution, mean, median, mode and variability-standard deviation. CO3: be able to represent Data-Histogram and Polygon graphically. CO4: able to understand the the concept of calculation of derived Z, T and Standard scores.

#### Semester-VI

After completion of the Course, the student will:

Paper- 1 Curriculum Studies	CO1: able to understand the concept, nature , types and approaches of curriculum. CO2: understand the relation among curriculum, pedagogy and assesment. CO3: understand about curriculum development and natioanl curriculum framework 2005. CO4: acquainted with content selection theories and able to understand evaluation & reforms of curriculum.
Paper – II Inclusive Education	CO1: be able to understand meaning of inclusion and exclusion, types and causes and how to bring about inclusion in different spheres.
Paper – III Experimental Education and Viva-voce	CO1: be able to practically perform the experiments on Free Association, Span of Apprehension, Mirror Drawing and measurement of mental fatigue and explain them orally. CO2: able to test Admininstrative Tests and express them orally.

### M.A.[Education]

Programme Outcome (POs)	
PO1	Equipped with in-depth and extensive theoretical and practical knowledge and understanding of their disciplines to meet career needs.
PO2	Equipped with an inter disciplinary perspective.
PO3	Able to create new knowledge and opportunities for learning through the process of research and inquiry.
PO4	Able to use a basic range of established techniques to analyse information and propose solutions.
PO5	Able to communicate accurately and reliably to a range of audiences.
PO6	Able to exercise personal responsibility and decision-making and able to work in a group.
PO7	Able to identify their own learning needs and to select an appropriate program of further study.
PO8	Possess behaviour consistent with academic integrity and social responsibility.
PO9	Be Confident and skilful to take up responsibilities and challenges and able to meet targets and deadlines.

### Course Outcome- M.A.[Education]

#### Semester-I

Course Outcome (COs): After completion of the course, the student :	
Paper-I Philosophical Bases of	CO1: Will be aware of Meaning, Nature and Scope of Education and Philosophy, Relationship between Education & Philosophy CO2: Will have knowledge about Western Philosophies and their Major schools

Education: Western Philosophies	and Modern Concepts of Philosophy. CO3: Will be aware of Great Western Educators and concepts of Democracy and Education & Education and Freedom.
Paper-II Sociological Bases of Education	CO1: Will be aware of the Meaning and scope of Sociology of Education, Need of Sociological perspective in Education. CO2: Will understand the Role of Education in context to Culture, Social Change and Social Stratification.
Paper-III Methodology of Educational Research	CO1: Will be aware and understand the meaning and purpose of research, research problem and its various phases and different methods. CO2: able to differentiate Qualitative and Quantitative research. CO3: able to select and formulate a research problem, formulate a hypothesis. CO4: Will be able to understand population and sampling and its types. CO5: Aware of the various methods of educational research.
Paper-IV (A) History of Indian Education	CO1: Will be able to understand the aims, curriculum, methods of instruction, teacher-taught relations and educational institutions of Vedic, Buddhist and medieval period Muslim Education. CO2: Will have knowledge about various phases of Education during the British period, Indian response to western education and Education in the post Independence Period.
Paper-IV(B) Population Education	CO1: Will have understanding of the concept need, terminology and importance of population education. CO2: Will be aware of Population Dynamics and factors affecting population growth. CO3: Will have knowledge about the Population and quality, Population and literacy campaigns, Population education in Schools in India.
PAPER V	CO1: Will have knowledge about the History of Indian Education and also will be able to understand Philosophical, Sociological Bases of Education and about Methodology of Educational Research.
M.A. (Education) Paper-VI (Credit-03) Not for M.A. (Edu) Students) Personality Development and Yoga (I)	CO1: Will be acquainted with the knowledge of various forms of Visual Arts.

#### Semester-II

<b>Course Outcome (COs):</b> After completion of the course, the student :	
Paper-I Comparative Education	CO1: Will be aware of the Meaning, Scope and major concepts and methods of comparative education. CO2: Will be aware of various factors and approaches of Comparative education. CO3: Will be able to compare the Educational Systems of Various Countries. CO4: Will be able to determine the causes and solutions of problems prevailing in developing countries through education.
Paper-II Psychological bases of Education	CO1: Will understand the major concepts, Concerns and Scope of Education Psychology, Contribution of Psychology to Education, Sequential Stages of Human Development with their General Characteristics and the related problems and factors influencing their development. CO2: Will be aware of the various theories of learning, Intelligence and Creativity

	and types of personality and their assessment.
Paper-III Educational Administration and Management	CO1: Will be aware and understand the meaning, principals, types, theories and Functions of educational administration. CO2: able to understand Role of Central, state and local bodies in education. CO3: will be aware of modern concept of educational administration.
Paper-IV (a) ESSAY	CO1: Will be able to write an essay critically on any of the prescribed topic.
Paper-IV(B) COMPUTER EDUCATION	CO1: Will have Introductory knowledge of the concept and Importance of Information Technology, Fundamentals of Computers CO2 : Will have practical knowledge of modern Word Processing Applications.
PAPER V Practical Work & Viva-Voce	CO1: Will be able to prepare a detailed report on various Educational Facts Psychological tests.
M.A. (Education) Paper-VI Personality Development and Yoga (I)	CO1: Will be acquainted with the knowledge of various forms of Performing Arts.

#### Semester-III

<b>Course Outcome (COs):</b> After completion of the course, the student :	
Paper-I SPECIAL EDUCATION	CO1: Will be aware of Know about the meaning and scope of special education in India. CO2. Will be aware of various commissions for children with special needs. CO3: Will be able to Identify the specific characteristics and understand modalities and various education intervention programmes for meeting the needs of exceptional learners.
Paper-II EDUCATIONAL GUIDANCE AND COUNSELLING	CO1: Will be able to understand the concept, Principles and Nature of Guidance Programme, Types of guidance and Role of the teacher and Agencies in guidance. CO2: Will be aware of the Vocational Guidance concept and its Nature of work, Theories and approaches to career guidance, Vocationalisation of secondary education and career development. CO3: Will be aware of the Counseling Process, its Concept, nature, principles approaches and its characteristics CO4: Will also be able to know about guidance to Children with special needs and role of the teacher in helping such children.
Paper-III FOUNDATION OF TECHNOLOGY	CO1: Will be aware and understand the Concept, Meaning, Nature, Scope and significance, Components, System Approach of ET. CO2: able to understand Concept, Nature, Process, Components, Types & Theories of Classroom Communication with Mass media approach. CO3: will have knowledge of Modification of Teaching Behavior, Micro teaching, Flanders's Interaction Analysis, Simulation and Models of Teaching. CO4: Will be aware of Programmed, Teaching machines, Computer Assisted Instruction and various Resource Centers for Educational Technology.
Paper-IV (A) INDIAN PHOLOSOPIES OF EDUCATION	CO1: Will be aware of basic concepts of Indian Philosophy and Education, Indian schools of thought and Six Schools of Thought. CO2: Will be able to do appraisal of the contribution toward education of Vivekanand, Aurbindo, Gandhi and Tagore critically.
Paper-IV (B) Educational	CO1: Will have knowledge about the Need and Importance of Educational Measurement and Evaluation.

Measurement and Evaluation	CO2: Will be aware of Scales of measurement Norms, Models in Educational evaluation, Test Norms. CO3: Will be aware of the tools for measuring intelligence personality, Aptitude, Interest, Creativity. CO4: Will have knowledge about the Evaluation Programme, Institutional Programme Evaluation; Methods of feedback from students, Examination reform, Grading system, Continuous internal Assessment, Semester System, Question Bank, Use of Computer in Examination and Evaluation and On line Examination on Demand.
Paper-V Writing Research Proposal	CO1: Will gain ability of Writing and Presentation of a Research Proposal.

#### Semester-IV

<b>Course Outcome (COs):</b> After completion of the course, the student :	
Paper-I ENVIRONMENTAL EDUCATION	CO1: Will have knowledge about the Concept, Importance and Scope of Environmental Education. CO2: Will be aware of Concept of environment and ecosystem and application of technological tools & systems for solving the present Environmental Problem through Education.
Paper-II ECONOMICS OF EDUCATION	CO1: Will be aware of concept, definition, scope and Importance of Economics of Education. CO2: Will be able to interpret Education as an Industry and Education as Investment. CO3: Will be able to interpret Economic Development and Modernization with the educational development CO5: Will be acquainted with the knowledge of resources for Education at various levels and problems of financing, Grant-in-aid system.
Paper-III DISTANCE EDUCATION	CO1: Will be aware and able to understand Distance Education System, Definitions and Teaching Learning Components. CO2: Will be aware of Distance Teaching Learning Systems in India and open universities of U.K. Australia & China. CO3: Will be aware of Information and Communication Technologies and their Applications in Distance Education, Designing and Preparing Self-Instructional Material, Role of Media and Distance Educator.  CO4: Will be aware of Student Support Services and their Management, Technical and Vocational Programmes, Rural Development and Problems of Distance Learners CO5: Will be acquainted with the knowledge of Quality Enhancement and Program Evaluation, Mechanism and Maintenance of Standards in Distance Education.
Paper-IV TEACHER EDUCATION	CO1: Will be aware of Meaning & Scope and objectives of teacher education at different levels. CO2: Will be able to understand preparation of Teachers for pre-primary, primary & secondary stages of education, Professional preparation of teacher educator & educational administrators and Preparation of teachers for the teaching of Particular subjects (Languages, social sciences and physical sciences) CO3: Will have knowledge of Student-teaching programme, Pattern of student-teaching (internship, block teaching, teaching practice, offcampus teaching programme), Techniques of training. Core teaching. Microteaching and Interaction analysis.

Paper-IV (B) Curriculum Development	CO1: Will be able to understand the bases and determinants of curriculum, Curriculum development, Theories and procedures. CO2: Will be aware of Principles and Approaches Curriculum Design and organization, Components and source of design, Different models and principles, Deduction of curriculum from aims and objectives of education . CO3: Will be aware of Curriculum Implementation Strategies & Role of Curriculum support materials. CO4: Will be able to understand Importance of evaluation of curriculum, Models of curriculum evaluation, Interpret evaluation of results and method, Issues and trends in curriculum development, curriculum research in India.
Paper-V Viva- Voce	CO1: able to express orally and interpret concepts of Environmental Education , Economics of Education, Distance Education & Teacher Education.
Paper – VI Personality Development & yoga (II)	CO1: Will be able to enhance his personality and mental concentration through practice of Yoga.

<b>B.A.[English]</b>	
<b>Programme Outcome (POs)</b>	
PO1	To understand knowledge in the field of humanities.
PO2	To be cultured and good citizen of India.
PO3	Eligible for admissions to post-graduate programs/Research/further studies.
PO4	To use communication and soft skills.
PO5	To be socially conscious.
PO6	To make all round personality development of the learners.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Students will value literature, language and imagination they will develop a passion for literature, and language.
PSO2	They will develop an ability to read texts in relation to their historical and cultural contexts in order to gain.
PSO3	They will appreciate literatures ability to elicit feeling, cultivate imagination and call us to account as humans.

### Course Outcome- B.A.[English] Semester-I

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>	
Poetry	CO1: Understand & appreciate the works of English literature poets such as : William Shakespeare, John Donne, John Milton, John Dryden and Alexandure Pope
Drama	CO1: Explain the passages from literary point of view of the like George Bernard Shaw –Arms and the Man & Arthur Miller All My Sons
Prose & Fiction	CO1: Understand the essays on Anthology of English prose like Francis Bacon – The Bible, John Milton & John Bunyan, Joseph Addison & R.K. Narayan's The Guide.

### Semester-II

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>
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Poetry	CO1: Understand & appreciate the works of English literature poets such as : Collins William Blake Unit-IV: William wordsworth , Shelley and Keats
Drama	CO1: Explain the passages from literary point of view of the The Merchant of Venice: The theatre of ideas. Its origin, influence and characteristics. CO2: Understand the Significance of various characters: Shylock, Portia, Antonio, Bassanio, Gratiano, Lorenzo, Nerissa, Launcelot Goffo, Salarina, Solanio, Tubal, Doctor Bellario and Balthasar. CO3: Appreciate and analyse the passages from literary point of view of the The title of the „Merchant of Venice“. CO4: Appreciate and analyse the passages from literary point of view of the Sheridan“’s School for scandal is 18th century comedy of manners. CO5. Appreciate "The title School for Scandal".
Prose & Fiction	CO1: Understand the literary significance of essays on Anthology of English prose like Richard Steele: The spectator Club, Oliver Goldsmith – the story of the Man in Black. Samuel Johnson: Letter to chesterfield, Charles Lamb: Dream Children. Robert Louis Stevenson: Walking Tours. & The Collie.

### Semester-III

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>	
Poetry	CO1: Understand & appreciate the works of English literature poets such as : , Tennyson , Browning & Arnold , Hardy. & G.M. Hopkins.
Drama	CO1: Explain the passages from literary point of view of the Shakespeare – Macbeth & Twelfth Night.
Prose & Fiction	CO1: Understand the literary significance of essays on Anthology of English prose like E.V. Lucas & A.G. Gardiner , Robert Lynd & G.K. Chesterton , George Orwell. & Mulk Raj Anand.

### Semester-IV

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>	
Poetry	CO1: Understand & appreciate the works of English literature poets such as : W.B. Yeats, T.S. Eliot, W.H. Auden, Philip Larkin, Wilfred Owen.
Drama	CO1: Explain the passages from literary point of view of the Shakespeare in his plays As You Like It and Julius Caesar.
Prose & Fiction	CO1: Understand the literary significance of essays on Anthology of English modern prose like Aldous Huxley, J.B. Priestly, Bertrand Russel & George Orwell.

### Semester-V

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>	
Fiction	CO1: Understand & appreciate the works of English literature Fictions such as works of : Jane Austen., Thomas Hardy, E.M. Forster and Raja Rao.
Drama	CO1: Explain the passages from literary point of view of the plays by William Shakespeare , T.S. Eliot, John Osborne and Girish Karnad.
Prose & Fiction	CO1: Understand the various shades of Tragedy, Comedy and Romance in Dramas and Novels.

### Semester-VI

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>	
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Fiction	CO1: Understand & appreciate the works of English literature Fictions such as works of : R.K. Narayan, D.H. Lawrence, Shashidesh Pande & George Eliot.
Drama	CO1: Explain the passages from literary point of view of the plays by William Shakespeare , John Webster, G.B. Shaw and Henrik Ibsen.
Prose & Fiction	CO1: Understand the forms and movements of poetry and Lyrics, Renaissance, Neo-Classicism, Romantic Revival, Modernist Movement, Post Modernism and Feminism and Dalit Movement.

## M.A.[English]

<b>Programme Outcome (POs)</b>	
PO1	The Students acquire in depth knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible to solve the issues related with mankind.
PO2	The postgraduates will be acquainted with the social economical, historical, political and philosophical traditional thinking of their respective subjects
PO3	The Program also empowers the postgraduates to appear for various competitive examinations or choose the any postgraduate or research programmes of their choice.
PO4	The M.A. program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.
PO5	The students will be ignited enough through the knowledge of the special P.G. program to think and act over for the solution of various issues prevailed in the human life to make this world better than ever
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	They will develop an ability to read texts in relation to their historical cultural contexts in order to gain a richer understanding of both text and context and to become more aware themselves.
PSO2	Students will value literature language and imagination they will develop passion for literature and language.
PSO3	They will appreciate literature's ability to elicit feeling, cultivate the imagination and call us to account as humans.
PSO4	They will cultivate capacity to judge the aesthetic and ethical value of literary texts and be able to articulate the standards behind their judgments
PSO5	Students will develop appreciation of how the formal elements of language and genre shape meaning.

## Course Outcome- M.A.[English]

### Semester-I

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>	
Paper-I Poetry	CO1: Understand & appreciate the works of English literature poets of Romantic Age such as : Chaucer, Edmund Spenser, Milton, Alexander Pope, John Dryden, William Wordsworth, Samuel Taylor Coleridge and Percy Bysshe Shelley.
Paper-II Drama	CO1: Explain the passages from literary point of view of Dramatists like Sophocles, Christopher Marlowe, William Shakespeare, John Dryden, William Congreve, and George Bernard Shaw.
Paper-III Prose	CO1: Understand the essays of English prose of renowned essayists like Bacon, John Milton, Jonathan Swift, Joseph Addison and Richard & Steele and Charles Lamb .

Paper-IV (a)	CO1: Understand and appreciate the Novels of English Fiction of renowned Western Novelists of 18th Century such as Jane Austen, Jonathan Swift.
Paper-IV (b)	CO1: Understand and appreciate the Novels of English Fiction of renowned Indian and Western Novelists of 19th & 20th Century such as James Joyce and D.H Lawrence, R.K Narayan and Anita Desai etc.
Paper-IV (c)	CO1: Understand and appreciate the Novels of English Fiction of renowned works of Indian Writers of 20th Century such as M.K. Gandhi and J.L Nehru etc.
Paper-V Foundation: Communicative English-I	CO1: Understand and will acquire various skills of Communication, Letter writing, Presentation.
Paper-VI Foundation: Paper	CO1: Will acquire basics knowledge of General English Grammar and its application in writing Essays, translations and to interpret unseen passages etc.

## Semester-II

<b>Course Outcome (COs): After Completing the Course the student will be able to :</b>	
Paper-I Poetry	CO1: Understand & appreciate the works of English literature poets of Romantic age to Modern Poetry such as : John Keats, Alfred Tennyson, Robert Browning, Mathew Arnold, Gerard Manley Hopkins, William Butler Yeats, Thomas Sterns Eliot, Robert Graves etc.
Paper-II Drama	CO1: Interpret from literary point of view of Dramatists Such as Shakespeare, Thomas Sterns Eliot, Samuel Beckett, Galsworthy and Arthur Miller of Twentieth Century.
Paper-III Prose	CO1: Understand the essays of English prose of renowned essayists like Thomas Carlyle, John Stuart Mill, Jawahar Lal Nehru, George Bernard Shaw, and George Will.
Paper-IV (a) Fiction	CO1: Understand and appreciate the Novels of English Fiction of renowned Western Novelists of 18th Century such as Jane Austen & Henry fielding.
Paper-IV (b)	CO1: Understand and appreciate the Novels of English Fiction of renowned Indian and Western Novelists of 19th to 20th Century such as Jane Austen and Charles Dickens, Mulk Raj Anand and Shashi Deshpande
Paper-IV (c)	CO1: Understand and appreciate the Novels of English Fiction of renowned Indian and Western Novelists of 20th Century such as Virginia woolf, Anthony Burgess.
Paper-V English Language Teaching-I	CO1: Understand and will acquire Knowledge and skill of discussion on the Background of English Language and major theories of learning, advantages and limitations.
Paper-VI Foundation: Paper	CO1: Will acquire basics knowledge of General English Grammar and its application in writing Essays, translations and to interpret unseen passages etc.

## Semester-III

<b>Course Outcome (COs): After Completing the Course the student will be:</b>	
Paper-I	CO1: ability to Interrelate the social influence on English literature from the

English Literature and Society	Renaissance period to the present day.
Paper-II (Literary Criticism)	CO1: aware of History of criticism , Theory of Literary and Principal of criticism, Nature and Function of Literature, Changes in Literary Taste, Literature and Psychology, Forms and content in Literature and Literary Genres and critical terms.
Paper-III (Indian Literature)	CO1: acquire knowledge of Indian authors and poets and their works like Toru Dutt, Nissim Ezekiel, Kamla Das, Mulk Raj Anand, Anita Desai, R.K. Narayan, M.K. Gandhi, Sri Auro bindo, J.L. Nehru and Shashi Desh Pande.
Paper-IV (a) Fiction	CO1: Understand and appreciate the Novels of English Fiction of 18th century novels of Henry fielding and Jane Austen.
Paper-IV (b) Fiction	CO1: Understand and appreciate the Novels of English Fiction 19th century novels of Charles Dickens and George Eliot. CO2: Understand and appreciate the Indian Novels of English Fiction of Shashi deshpande, Mulk Raj Anand.
Paper-IV (c) Fiction	CO1: Understand and appreciate the Novels of English Fiction 20th century novel of Thomas hardy and Henry James.
Paper-V Foundation: Communicative English-II	CO1: Understand and will acquire Knowledge and skill of various Communications Skills, Technical/Business Writing, Group Discussions and facing an Interview.
Paper-VI Foundation: Paper	CO1: Will acquire basics knowledge of General English Grammer and its application in writing Essays, translations and to interpret unseen passages etc.

## Semester-IV

<b>Course Outcome (COs): After Completing the Course the student will be:</b>	
Paper-I (Literature and Society)	CO1: ability to Interrelate the influence of Society on English literature from the Renaissance period to the present day and gain ability to Counter culture.
Paper-II (Literary Criticism)	CO1: have in-depth awareness of History and types of Literary critism, Theory of Literature and principles of criticism.
Paper-III (American Literature)	CO1: acquire knowledge of American authors and poets and their works like Walt, Robert Frost, Emily Dickinson, Eugene O Neill & Wallace Stevens.
Paper-IV (a)	CO1: Understand and appreciate the Novels of 18th century novelists such as Oliver goldsmith and Samuel Richardson.
Paper-IV (b)	CO1: Understand and appreciate the Novels of 19 <sup>th</sup> and 20 <sup>th</sup> century Novelists such as Emily bronte and William Make Thackrey. CO2: Understand and appreciate the works of Indian Novelists such as R.K Narayan, Shashi deshpande.
Paper-IV (c)	CO1: Understand and appreciate the works of Novelists of

	20th century such as Virginia woolf and Antony Burgess.
Paper-V Foundation: Communicative English-II	CO1: ability to differentiate between written and spoken English, Guided versus free composition, Issues in teaching English pronunciation, Accuracy and fluency, Skimming and scanning CO2: Will be aware of Lewis's lexical approach, advantages and limitations of teaching grammar formally, User's, teacher's and linguist's grammar, Role of dictionaries in learning a language, Note taking and note making. CO3: Will gain ability to teach literature in English classrooms and will be aware of the role of culture in studying literature, CO4: ability to differentiate between teaching language and teaching literature and aware of the role of the internet in language teaching, their advantages and limitations.
Paper-VI Foundation: Paper	CO1: Will acquire basics knowledge of General English Grammer and its application in writing Essays, translations and to interpret unseen passages etc.

<b>B.A.[Hindi]</b>	
<b>Programme Outcome (POs)</b>	
PO1	हिन्दी विषय के विशेष ज्ञान की प्राप्ति।
PO2	हिन्दी गद्य एवं काव्य का विस्तृत अध्ययन।
PO3	हिन्दी साहित्य के इतिहास का पूर्ण ज्ञान।
PO4	काव्य शास्त्र एवं साहित्य सिद्धान्त एवं हिन्दी आलोचना का विशेष अध्ययन।
PO5	प्रयोजनमूलक हिन्दी का विस्तृत अध्ययन।
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	इस पाठ्यक्रम से स्नातक करने वाले छात्र हिन्दी भाषा के साहित्यिक एवं भाषा विज्ञान सम्बन्धी विशेषताओं से पूर्णतः परिचित हो सकेंगे।
PSO2	विद्यार्थी प्राचीन काल के सामाजिक मानवीय मूल्यों को हिन्दी भाषा के माध्यम से समझ सकेंगे।
PSO3	इस पाठ्यक्रम के माध्यम से हिन्दी भाषा का ज्ञान प्राप्त कर विश्व स्तर पर हिन्दी भाषा को सर्वोत्तम स्थान दिला सकेंगे।
PSO4	हिन्दी भाषा को इस पाठ्यक्रम के माध्यम से विद्यार्थियों के व्यावहारिक पटल पर भी उपयोगी बनाया गया है।
PSO5	इस पाठ्यक्रम को पढ़ने के पश्चात विद्यार्थी परास्नातक हिन्दी भाषा में अध्ययन कर सकेंगे।

### Course Outcome- B.A.[Hindi]

#### Semester-I

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र आधुनिक हिन्दी कविता (द्विवेदी युगीन एवं छायावादी कविता)	CO1: द्विवेदी युगीन एवं छायावादी कविता एवं साहित्य को समझने एवं उसका आलोचनात्मक व्याख्या करने में सक्षम।

द्वितीय प्रश्न-पत्र गद्य साहित्य की विभिन्न विधाएं	CO1: गद्य साहित्य की विभिन्न विधाओं जैसे कि निबन्ध, नाटक एवं एकांकी को समझने एवं उसकी व्याख्या करने में सक्षम।
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## Semester-II

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र आधुनिक हिन्दी कविता (प्रगतिवादी एवं प्रयोगवादी कविता)	CO1: प्रगतिवादी एवं प्रयोगवादी कविता एवं साहित्य को समझने एवं उसका आलोचनात्मक व्याख्या करने में सक्षम।
द्वितीय प्रश्न-पत्र हिन्दी गद्य साहित्य (कहानी एवं उपन्यास)	CO1: कहानी एवं उपन्यास के उदभव एवं विकास की व्याख्या करने में सक्षम।

## Semester-III

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र भक्तिकालीन हिन्दी काव्य	CO1: भक्तिकालीन हिन्दी काव्य और कवियों एवं उनके साहित्य को समझने एवं उसका आलोचनात्मक व्याख्या करने में सक्षम।
द्वितीय प्रश्न-पत्र हिन्दी साहित्य का इतिहास (आदि कालीन एवं भक्ति कालीन)	CO1: आदि कालीन एवं भक्ति कालीन हिन्दी साहित्य की व्याख्या करने में सक्षम।

## Semester-IV

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र रीतिकालीन हिन्दी काव्य	CO1: रीतिकालीन हिन्दी काव्य और कवियों एवं उनके ग्रन्थों को समझने एवं उसका आलोचनात्मक व्याख्या करने में सक्षम।
द्वितीय प्रश्न-पत्र रीतिकालीन एवं आधुनिक कालीन साहित्य का इतिहास	CO1: रीतिकालीन एवं आधुनिक कालीन हिन्दी साहित्य का इतिहास एवं लेखकों द्वारा सचित साहित्य की व्याख्या करने में सक्षम।

## Semester-V

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र काव्य भाषा और हिन्दी भाषा	CO1: काव्य भाषा का स्वरूप और उसकी विशेषताओं का ज्ञान । CO2: प्राचीन भारतीय आर्य भाषाओं का संक्षिप्त परिचय । CO3: मध्यकालीन भारतीय आर्य भाषाओं के विकासात्मक लक्षण और उनकी विशेषताओं का ज्ञान । CO4: हिन्दी शब्द भण्डार के स्रोतों के विषय में जानकारी ।
द्वितीय प्रश्न-पत्र भारतीय काव्यशास्त्र तथा आलोचना	CO1: भारतीय काव्यशास्त्रीय सम्प्रदायों का संक्षिप्त परिचय, काव्य गुण एवं दोष, छन्द की परिभाषा और उनके प्रमुख भेदों के विषय में ज्ञान । CO1: हिन्दी आलोचना तथा संबंधित साहित्य चिंतन, समीक्षा एवं आलोचना करने में सक्षम ।
तृतीय प्रश्न-पत्र प्रयोजन मूलक हिन्दी	CO1: प्रयोजन मूलक हिन्दी की अवधारणा और उसका अनुप्रयोग ज्ञान । CO2: पारिभाषिक शब्दावली एवं प्रशासनिक हिन्दी शब्दावली के प्रयोग एवं उनके प्रकारों का ज्ञान । CO3: हिन्दी में मीडिया लेखन , जनसंचार माध्यमों के प्रकार एवं उनकी भाषिक प्रवृत्ति का उपयोग करने में सक्षम ।

### Semester-VI

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र सामान्य हिन्दी (व्याकरण)	CO1: सामान्य हिन्दी में प्रयोग होने वाले व्याकरण एवं उनका प्रयोग करने में सक्षम ।
द्वितीय प्रश्न-पत्र पाश्चात्य काव्य शास्त्र	CO1: पाश्चात्य काव्य शास्त्र में वर्णित विभिन्न सिद्धान्तों को समझने एवं उनकी समीक्षा करने में सक्षम ।
तृतीय प्रश्न-पत्र मौखिकी	CO1: हिन्दी साहित्य तथा काव्यशास्त्र की मौखिक व्याख्या एवं समीक्षा करने में सक्षम ।

### M.A.[Hindi]

<b>Programme Outcome (POs)</b>	
PO1	हिन्दी भारत की समस्त भाषाओं की आधार शिला के रूप में है ।
PO2	हिन्दी काव्य एवं गद्य का समस्त ज्ञान प्राप्त होगा ।
PO3	भारतीय एवं पाश्चात्य काव्य शास्त्र का विशेष अध्ययन ।
PO4	भाषा विज्ञान एवं हिन्दी भाषा का ज्ञानार्जन ।
PO5	हिन्दी व्याकरण एवं प्रयोजनमूलक हिन्दी का विशेष ज्ञान ।
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	इस पाठ्यक्रम के माध्यम से विद्यार्थियों को हिन्दी भाषा एवं साहित्य का विशेष ज्ञान प्राप्त होता होगा ।
PSO2	विद्यार्थीगण भविष्य में हिन्दी अध्यापक के रूप में अन्य प्रशासनिक पदों पर एवं भारत एवं विदेशों में अनेक पदों को सुशोभित कर सकेंगे ।

PSO3	विद्यार्थीगण नेट/जे0आर0एफ0/सेट की परीक्षा उत्तीर्ण करके शोध कार्य कर सकेंगे।
PSO4	इस पाठ्यक्रम के माध्यम से विद्यार्थी उच्च नैतिकता के साथ सुसज्जित एवं लोकसाहित्य एवं सम्पूर्ण भारतीय साहित्य का ज्ञान भी प्राप्त कर सकेंगे।
PSO5	छात्र हिन्दी भाषा के मानवीय मूल्यों को अपने जीवन में आत्मसात करेंगे।

**Course Outcome- M.A.[Hindi]  
Semester-I**

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र प्राचीन एवं भक्तिकालीन हिन्दी कविता	CO1: प्राचीन एवं भक्तिकालीन हिन्दी कवियों चन्द्रबरदाई, विद्यापति, कबीर, जायसी एवं सूरदास द्वारा रचित ग्रन्थों की आलोचनात्मक एवं सप्रसंग व्याख्या करने में सक्षम।
द्वितीय प्रश्न-पत्र आधुनिक गद्य साहित्य	CO1: आधुनिक गद्य साहित्य के प्रमुख निबन्धकारों, उपन्यासकारों, कहानीकारों, नाटककारों एवं एकांकी लेखकों एवं उनकी कृतियों को समझने एवं उसकी व्याख्या करने में सक्षम।
तृतीय प्रश्न-पत्र आदिकालीन एवं भक्तिकालीन हिन्दी साहित्य	CO1: हिन्दी साहित्य का दर्शन, लेखन परम्परा, प्रमुख इतिहास लेखकों और उनके ग्रन्थों की विशेषताएं और महत्व, समस्याएं एवं समाधान के विषय में ज्ञान। CO2: हिन्दी सन्त, सूफी, कृष्ण एवं राम काव्यों की विशेषताएं एवं महत्व की सप्रसंग एवं आलोचनात्मक व्याख्या करने में सक्षम।
वैकल्पिक चतुर्थ प्रश्न-पत्र 1. भाषा विज्ञान एवं हिन्दी भाषा	CO1: हिन्दी भाषा विज्ञान की परिभाषा एवं स्वरूप के विषय में ज्ञान। CO2: हिन्दी भाषा विज्ञान में स्वन प्रक्रिया, व्याकरण, अर्थ विज्ञान की परिभाषा एवं साहित्य के विषय में ज्ञान।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 2. भाषा शिक्षण	CO1: भाषा शिक्षण के विविध आयामों, शिक्षण विधियों, बोधन क्षमता, वाचन क्षमता, लेखन दक्षता, अभिव्यक्ति दक्षता एवं सामाजिक एवं सांस्कृतिक संदर्भ के विषय में ज्ञान। CO2: भाषा प्रयोगशाला में उपयोग किये जाने वाले प्रमुख उपकरणों एवं मूल्यांकन पद्धतियों विषय में ज्ञान।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 3. राज भाषा	CO1: राजभाषा का आशय, महत्व, कार्यक्षेत्र, सवैधानिक स्थिति, प्रयोग की प्रगति, समस्याएं समाधान, भविष्य के विषय में जानकारी एवं चर्चा करने में सक्षम। CO2: राजभाषा एवं राष्ट्रभाषा में अन्तर स्पष्ट करने में सक्षम।

पंचम प्रश्न-पत्र कौशल विकास: प्रयोजन मूलक हिन्दी	CO1: भाषा शिक्षण के विविध आयामों, शिक्षण विधियों, बोधन क्षमता, वाचन क्षमता, लेखन दक्षता, अभिव्यक्ति दक्षता एवं सामाजिक एवं सांस्कृतिक संदर्भ के विषय में ज्ञान। CO2: भाषा प्रयोगशाला में उपयोग किये जाने वाले प्रमुख उपकरणों एवं मूल्यांकन पद्धतियों विषय में ज्ञान।
षष्ठम् प्रश्न पत्र सामान्य हिन्दी	CO1: सामान्य हिन्दी के व्याकरण की बारीकियों से परिचय कराना जैसे वर्णमाला, शब्द रचना, सन्धि, समास, उपसर्ग, प्रत्यय, संज्ञा, सर्वनाम, क्रिया-विशेषण, लिंग, वचन, कारक, विभक्ति, विराम चिन्ह, तत्सम, तदभव, वर्तनी, विलोम एवं पर्यायवाची शब्दों का प्रयोग करने में सक्षम।

## Course Outcome Semester-II

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र छायावादी हिन्दी काव्य	CO1: छायावादी युगीन कवियों जैसे जय शंकर प्रसाद, सुमित्रानंदन पंत, सूर्यकान्त त्रिपाठी निराला एवं महादेवी वर्मा आदि की रचनाओं की सप्रसंग एवं आलोचनात्मक व्याख्या करने में
द्वितीय प्रश्न-पत्र रीति कालीन एवं आधुनिक हिन्दी साहित्य का इतिहास	CO1: रीति काल, आधुनिक काल, द्विवेदी युग एवं छायावाद युगीन रचनाओं को समझने एवं आलोचनात्मक व्याख्या करने में।
तृतीय प्रश्न-पत्र मौखिकी एवं प्रायोगिक	CO1: कार्यशाला, संगोष्ठी, शैक्षिक भ्रमण, अधिन्यास एवं मौखिकी के माध्यम से विषय में पारंगत।
वैकल्पिक चतुर्थ प्रश्न-पत्र 1. पालि	CO1: पाली जातकावली, धम्म पद एवं व्याकरण की समझ।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 2. अपभ्रंश	CO1: छन्दों के वर्गीकरण एवं अपभ्रंश के व्याकरण का प्रयोग करने में।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 3. लोक साहित्य	CO1: प्रमुख लोक साहित्यों एवं उनका वर्गीकरण, लोक नाट्य, लोक कथाओं एवं गाथाओं, लोक नृत्य एवं संगीत के विषय में ज्ञान।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 4. जनपदीय भाषा साहित्य	CO1: भोजपुरी एवं अवधी भाषा का इतिहास, प्रमुख रचनाकार एवं उनकी कृतियों के विषय में जानकारी।
पंचम प्रश्न-पत्र कौशल विकास: भाषा विज्ञान एवं	CO1: भाषा शिक्षण के विविध आयामों, शिक्षण विधियों, बोधन क्षमता, वाचन क्षमता, लेखन दक्षता, अभिव्यक्ति दक्षता एवं सामाजिक एवं सांस्कृतिक संदर्भ के विषय में ज्ञान।

हिन्दी भाषा	CO2: मनोभाषा विज्ञान एवं संज्ञानात्मक भाषा विज्ञान एवं द्वितीय भाषा शिक्षण शिक्षण, विदेशी भाषा शिक्षण लिपि एवं लिपि के विकास को समझने में ।
षष्ठम् प्रश्न पत्र लोक साहित्य	CO1: प्रमुख लोक साहित्यों एवं उनका वर्गीकरण, लोक नाट्य, लोक कथाओं एवं गाथाओं, लोक नृत्य एवं संगीत के विषय में ज्ञान । CO2: प्रमुख लोक कवियों की जीवनियों, लोक भाषा, लोक सुभाषित , मुहावरे, कहावतें एवं पहेलियों का ज्ञान और समझने में ।

### Course Outcome Semester-III

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र छायावादोत्तर एवं स्वातंत्रयोत्तर हिन्दी काव्य	CO1: छायावादोत्तर एवं स्वातंत्रयोत्तर हिन्दी कवियों जैसे हरिवंश राय बच्चन, नवीन, अज्ञेय, धूमिल, नागार्जुन, केदार नाथ सिंह, केदार नाथ अग्रवाल एवं गिरिजा कुमार माथुर आदि की रचनाओं की सप्रसंग एवं आलोचनात्मक व्याख्या करने में ।
द्वितीय प्रश्न-पत्र आधुनिक भारतीय इतिहास	CO1: आधुनिक भारतीय इतिहास का परिचय, मूल्यों की अभिव्यक्ति, अध्ययन और उनकी समस्याओं के विषय में जानने में । CO2: आधुनिक भारतीय इतिहास के बंगला, उड़िया एवं मराठी के प्रसिद्ध रचनाकारों एवं उनकी कृतियों के विषय में चर्चा करने में ।
तृतीय प्रश्न-पत्र प्रयोजन मूलक हिन्दी एवं जनसंचार	CO1: हिन्दी के विभिन्न रूपों की जानकारी एवं कार्यालयी हिन्दी का प्रयोग करने में । CO2: कम्प्यूटर, इंटरनेट, वेब पब्लिसिंग, लिंक, ब्राउजिंग, ई-मेल भेजने, हिन्दी फान्ट, हिन्दी सॉफ्टवेयर एवं पैकेज की जानकारी एवं प्रयोग करने में । CO3: पत्रकारिता एवं मीडिया लेखन में पारंगत ।
वैकल्पिक चतुर्थ प्रश्न-पत्र 1. हिन्दी आलोचना साहित्य	CO1: हिन्दी आलोचना का स्वरूप, ऐतिहासिक विकास क्रम, आलोचनात्मक अवधारणाएं एवं पद्धतियों के विषय में ज्ञान । CO2: हिन्दी आलोचना की दृष्टि से आ० रामचन्द्र शुक्ल, आ० हजारी प्रसाद द्विवेदी, आ० नन्द दुलारे बाजपेयी, डॉ० नगेन्द्र एवं डॉ० राम बिलास शर्मा की कृतियों की आलोचनात्मक व्याख्या करने में ।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 2. नाटक और रंगमंच	CO1: हिन्दी नाटक एवं रंगमंच का संक्षिप्त इतिहास एवं विकास क्रम तथा विभिन्न प्रतिनिधि रचनाकारों की कृतियों की व्याख्या करने में ।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 3. हिन्दी उपन्यास	CO1: हिन्दी उपन्यास का इतिहास, प्रमुख शैलियों एवं प्रतिनिधि उपन्यासकारों की कृतियों की व्याख्या करने में ।
पंचम प्रश्न-पत्र कौशल विकास: सूचना प्रौद्योगिकी एवं हिन्दी	CO1: सूचना और प्रौद्योगिकी का अर्थ एवं अवधारणा तथा महत्व को समझने में ।
षष्ठम् प्रश्न पत्र	CO1: पत्र लेखन, प्रारूपण, टिप्पण एवं टिप्पणी संक्षेपणय प्रतिवेदन

व्यवहारिक हिन्दी	इत्यादि में कार्यालयी हिन्दी का प्रयाग करने में ।
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### Semester-IV

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र स्वातंत्रयोत्तर हिन्दी गद्य साहित्य	CO1: स्वातंत्रयोत्तर हिन्दी गद्य साहित्य के निबन्ध लेखकों, उपन्यासकारों, कहानीकारों एवं नाटक लेखकों रचनाकारों एवं उनकी रचनाओं की सप्रसंग एवं आलोचनात्मक व्याख्या करने में ।
द्वितीय प्रश्न-पत्र काव्यशास्त्र एवं साहित्य सिद्धान्त	CO1: भारतीय काव्यशास्त्र का इतिहास, रस एवं ध्वनि सिद्धान्त, अलंकार, रीति सम्प्रदाय, वक्रोक्ति सिद्धान्त, औचित्य सिद्धान्त की अवधारणा एवं वर्गीकरण की व्याख्या करने में। CO2: प्लेटो, अरस्तु, लोजाइनस, वड्सवर्थ, कालरिज, क्रोचो, टी0 एस0 एलिएट एवं आई0 ए0 रिचर्ड्स में प्रयुक्त मुख्य सिद्धान्तों की अवधारणाओं की समीक्षा करने में सक्षम।
तृतीय प्रश्न-पत्र मौखिकी	CO1: पाठ्यक्रम को मौखिक रूप से अभिव्यक्त करने में सक्षम।
वैकल्पिक चतुर्थ प्रश्न-पत्र 1. पत्रकारिता प्रशिक्षण	CO1: पत्रकारिता के विभिन्न स्वरूपों ओर प्रकार, समाचार पत्रों के विभिन्न स्तम्भों की योजना बनाने, इलेक्ट्रानिक मीडिया की पत्रकारिता, लोक सम्पक एवं विज्ञापन प्रकाशित करने में । CO2: प्रसार भारती तथा सूचना प्रौद्योगिकी, प्रेस सम्बन्धी प्रमुख कानून तथा आचार संहिता एवं प्रजातन्त्र व्यवस्था में चौथे स्तम्भ के रूप में पत्रकारिता के दायित्वों का बोध।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 2. अनुवाद विज्ञान	CO1: अनुवाद का अर्थ एवं परिभाषा, विज्ञान, कोडीकरण की प्रक्रिया एवं महत्व एवं अनुवादक की भूमिका, अनुवाद के प्रकार, सीमाओं का ज्ञान तथा भारतीय एवं पाश्चात्य परम्पराओं की समीक्षा करने में।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 3. पाठालोचन	CO1: पाठ की अवधारणा, पठन पद्धति, पाठक के प्रकार, पाठानुसंधान की समस्याएं एवं पाठालोचन की विभिन्न पद्धतियों का ज्ञान।
वैकल्पिक : चतुर्थ प्रश्न-पत्र 4. साहित्यिक निबन्ध अथवा लघु शोध प्रबन्ध	CO1: साहित्यिक निबन्ध अथवा लघु शोध प्रबन्ध के प्रारूपों एवं लेखन की प्रक्रिया की विस्तृत जानकारी एवं प्रयोग करने में।
पंचम प्रश्न-पत्र कौशल विकास: आधुनिक हिन्दी साहित्य	CO1: आधुनिक हिन्दी साहित्य में आधुनिकीकरण, लोक से जन का संक्रमण एवं हिन्दी भाषा के क्षेत्र, सांस्कृतिक पूंजी एवं ईकाई के रूप में भारत की समीक्षा एवं व्याख्या करने में।
षष्ठम् प्रश्न पत्र जनसंचार एवं हिन्दी पत्रकारिता	CO1: जनसंचार एवं हिन्दी पत्रकारिता में प्रयोग किये जाने वाले जनसंचार माध्यमों के स्वरूप, विस्तार, प्रकार एवं भाषिक प्रकृति की समीक्षा एवं व्याख्या करने में। CO2: समाचार पत्रकारिता के मूलतत्वों एवं प्रजातंत्र में उसके दायित्वों का बोध।

<b>B.A.[Home Science]</b>	
<b>Programme Outcome (POs)</b>	
<b>PO1</b>	Realization of human value
<b>PO2</b>	Responsible and dutiful citizen
<b>PO3</b>	Sense of social service
<b>PO4</b>	Critical temper
<b>PO5</b>	Creative ability
<b>Programme Specific Outcome (PSOs)</b>	
<b>PSO1</b>	Gain knowledge in textile production techniques, fashion and trends
<b>PSO2</b>	Acquire knowledge, skill and attitude to work with the communities
<b>PSO3</b>	Achieve desirable change in the development and empowerment of rural people
<b>PSO4</b>	To acquire the skill in different activities like printing, dying, batik and clothing construction

### Course Outcome –B.A. [Home Science] Semester-I

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Applied Life Science)	<b>CO1:</b> Be aware of Structure of Cell and its organs.
	<b>CO2:</b> Have knowledge Musculoskeletal system , Cardiovascular system , Gastrointestinal system , Respiratory system, Excretory Nervous system and Reproductive system of Humans
	<b>CO3:</b> Be aware of tole of various harmful and beneficial microorganisms.
<b>Paper – II</b> (Fundamental of Art and Design)	<b>CO1:</b> Be able to understand elements and principles of art and design like Line, Size, Form, Texture, Space etc.
	<b>CO2:</b> Develop skills in creating designs and making art objects.
	<b>CO3:</b> Be aware of Colour scheme and Colour Classification.
	<b>CO4:</b> Develop and will be able to apply the principles of art in design in traditional and contemporary art in such as in Decorating Home and Floor with Alpana and Rangoli.

### Semester-II

<b>After completion of the Course the student will be able to:</b>	
<b>Paper- I</b> (Health Care)	<b>CO1:</b> Understand the concept of health and will be able to realize the health problems of the community
	<b>CO2:</b> Be aware of reason, symptoms and remedies major diseases such as small pox. Chicken pox, Khasra, whooping cough, diphtheria, tetanus, polio, hepatitis, TB, Malaria, Cholera typhoid, and AIDS.
	<b>CO3:</b> Be aware of Immunity, Antibiotic, classification of Immune system, schedule of immunization, various vaccinations against infectious diseases.
	<b>CO4:</b> Be aware of primary and Public Health centre (PHCS), Government and non-government like WHO, UNICEF, RED CROSS, ICDS and able to suggest remedial measures to the nearby Community.
<b>Paper – II</b> (Introduction to Resource Management)	<b>CO1:</b> Will be aware of management in the family and develop an ability to recognise the importance of wise use of resources.
	<b>CO2:</b> Will have knowledge of Importance of planning, controlling, evaluation in Management process

	<b>CO3:</b> Will be aware of the Family life cycle & stages, demands of resources in different life cycles and characteristics influencing factors such as life style, type of family, family size, stages of family, Economical factors etc.
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### Semester-III

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Fundamentals of Food and Nutrition)	<b>CO1:</b> Understand the functions of food and the role of various nutrients and their requirements and the effects of deficiency and excess like that of Minerals and Vitamins.
	<b>CO2:</b> Be aware of the structure, composition, nutritional contribution and selection of different food stuff like Macronutrients and Micronutrients, Importance of Fibers and Water.
	<b>CO3:</b> Be familiar with the different methods of cooking, their advantages and disadvantages and their effects on nutritive value and processes of Improving Nutritional quality of foods.
<b>Paper-II</b> (Mother Craft and Child Welfare)	<b>CO1:</b> Be able to Understand the reproductive system of man and women body.
	<b>CO2:</b> Be aware of common disease of children and steps for improving habits in children:
	<b>CO3:</b> Be aware of Pregnancy Symptoms, Discomforts and care in pregnancy the birth process.

### Semester-IV

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Human Nutrition)	<b>CO1:</b> Be able to understand the current trends in nutrition like balanced diet, Meal Planning, Nutritional Requirement and diet plans of Infants, adults and in Old age.
<b>Paper-II</b> (Child Development)	<b>CO1:</b> Develop an ability to improve good habits in the child. And will be aware of the factor affecting child development.

### Semester-V

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Clothing and Textile)	<b>CO1:</b> Be acquainted with the knowledge of different Textiles fibres like Cotton, Wool, Silk, Rayon, Synthetic and their performances, different textile finishes and Special purpose finishes.
	<b>CO2:</b> Will develop skill of weaving and knitting.
<b>Paper-II</b> (Extension Education)	<b>CO1:</b> Be able to understand the concept & Importance of Extension Education Extension training, Audio visual Aids, Management and administration and Guidance and counselling.
<b>Paper-III</b> (Rural Sociology)	<b>CO1:</b> Be acquainted with the knowledge of rural culture for better development.
	<b>CO2:</b> Be aware of the problems and barriers of rural life for better future development.

### Semester-VI

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Clothing Construction)	<b>CO1:</b> Acquire the skills of various Construction Techniques like measurement, drafting, cutting, layout, Sewing, finishing- their meaning and importance

	<b>CO2:</b> Acquire the skills of Fashion design, Selection of fabrics, Maintenance and storage of fabric, methods of laundry and process of Dyeing and Printing.
<b>Paper-II</b> (Communication Process in Development)	<b>CO1:</b> Be aware of the concept, meaning and importance of communication function of communication problem of communication.
	<b>CO2:</b> Have knowledge about the methods of approaching people.
	<b>CO3:</b> Be aware of Audio visual AIDS and the process of communication, their elements and characteristics.
<b>Paper-III</b> (Women Welfare)	<b>CO1:</b> Be acquainted with the knowledge of various government schemes for family and women welfare.
	<b>CO2:</b> Be innovative in the use of existing services to empower women and for community development.

### Program Outcomes of Master of Arts (M.A.[ Home Science]) (PO,s)

<b>PO1</b>	The Program aim at making the students self-reliant with necessary proficiency for a wide variety of career with entrepreneurial skills and placement.
<b>PO2</b>	The Program also empowers the students to appear for various competitive examination or research program of their choice
<b>PO3</b>	The M.A. Program enables the students to acquire the knowledge with human values farming the base to deal with various problems in life with courage and humanity
<b>PO4</b>	The students acquire in depth knowledge in the field of social, Literature and humanities
<b>PO5</b>	Practical training/exposure through field visit, project work, expert lectures, demonstration, workshop and seminar gives hand-on experience to students

### Programme Specific Outcome (PSOs)

<b>PSO1</b>	Assess the health status of population and their related determinants of health and illness
<b>PSO2</b>	Produced researchers with scientific and critical thinking, as well as disciplinary knowledge required for professional jobs in the academy or in other fields
<b>PSO3</b>	Develop knowledgeable and skilled human resources which is employable at the various sectors related to Home Science
<b>PSO4</b>	Apply critical thinking to analyze and problem solve the developmental concerns from birth to death.
<b>PSO5</b>	Integrate the creativity, innovation or entrepreneurship in ways that produce value

### Course Outcome - M.A. [Home Science] Semester-I

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Food and Science)	<b>CO1:</b> Know about the elements of food science. <b>CO2:</b> able to understand the physio-chemical properties of foods, constituents of Food, Food spoilage and techniques of Food preservation,

	<p>check food adulteration etc.</p> <p><b>CO3:</b> To acquire knowledge about microbial intoxication and infections.</p> <p>CO4: Awareness about basics of microbiology.</p> <p>CO5: Able to understand about constituents of food</p>
<b>Paper-II</b> (Human Development)	<p><b>CO1:</b> Understanding the beginning process of life.</p> <p>CO2: Be aware of the stages of Human Development, Determinants, and methods of child study and child development process.</p> <p><b>CO3:</b> To acquire knowledge about birth process, types of birth and complications related to pregnancy</p> <p><b>CO4:</b> to know about different types of changes like social, physical, cognitive, emotional during infancy to Adolescent.</p> <p>CO5:</p>
<b>Paper-III</b> (Consumer Economics)	<p><b>CO1:</b> Will be able to understand consumer, consumer rights and responsibilities, Protection law and the factor influencing standard of living</p> <p><b>CO2:</b> Able to know how to take wise decision and the process of decision making</p> <p><b>CO3:</b> Able to know about consumer problems like adulteration, faulty weight and measure, pricing and other malpractices in the market.</p> <p>CO4: Able to know about consumer living standard</p> <p>CO5: Able to know about consumer's wants and their characteristics</p>
<b>Paper-IV (a)</b> (Theory of Human Development)	<p><b>CO1:</b> Will be able to understand Principles and concept of development and various theories.</p> <p><b>CO2:</b> Demonstrate skills in using tools to assess human behaviour.</p> <p><b>CO3:</b> Relate the principles of human development with self, family and society</p> <p>CO4: Co-relate the practical and theory</p> <p>CO5: To know about different learning theories</p>
<b>Paper-IV (b)</b> Home Management	<p><b>CO1:</b> Will have the knowledge of home management, role, its Obstacles, Factors motivating home and decision making and Lifestyle, types of family, stages of family life cycle.</p> <p><b>CO2:</b> .Be committed as responsible consumers and able designers.</p> <p><b>CO3:</b> Will be able to know about their goals, values, standard and lifestyle.</p> <p>CO4: Enable the students to manage the time in different stages of life cycle.</p> <p>CO5: To equip the students with skill and techniques for simplification of work</p>
<b>Paper-IV (c)</b> Energy Management & Household Equipment	<p><b>CO1:</b> Will understand household energy management.</p> <p>CO2: able to know about household equipment management and appliances.</p> <p><b>CO3:</b> will able to know about technology of alternate sources of energy</p> <p><b>CO4:</b> Will know about energy consumption pattern and energy resources</p>

	of india. CO5: will able to know about uses and care of equipments.
<b>Paper-V</b> Practical (Skill Development)	<b>CO1:</b> Will acquire practical skills related to meal planning for different occasion. <b>CO2:</b> Will be able to Home Preparation of Jam and Jelly. CO3: will able to know about Recipes based on various food groups. CO4: will able to do work in group CO5: will able to creat different extention education related materials.
<b>Paper-VI</b> (Extension Techniques and Programmes)	<b>CO1:</b> Will be aware of the concept and Importance of of Extension Education, Methods of communication and Importance of Adult Education. <b>CO2:</b> To enable the students to select the appropriate approach and techniques of communication. <b>CO3:</b> to understand the importance and process of planning and management in extension. CO4: Acquire knowledge, skill and attitude to work with the communities CO5: Enhance people's capacity for social functioning towards better quality of life

### Semester-II

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Education and Communication for Rural Development)	<b>CO1:</b> Be acquainted with the knowledge of the communication process, recent advances in communication and diffusion and will acquire necessary communication skills. <b>CO2:</b> Be aware of the concept of education, Goals, Need and importance of rural education. <b>CO3:</b> To acquire the knowledge regarding the types of rural education, Programme Planning, Communication and its problems. CO4: To identify the problems occurring in communication CO5: To enable the students to select the appropriate approach and techniques of communication
<b>Paper-II</b> (Human Nutrition)	<b>CO1:</b> Will be able to understand the current trends in nutrition, functions, deficiencies and toxicity of different nutrients. <b>CO2:</b> will be acquainted about nutritional requirement in special conditions. <b>CO3:</b> Understand the role of food and nutrition for the welfare of the community  CO4: Use the knowledge for the health & community.  CO5: Develop nutrition awareness skill & counseling skill.
<b>Paper-III</b> (Diet Therapy)	<b>CO1:</b> Be acquainted with the knowledge of physiological changes and nutritional requirements during various stages of life cycle. <b>CO2:</b> To know about new concepts in dietary management of various disorders and diseases, <b>CO3:</b> To know about nutritional status and its Assessment , Meal planning , Therapeutic Diets and its Classification CO4: Know factors influence dietary practices □ Of individual. CO5: Able to prevent the disease through diet therapy.
<b>Paper-IV (a)</b> (Adolescence and	<b>CO1:</b> Be aware of Meaning and definition of Adolescent, Characteristics of Adolescent, Development, Adjustment, Problems and Guidance

Youth)	<p>required for Adolescent.</p> <p><b>CO2:</b> .Will be able to manage life crisis at every stage of life span.</p> <p><b>CO3:</b> Able to develop a positive awareness of the self and social adjustment</p> <p>CO4:Able to know about growth and development</p> <p>CO5: Able to handle problems themselves</p>
<b>Paper-IV (b)</b> (Community Health Management)	<p><b>CO1:</b> Understand the concept of health and health indices popularly used.</p> <p><b>CO2:</b> Be able to the health problems of the community and scientific intervention.</p> <p><b>CO3:</b> Be aware of the supportive services and programmes for community health management, Personal hygiene, Health administrative set up, Role of NGOs. National and International health agencies and Health Surveys.</p> <p>CO4: Understanding the relationship of man with the environment and help them change his attitude for more positive, proactive, eco-friendly and sustainable</p> <p>Lifestyles</p> <p>CO5:Awareness for hygienic practices.</p>
<b>Paper-IV (c)</b> (Consumer Issue and Challenges)	<p><b>CO1:</b> Acquainted about various consumer issues related to products and services in rural and urban context.</p> <p><b>CO2:</b> To know about Consumer movement, Markets and Market distribution channels and Consumer welfare.</p> <p><b>CO3:</b> Will gain an ability to Identify problems of rural /urban consumers.</p> <p>CO4:Understanding different markets structure in marketing system</p> <p>CO5: Able to know about consumer protection law, rights and responsibilities</p>
<b>Paper-V</b> Practical (Skill Development)	<p><b>CO1:</b> Able to express matters related to the course orally.</p> <p><b>CO2:</b> Able to control many kind of disease in primary stage with the help of therapeutic modifications of diet</p> <p>CO3: Aable in dietary management of various diseases</p> <p>CO4: Able to do work in team or group</p> <p>CO5: Use knowledge practically</p>
<b>Paper-VI</b> (Nutrition and Immunity)	<p><b>CO1:</b> Will be able to understand the importance of various nutrients in maintaining and improving the immunity of individuals.</p> <p><b>CO2:</b> Knowledge about Immunity , Regulation of immunity</p> <p>CO3: Knowledge about Effect of malnutrition on immunity.</p> <p><b>CO4:</b> Able to know about role of vitamins in immune functions and Probiotics and Antioxidants.</p> <p>CO5: Able to diagnose sign &amp; symptoms of various diseases</p>

### Semester-III

After completion of the Course the student will be able to:	
<b>Paper-I</b> (Family Resource Management)	<b>CO1:</b> Be acquainted with meaning and concepts, processes and significance of management. <b>CO2:</b> To get familiar with the concept of home management and its role in family, Factor motivating Management and the management process, <b>CO3:</b> Have knowledge and understand about the Resources in the family, its Management, Family budget, its advantages, types of Savings and Investments. <b>CO4:</b> Comprehended the techniques for money management <b>CO5:</b> To develop the ability among students for energy management in order to avoid fatigue
<b>Paper-II</b> (Textile Chemistry)	<b>CO1:</b> Be acquainted with the knowledge of polymer and chemistry of textiles fibres, structure-property relations of textile fibres and recent development in fibres. <b>CO2:</b> Able to know the process of Weaving, Clothing construction and Finishes. <b>CO3:</b> Get experience in advance textile fabrication techniques in weaving, knitting and non woven  <b>CO4:</b> To abreast students with recent fashion trends  <b>CO5:</b> To acquire knowledge regarding different methods of finishes
<b>Paper-III</b> (Research Method)	<b>CO1:</b> Understand the meaning and importance of research, research procedures. <b>CO2:</b> To develop skills in designing and executing research, Importance, characteristics and ways of stating hypothesis, Research problem, Sampling. <b>CO3:</b> knowledge about Data analysis, documentation and presentation of the research report. <b>CO4:</b> To understand the nature, scope and selection of problem <b>CO5:</b> To prepare, report and deliver an effective presentation
<b>Paper-IV (a)</b> Home Economics	<b>CO1:</b> Have knowledge of consumer protection for rational consumer behaviour, <b>CO2:</b> Able to know about types of Demands, Utility, Consumer surplus, Market and Price. <b>CO3:</b> Understand working to a budget with goal <b>CO4:</b> Understand wise use of money <b>CO5:</b> Understand Financial Decision making
<b>Paper-IV (b)</b> Environmental Issues and Challenges	<b>CO1:</b> Be exposed to global environmental issues and strategies to maintain ecological balance in micro and macro environment. <b>CO2:</b> Able to know about the relationship between technology and environment  <b>CO3:</b> Knowledge of environmental factors and pollution issues  <b>CO4:</b> Getting information about climate change, Global warming, Acid rain, Green house effect, Ozone, layer depletion.  <b>CO5:</b> Getting information about Environment Protection Acts.

<b>Paper-IV (c)</b> Advance Dyeing and Printing	<b>CO1:</b> Will be aware of dyeing and its application, different methods of printing. <b>CO2:</b> able to know about application of technology to develop technical competency in printing.
	<b>CO3:</b> Gain in-depth knowledge of Colours and its classification and types. <b>CO4:</b> Able to know about chemistry of dyes and pigments, uses of Mordants. <b>CO5:</b> Able to know about advance dyeing and printing.
<b>Paper-V</b> Practical (Skill Development)	<b>CO1:</b> Acquire practical skill for testing textile fibres. <b>CO2:</b> Able to know about Weaving, knitting, Drafting and making paper pattern. <b>CO3:</b> Will be able to know construction technique <b>CO4:</b> Develop ability to prepare garments <b>CO5:</b> Develop ability of Synopsis formation.
<b>Paper-VI</b> (Food Product Development)	<b>CO1:</b> Will be aware of the concept and process of product development, their sensory evaluation and quality control. <b>CO2:</b> Apply skill based knowledge in food industry  <b>CO3:</b> Impart knowledge towards entrepreneurship opportunities.  <b>CO4:</b> Able to develop various nutritionally enrich □ Product.  <b>CO5:</b> To develop creative & innovative products

#### Semester-IV

After completion of the Course the student will be able to:	
<b>Paper-I</b> (Apparel Design and Construction)	<b>CO1:</b> Acquire in-depth knowledge of style reading pattern, making and garment construction techniques, application of advance patterns for obtaining perfect garment.
	<b>CO2:</b> Will be aware of Applied art, Dyeing process, embroidery works in India, Fashion cycle and fashion trends. <b>CO3:</b> To inculcate expertise knowledge about laundry Equipments and Laundry agents Stain removing methods. <b>CO4 :</b> To enable the students to understand the factors affecting the family clothing <b>CO5:</b> To develop merchandising attitude among students and abreast them with current fashion trends.
<b>Paper-II</b> (Statistics)	<b>CO1:</b> To understand the concept, scope and role of statistics in research. <b>CO2:</b> Able to understand about sampling and data analysis techniques, methods of data analysis using various statistics and ability of testing Hypothesis. <b>CO3:</b> To develop an insight and practical application mean, median and mode as well as central tendency. <b>CO4:</b> Understanding various data analysis techniques (Mean, Mode, Median, Range, Standard Deviation, Karl person

	<p>coefficient of correlation).</p> <p>CO5: Ability to apply various statistical tools to research problem</p>
<p><b>Paper - III</b> (Family and Population Education)</p>	<p><b>CO1:</b> Awareness about family planning and welfare.  <b>CO2:</b> Knowledge about merits and demerits of joint and nuclear family and Family disorganisation  <b>CO3:</b> Able to know about the relationship between population and environment  <b>CO4:</b> Acquiring knowledge about importance of environment.  <b>CO5:</b> Able to know about internal environment of the family.</p>
<p><b>Paper - IV (a)</b> Food Service Management</p>	<p><b>CO1:</b> Able to understand the process of planning, organizing and controlling the management of food and other resources in institutions.  <b>CO2:</b> Able to apply skill based knowledge in food industry.  <b>CO3:</b> Able to handle the food safety practices □ &amp; quality control.  <b>CO4:</b> To develop skill in data base management.  <b>CO5:</b> Understand the special characteristics of food service management</p>
<p><b>Paper-IV (b)</b> Colour Application in Textiles</p>	<p><b>CO1:</b> Will be aware of conditions for dyeing, printing and finishing treatments.  <b>CO2:</b> Knowledge about colour science and computer colour matching.  <b>CO3:</b> Will be able to analyse dyed fibre, yarn and fabric,  <b>CO4:</b> Able to know about different types dyes method  <b>CO5:</b> Able to use of colour in various fabrics</p>
<p><b>Paper-IV (c)</b> Marriage and Society</p>	<p><b>CO1:</b> Be aware of meaning of marriage and types of marriage  <b>CO2:</b> Able to know about marital adjustments  <b>CO3:</b> Gain knowledge about Divorce and Remarriage.  <b>CO4:</b> Will be able to know about society and it's type  <b>CO5:</b> Able to know about culture and civilization and related Social Problems.</p>
<p><b>Paper-V</b> Dissertation/Practical</p>	<p><b>CO1:</b> Acquire practical skills for Tying and Dyeing  <b>CO2:</b> Able to know about Batik , Block Printing and Thread Work.  <b>CO3:</b> Acquire knowledge about Patch Work, Embroidery , Seams/Pleats/Collar.  <b>CO4:</b> Able for Preparation of Dissertation.  <b>CO5:</b> Able to know about project work</p>
<p><b>Paper-VI</b> (Rural Education)</p>	<p><b>CO1:</b> Will have knowledge of meaning of Education, its Need and Importance of Rural education.  <b>CO2:</b> Knowledge about the Goals of Rural Education Types, Barriers, Characteristics and differences between urban and rural education.</p>

	CO3:To identify the problems occurring in Rural area CO4: Understand the factors contributing to change in community CO5:Understand the changing concept of Rural areas.
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<b>B.A.[Philosophy]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Realization of human Values
PO2	Deep Study about nature of knowledge.
PO3	Nature of ultimate reality orthodox and hetrodox.
PO4	After graduation students will be able to attend Civil Services Exam, B.Ed., B.T.C. and will be also Eligible for admissions to post-graduate programs for further studies
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Deep Knowledge of Indian and Western Philosophy.
PSO2	Students will be aware of Indian and Western Epistemology and Metaphysics.
PSO3	Students will be aware of various concepts in Applied Ethics (Ethics, Integrity and Aptitude) such as Ethics, Ethical issues, Practices in Business, Work Ethics and Personality Development.
PSO4	Will develop a logical concept.
PSO5	Will be able to understand clear concept of Religion Philosophy and Socio-political Philosophy and their culture.
PSO6	After completing BA(Philosophy) students will be able to analyse the matters and develop a strong logical ability.

### Course Outcome -BA [Philosophy]

#### Semester-I

After completion of the Course, the student will:

Paper- 1 Ethics (WESTERN AND INDIAN ETHICS)	CO1: be able to understand the definition, nature and scope of Western & Indian Ethics, Teleological Ethics, Deontological Ethics, Buddhist Ethics.
Paper – II INDIAN PHILOSOPHY ( INDIAN EPISTEMOLOGY AND METAPHYSICS)	CO1: able to understan the general characteristics of Indian Philosophy, Astika and Nastika system, The doctrines of rebirth and Karma, General Character of Upanishad, Bhagavadgita., Jainism, Early Buddhism and Buddha Philosphy.

#### Semester-II

After completion of the Course, the student will:

Paper- 1 (APPLIED ETHICS) (ETHICS, INTEGRITY, APTITUDE)	CO1: be acquainted with the nature and scope of applied ethics, theoretical formulation of applied ethics. CO2: will be aware of ethics and human Interface, differences between Ethical and morals Ethical Loyalties and Prima Facie duties. Human Values. CO3: Understand Emotional Intelligence. CO4: Understand the Value Ethical Concerns and dilemmas in government and private Institution.
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	CO5: will be aware of Ethical Thinkers and their Contribution (Indian and Western)
Paper – II INDIAN PHILOSOPHY	CO1: be aware of Samkhya and Satkaryavada Theory, The theory of three Gunas. CO2: be aware of concept of Nyaya and theory of inference, Vyapti and its kinds. CO3: will be aware of the meaning of Advaita Philosophy, The nature of Brahman, the nature of Maya, the nature of consciousness, theory of Avidya, the problem of Jivanmukti, the means of Moksha. CO4: be acquainted with concept of Brahman and God, the qualities of God, the meaning of Vishishtadvait, the interpretation of Tattvamasi, the theory of creation, the Problem of Videhmukti, the means of moksha, Ramanuja's refutation of Shankara's theory of Avidya or Maya. CO5: be acquainted with concept of Vallabha Philosophy.

#### Semester-III

After completion of the Course, the student will:

Paper- 1 LOGIC	CO1: be aware the nature, definition and scope of logic, distinction between Deductive and inductive Logic, Truth and Validity and Soundness, the nature and illustration of thinking. CO2: be aware of functions of language and it's kind, definition genus by differentia and Informal Fallacies. CO3: will be aware of Inductive and Analogical Argument, Hypothesis and scientific explanation, criteria of evaluation of Hypothesis, Casual connexions, and Mill's methods od Experimental enquiry. CO4: understand categorical propositions and their kinds, Categorical syllogisms, Symbolic Logic, Statement and statement form, Argument and argument form, Logical connectives, negation, conjunction, disjunction, implication equivalence and their truth-table definitions, Truth-Table techniques of testing validity of arguments and statements.
Paper – II MODERN WESTERN PHILOSOPHY	CO1: be aware of characteristics and relevance of classical Greek Philosophy and Modern-Philosophy, about the methods, Rationalism Versus Empiricism. CO2: have the knowledge of Lock's criticism of Innate ideas & Locke's theory of Universals. CO3: understand the Berkley's Criticism of Locke's realism, His Idealism, Esse est percipi, Refutation of abstract ideas, Berkeley's contributions to Empiricism , Hume's theory, Hume's Skepticism. CO4: able to examine Empiricism, Kant's ideas of criticism.

#### Semester-IV

After completion of the Course, the student will:

Paper- 1 WESTERN EPISTEMOLOGY	CO1: acquainted with general features and problems of Western epistemology. CO2: aware of the concept of Rationalism, Empiricism and criticism with special reference to source, nature, validity and limits of knowledge CO3: acquainted with the nature of truth, criterion and definition, Coherence, correspondence and pragmatic and Semantic Theory of truth. CO4: be aware of the problem of Induction, Hume's Problem and its main solution, probability theory, Scepticism and Problem of Universals.
Paper – II (EPISTEMOLOGY INDIAN)	CO1: will be aware of the distinctive aspects of Indian logicsuch as Prama, Pramanas, Pramanyavad, Padartha and the nature of ultimate Reality, Man and world, Orthodox and Heterodox.

#### Semester-V

After completion of the Course, the student will:

Paper- 1	CO1: ware of the linguistic truth and the conception of the Philosophy, meaning
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ANALYTICAL PHILOSOPHY	of the Philosophy, Issue and Problems, the relation between meaning and truth, Holistic approach to meaning and Speech acts.
Paper – II PHILOSOPHY OF RELIGION	CO1: be acquainted with nature and scope of Philosophy of Religion, CO2: able to differentiate and compare between theology and Philosophy of Religion, Religion and Ethics, Religion-Indian and western context, Religion without God. CO3: acquainted with the concept of Deism, theism and Pantheism. CO4: be aware of the problem of Evil and its solutions, Immortality of soul, Transmigration and Doctrine of Karma and Destiny of sou.
Paper – III SOCIO-POLITICAL PHILOSOPHY	CO1: acquainted with Nature of Social Philosophy and its relation to sociology, Politics, ethics and Ecology, Social Institution, Individual and state theories of Punishment. CO2: be aware of Political Ideologies and Methods of social change.

#### Semester-VI

After completion of the Course, the student will:

Paper- 1 PHENOMENOLOGY AND EXISTENTIALISM	CO1: Understand the Phenomenology, Phenomenological reduction and its stage, Intentionality of consciousness and Existentialism.
Paper – II COMPARATIVE RELIGION	CO1: be aware of the Problems and methods in the study of religions, Possibility of the need for comparative religion, Religions experience in different religions and God.
Paper – III MODERN INDIAN THOUGHT	CO1: be aware of the thoughts of modern Indian thinkers such as Ravindra Nath Tagore, M.K.Gandhi, Dr.B.R.Ambedakar, L.Neha - Neo-Buddhism and D.D.Upadhyay.

### M.A.[Philosophy]

<b>Programme Outcome (POs)</b>	
PO1	Realization of Human Values.
PO2	Realization of Real world such as Brahman, God, Soul, Bondage and Liberalization, Truth Knowledge, reality of the world etc.
PO3	Sense of Social-Political Services.
PO4	Will Improve Logical ability.
PO5	Will be aware about thought of Indian and Western Philosophy.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Will be able to do in-depth analysis of Epistemology and Metaphysics
PSO2	Will be aware of thoughts of Indian and Western Philosophy.
PSO3	Will be able to attempt to evaluate a few aspects of Epistemology, Logic, Metaphysics, Religion etc.
PSO4	Will be able to elaborate and evaluate various ethical issues as Karma, Virtue etc.
PSO5	will be able to evaluate any proposal based on Environmental Ethics, Eco Sustainable development, Social-political Ethics, Legal ethics etc.

### Course Outcome - M.A.[Philosophy]

#### Semester-I

After completion of the Course, the student will:

Paper- I CLASSICAL INDIAN PHILOSOPHY-1	CO1: understand the epistemology and metaphysics of the Upanishads and the heterodox schools such as Upanishads , Charvak , Jainism and Buddhism CO2: able to distinguish between Vaibhashika and Sautrantika; Madhyamika Shunyavada and Yogachara Vigyanavada.
Paper – II GREEK PHILOSOPHY	CO1: acquainted with the foundation of Western Philosophy and and Problems of Early Greek Philosophy, Philosophy of Pythagoras. Problem of Change and Permanence, Greek Atomism and Democritus. CO2: Aware of Sophist's theory of knowledge, Socrates Problems , Plato Theory Philosophy of Aristotle, Neo- Platonism, Plotinus- Doctrine of emanation, concept of God.
Paper – III MODERN WESTERN PHILOSOPHY	CO1: ability to explain and evaluate the formulations of two German Philosophers; CO2: able to examine Rationalism and Empiricism; Kantian notion of space and time, Kant's Agnosticism, reason and Understanding; CO3: aware of the development of German Idealism from Kant to Fichte, Schelling and Hegel, Hegelian Dialectic and its structure; Hegel's conception of Absolute Idealism.
Elective Paper-IV (a) (ADVANCED WESTERN ETHICS)	CO1: acquainted with Basic Features of act, rule, definition and explanation, Ideal Utilitarianism and its defect. CO2: aware of Edward Westermarck's, Ethical naturalism and its shortcoming. CO3: able to understand G.E. Moore Ethical non naturalism and its shortcomings.
Elective Paper-IV (b) ADVANCED WESTERN ETHICS THINKERS	CO1: Understand Emotive Theory of Moral Language and its shortcomings. CO2: will be aware of R.M. Hare's Prescriptive Theory of Moral Language and its shortcomings, Nature and Kind of Virtue Ethics and Critical Inquiry by W.K. Frankena.
Elective Paper-IV (c) ADVANCED WESTERN ETHICS THINKERS	CO1: Understand Emotive Theory of Moral Language and its shortcomings. CO2: will be aware of R.M. Hare's Prescriptive Theory of Moral Language and its shortcomings, Nature and Kind of Virtue Ethics and Critical Inquiry by W.K. Frankena.
Paper – V (APPLIED ETHICS) TECHNOLOGICAL PHILOSOPHY	CO1: Understand the Importance of Authority and Social Discrimination, Democratization of Technology, Assessment of Science and Technology with Reference to Social Welfare, Information Technology, Ethical Relevance of Bio Technology.
Paper – VI (YOGA) (Not for Philosophy Students)	CO1: acquainted with Basic Concept of Yoga, History, Discipline and obstacles, Human Consciousness and Hath yoga.

## Semester-II

After completion of the Course, the student will:

Paper- 1 CLASSICAL INDIAN	CO1: be aware of various orthodox systems of Classical Indian Philosophy, Nyaya, Vaisheshika, Sankhya, Yoga and Mimamsa.
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PHILOSOPHY-II	
Paper – II MODERN WESTERN PHILOSOPHY	CO1: able to explain the contribution of four modern Western Philosophers; namely F.H. Bradley, William James, GE. Moore and Bertrand Russell and their theories.
Paper – III INDIAN META ETHICS	CO1: be able to elaborate and evaluate various ethical issues such as karma, virtue etc. of Upanishads, Upanishad, Bhagavad-Gita, the heterodox and orthodox systems in Indian Philosophy.
Elective Paper-IV (a) APPLIED ETHICS	CO1: be aware of Value, Nature of applied ethics and its relation with normative ethics, The Deductive and Inductive Models of Ethical Application and their examination, The Hermeneutic, Profession, Professionalism and professional Ethics.
Elective Paper-IV (b) (NATURE AND APPROACHES OF APPLIED ETHICS)	CO1: aware of Nature and Approaches in Environmental Ethics, Bio-Medical Ethics , Administrative Ethics , Educational Ethics, Socio- Political Ethics and Legal Ethics.
Paper – V ECOLOGICAL PHILOSOPHY	CO1: aware of Nature as a means or an End Unit, Geo Ethics, Deep Ecology, Natural Right of Animals and Constitutional Right for Nature.
Paper – VI (ANATOMY, PHYSIOLOGY AND YOGIC PRACTICE) (Not for Philosophy Students)	CO1: be aware of Concept of Cell, Tissue, and Organs, Heart, Lungs, Liver, Kidney, Digestive System, Respiratory System and Nervous System and Effects of Yogic Practices.

### Semester-III

After completion of the Course, the student will:

Paper- I ANALYTICAL PHILOSOPHY	CO1: ability to to explain and elaborate the trend of analytical philosophy initiated by Russell CO2: acquainted with L. Wittgenstein's, World and Object, Truth Functional Theory; Nature and function of Philosophy, A.J. Ayer's Language, Truth and Logic.
Paper – II MODERN WESTERN PHILOSOPHY	CO1: be aware of philosophical views of some contemporary Indian Philosophers such as Vivekananda, Aurobindo, K.C. Bhattacharya, S. Radhakrishnan, M.K. Gandhi, J.L. Nehru - Vaigyanik Manwvad, B.R. Ambedkar and Deen Dayal Upadhdhaya.
Paper – III PHENOMENOLOGY AND EXISTENTIALISM	CO1: be acquainted with the basic issues of Phenomenology and Existentialism. CO2: understand and critically examine the philosophical concepts such as intentionally, subjectivity, authenticity, choice, being, time freedom, existence and God. CO3: be aware of the concept Phenomenology; Naturalism , Existentialism and Humanism
Elective Paper-IV (a) PHILOSOPHY OF KANT OR	CO1: be aware of Background of Kant's Philosophy – his precursors.
Elective Paper-IV (b) PHILOSOPHY OF	CO1: be acquainted with philosophy of Shankaracharya though his precursor Badarayana and critical exposition of major schools averse to Advaita Vedanta. Modern Interpretation of Shankara's Philosophy and comparison with some

SHANKARACHARYA	Western Philosophers.
Paper – V MEDICAL ETHICS	CO1: be aware of Doctor Patient relationship, Surrogacy, abortion and women foeticide, Euthanasia LEGAL ETHICS, Law and Morality and Authority of law and legal obligation.
Paper – VI (YOGA AND PERSONALITY DEVELOPMENT)) (Not for Philosophy Students)	CO1: acquainted with Concept of Yoga, Personality , Yogic Techniques, Ashtangik Yoga and Concept of kriya Yoga.

## Semester-IV

After completion of the Course, the student will:

Paper- I ORDINARY LANGUAGE PHILOSOPHY	CO1: acquire an ability to explain a new trend of Ordinary Language Philosophy initiated by Later Phase and further philosophers.
Paper – II SCHOOLS OF VEDANTA	CO1: acquainted with the systematic development of the schools of Vedanta through a Philosophical analysis of the basic concepts such as Brahman, Atman, Jagat, Bondage and Liberation.
Paper – III SOCIAL AND POLITICAL PHILOSOPHY	CO1: understand basic concepts of Socio-Political Philosophical issues with reference to Western and Indian Philosophies.
Elective Paper-IV (a) SYMBOLIC LOGIC	CO1: be aware of Categorical Proposition, Traditional Square of Opposition and its, Kinds, Proving Validity of Arguments by Six Rule, Arguments by Venn Diagram Technique, Arguments by Truth Table Method and Basic of Quantification Theory and Logic of Relation.
Elective Paper-IV (b) PHILOSOPHY OF RELIGION	CO1: be aware of Nature and Scope of Philosophy of Religion, Distinction between Theology and Philosophy of Religion, Religion and Ethics Nature of Religion- Indian and Western. CO2: be aware and interpret Religions without God Nature of God, Naturalistic and in Naturalistic; Deism, Theism and Pantheism, Traditional Arguments and Arguments based on Religious Experience for existence of God. The Problem. Of Evil and its solutions. CO3: understand Immortality of soul, Transmigration and Doctrine of Karma, Destiny of Soul Salvation and Moksha, Pathways of Moksha, Karma, Bhakti and Jnana.
Paper – V (APPLIED ETHICS) (PROFESSIONAL / ADMINISTRATIVE ETHICS)	CO1: be aware of Profession, Service and Business Administration and moral Responsibility. CO2: understand ethical issues related to provoking and obscene description.
Paper – VI (NATUROPATHY) (Not for Philosophy Students)	CO1: acquainted with the Concept of Neuropathology, Acupressure and Diet and Fasting. CO2: aware of ASANAS such as SIDDHASAN, SARVANGASAN and SURYA NAMASKAR.

**B.A.[Political Science]**

<b>Programme Outcome (POs)</b>	
PO1	Students develop an understanding of Concepts, theoretical frameworks, perspectives and methods of inquiry.
PO2	Students are trained to think rationally and critically.
PO3	Students learn to appreciate diversity and develop cultural sensitivity.
PO4	Recognition of self as an individual with strengths and weaknesses.
PO5	Students imbibe human values and become responsible citizens.
PO6	Eligible for admissions to post-graduate programs for further studies.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Compare and contrast the theories, philosophies, and concepts in the discipline of Political Science and understand the individual living in state and society.
PSO2	The program would help to have an understanding of political behavior, constitution, governance and power and how these are shaped by institutions, ideas, interest and resources of political factors.
PSO3	The program would provide an understanding of contributions of western political thinkers to political thought.
PSO4	The program would help to get acquainted with the basic concepts and principles of public administration and it's dynamics and familiarize with important issues of political science.

## Course Outcome- B.A.[Political Science]

### Semester-I

After the completion of the Course, the student:

Paper-I POLITICAL THEORY	CO1: will be aware of the definition, Nomenclature, Political Science and Approaches of Political Theory.
Paper-II INDIAN GOVT. & POLITICS	CO1: will be aware of the process of making of India's Constitution, Fundamental Rights, The directive principles of state policy, Fundamental duties. CO2: Will have knowledge of election, power and role of President, Vice President, Prime Minister and Council of Ministers, Attorney General and C.A.G. CO3: will be aware of the role of the Parliament, Loksabha, Rajya Sabha, and Parliamentary Committees in the Rule making process. CO4: aware of the Supreme Court of India, Structure and Jurisdiction, Judicial review, Judicial Activism, Lokpal.

### Semester-II

After the completion of the Course, the student:

Paper-I POLITICAL THEORY	CO1: Understand the terms, Concepts, attributes & different theories Sovereignty. CO2: Will be aware of the Concepts of Liberty, equality, rights, law, justice and punishment. CO3: Will have the knowledge of Evolutionary socialism, Marxism & Neo Marxism. CO4: will able to elaborate the concept of Liberalism & Neo Liberalism, Democracy, Gandhism, Fascism, Nazism, Authoritarianism and Anarchism.
Paper-II INDIAN GOVT. & POLITICS	CO1: will be aware of the process of appointment, Power and role of Governor, Chief Minister and Council of Ministers, Advocate General. CO2: Will understand Law making process and role of Vidhan Sabha, Vidhan Parishad, Power and Functions. CO3: will be aware of Centre-State Relations, Major Political Parties in India, National and Regional, Election Commission, Electoral reforms. CO4: will be aware of the High Court, District Courts, Lok Adalat, Lokayukta and able to identify Major challenges before Indian Politics.

### Semester-III

Paper-I WESTERN POLITICAL THOUGHT	CO1: will be aware of meaning and nature of Political Thought, Characteristics of Ancient Greek Political Thought such as Plato and Aristotle. Citizenship. CO2: will be acquainted with Features of Medieval Political Thoughts of Aquinas, Machiavelli and BODIN, Hobbes, Locke, J. J. Rousseau's Concept of General Will.
Paper-II COMPARATIVE GOVERNMENT & POLITICS	CO1: able to understand meaning of comparative government and comparative Politics, Nature, Scope and Approaches to the study of comparative Government - Traditional and Modern Approaches. CO2: able to elaborate the concept of Constitution and constitutionalism. CO3: will be able to understand the Judiciary, Rule of Law. CO4: ability to explain Unitary and federal parliamentary and presidential, coalition government, Democracy, Dictatorship centralization, Local self government, Decentralisation.

### Semester-IV

Paper-I WESTERN POLITICAL THOUGHT	CO1: will be able to understand and elaborate the thoughts of western political thinkers such as Montesquieu, Green, Bentham, Mill, Hegel, Marx, Lenin, Stalin and Importance of his Philosophy and contribution to political philosophy.
Paper-II COMPARATIVE GOVERNMENT & POLITICS	CO1: will be aware of the Political culture, socialization, modernization & development. CO2: will have knowledge of the Political Parties and party System in India. CO3: will be aware of Role and techniques of Pressure groups in democracy and Importance of Pressure groups in Modern state. CO4: will be acquainted with Election system & Voting behavior, Electoral reforms, Direct Democracy or Referendum (PLBISCITE), initiative and recall. CO5: will understand the Role and importance of Public Opinion.

### Semester-V

Paper-I INDIAN POLITICAL THOUGHT	CO1: will be aware of Sources of Indian Political thought, Political Ideas of Manu & Kautilya. CO2: will be acquainted with Jain political thought, main Political Ideas of Buddhism and Political Ideas of Mahabharat. CO3: will be aware of Indian Renaissance & Political Ideas of Raja Ram Mohan Ray. CO5: will be acquainted with Political Ideas of Dayanand Saraswati and Swami Vivekanand.
Paper-II PUBLIC ADMINISTRATION WITH SPECIAL REFERENCE TO INDIA	CO1: will understand the Meaning, Nature, Scope, Significance, Public and Private Administration. Evolution of Public Administration. CO2: will be aware of meaning, types and bases, principles and structure of organization. Span of control, Unity of Command, Hierarchy, Centralization and decentralization. CO3: will be acquainted with Central Secretariat, Cabinet Secretariat, PMS Office, and Centre-State Relations. CO4: will be aware of the Machinery of central and state level, Definition and Concept of Budget and its planning and formulation, Approval and Execution, National Development Council, Economic Liberalization, Public Sector undertaking. CO5: will understand the Parliamentary control over Administration, P.A.C. and estimates committee and C.A.G.
Paper-III THEORY AND	CO1: will understand International Relations, Approaches of study of International Relations.

PRACTICE OF INTERNATIONAL RELATIONS	CO2: will be aware of Cold war and its impact on world politics. CO3: will be acquainted with the Present International Security Environment. Problems of third world security, Peace and Security, Diplomacy, disarmament. Environmentalism and Human Rights.
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### Semester-VI

Paper-I INDIAN POLITICAL THOUGHT	CO1: will be aware of the thoughts of Bal Gangadhar Tilak, Shri Aurobindo Ghosh, M.N. Roy, Acharya Vinova Bhawe & Jay Prakash Narayan. CO2: will be acquainted with Life work and entire contribution of Mahatma Gandhi to Indian Political Thought, Pt. Jawahar Lal Nehru, B.R. Ambedkar, R.N. Tagore's, R.M. Lohia, J.P. Narayan and Abul Kalam Azad.
Paper-II PUBLIC ADMINISTRATION WITH SPECIAL REFERENCE TO INDIA	CO1: will be aware of and understand State Administration, District Administration, Panchayati Raj. CO2: will be aware of Welfare Administration for SC & ST and women, issue areas of Indian Administration. CO3: will understand Generalist Vs Specialist controversy, Problem of corruption. CO4: will be acquainted with Lokyukta & Lokpal, Minister and Civil Servant Relationship. Administrative Behavior and Communication Accountability.
Paper-III THEORY AND PRACTICE OF INTERNATIONAL RELATIONS	CO1: will be aware NAM, North-South dialogue, Regional Organization - ASEAN, SAARC and BIMSTEC. CO2: will be able to understand India's Foreign Policy and its determinants and objectives. CO3: will be aware of the Development of Indian Foreign Policy, India and her Neighbours, International Terrorism, Nuclear Proliferation, Disarmaments and Arms Control. Collective Security. CO4: will have status knowledge of Indo-US, Indo-China and Indo-Pak Relations.

## M.A.[Political Science]

Programme Outcome (POs)	
PO1	Will be able to realise human values.
PO2	Will become a responsible & dutiful citizen.
PO3	Will develop a sense of social service
PO4	Will have critical temper
PO5	Will develop a creative ability
Programme Specific Outcome (PSOs)	
PSO1	Compare and contrast the theories, philosophies, and concepts in the discipline of Political Science and understand the individual living in state and society.
PSO2	The program would help to have an understanding of political behavior, constitution, governance and power and how these are shaped by institutions, ideas, interest and resources of political factors.
PSO3	The program would provide an understanding of contributions of western political thinkers to political thought.
PSO4	The program would help to get acquainted with the basic concepts and principles of public administration and its dynamics and familiarize with important issues of political science.
PSO5	The program would help to understand the law which applies to the

international relations.
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## Course Outcome- M.A.[Political Science] Semester-I

After completion of the Course, the student:

Paper-I Western Political Thought	CO1: will be aware of Main features of Greek Political Philosophers Plato and Aristotle. CO2: will be acquainted with main features and thoughts of Medieval Political thinkers such as ST. Augustine, ST. Thomas Aquinas and Marsilio of Padua. CO3: will be aware of the main features and thoughts of Modern Political thinkers such as Jean Bodin, Machiavelli, Hobbes, Locke and Jean Jacques Rousseau.
Paper-II Comparative Politics IInd Paper	CO1: will be aware of Approaches to the Study of Comparative Politics, Meaning, Nature & Scope, Democratic Theory, Features & stages of Political Developments, Problems of Political Developments, Political Modernisation Concepts and Political Culture Concepts.
Paper-III	CO1: acquainted with Ancient Indian Political Thought and Main Features of Ancient Indian Political Thoughts, Sources of Ancient Indian Political Thought. CO2: aware of characteristics of Manusmriti, Sukra Niti, Kautilya Saptang Siddhant, Mahabharat Shanti Parva, Jainism and Ancient Indian Political thought and relevance to Rural India in past.
Paper-IV (a) Indian Political System *****	CO1: will be aware of the organization and working of Constituent Assembly. CO2: will be able to understand Indian Constitution, Sources, Salient Features of Indian constitution. CO3: Will be aware of role of Central Executive President, Prime Minister & council of Ministers. Legislature Parliament, Lok Sabha, Rajya Sabha, Role of Supreme Court, Judicial Activism. CO4: will be aware of State Government and role of Governor, Chief Minister and Council of Ministers, Vidhan Sabha & Vidhan Parishad. State Judiciary and High Court CO5: will be able to understand and explain Centre-State Relations Legislative Relations, Administrative Relations, Financial Relations. Challenges Before Indian Democracy.
Paper-V Research Methods in Social Sciences	CO1: will be aware of Research Methods in Social Sciences, Limitation of Social Science Research, Importance of Theories & Facts in Research, Social Science Research & Public Policy and Basic Parameters of I.R. research.
Paper-VI Green Political Thought (Not for Political Science Students)	CO1: will understand and able to explain Environmental Values in social & Political thought, Ecology & Enlightenment, Development of Modern Eco-Political Thought and Ethics of Ecological Humanism.

## Semester-II

After completion of the Course, the student:

Paper-I Western Political Thought	CO1: will be aware of main features of Modern Political Thought and Ideas of western Political thinkers such as Montesquieu, Jeremy Bentham, J.S. Mill, T.H. Green, Hegel, Karl Marx and Concept of Party system.
Paper-II Comparative Government	CO1: will be aware and able to explain Comparative Government, Constitution & Constitutionalism, Political Parties, Type of Government, Election Voting Behavior and Electoral Reforms.
Paper-III Modern Indian Political Thought	CO1: will understand the main Features of Modern Indian Political Thought, Indian Renaissance, and Characteristics of Currents of Modern Indian Political thought of Raja Ram Mohan Roy, Dayanand Saraswati & Swami Vivekanand, Gopal Krishna Gokhale, Sir Syed Ahmed Khan, Bal Gangadhar Tilak & Shri Aurbindo Ghosh, V.D. Savarkar, Madan Mohan Malviya, M.N. Roy, Jawahar Lal Nehru, M.K. Gandhi and B.R. Ambedkar.
Paper-IV (a) Indian Administration	CO1: Will have knowledge about the Evolution, characteristics of Post-Independence Indian Administration, CO2: will be aware of Structure of Central Administration Planning in India, Features of Indian Civil Service, Recruitment, Training & Promotion of civil servants, U.P.SC., Role and Importance of D.M. Panchayati Raj Institutions and Welfare Administration.
Paper-V Green Political Thought	CO1: will be aware of the concepts related to Green Political Thought such as Environmental Economics, Sustainable Development, Political Ecology, Ecological Challenges and Ecologism.
Paper-VI Research Methods in Social Sciences	CO1: Will be aware of various methods of Research used in Social Sciences such as Sources of Information, Classification & Documentation, Technique of Data collection, Personal observation method, Respondent Perception and Survey Method & Experimental Method.

## Semester-III

After completion of the Course, the student:

Paper-I Theory of International Politics	CO1: will be aware of International Politics, Theories of International Politics, Main Concepts in International Politics, Security and Peace Nuclear Deterrence, Non-Proliferation initiative, Disarmaments & Arms control, Diplomacy, Cold War and Post Cold War Genesis & Development, and Contemporary Issues.
Paper-II Principles of Public Administration	CO1: will have knowledge about the Basic Premises of public administration, Organization, Hierarchy, Comparative & Development Administration and Public Policy.
Paper-III Foreign Policy of Major Powers	CO1: will be aware and understand Foreign Policy of Major Powers such as of USA, China, Russia and Japan.
Paper-IV (a) India's Foreign Policy	CO1: will understand Principles & Objectives of India's foreign Policy, Domestic Determinants and External determinants, Structure of foreign Policy, India's foreign Policy in comparative perspective Foreign Policies of J.L. Nehru, Indira Gandhi, Rajiv Gandhi, Atal Behari Vajpayee & Man Mohan Singh.

	CO2: will be able to explain India's approach to major global issues, Globalization, Disarmament & Arms control, Cross Border terrorism, environmental situations & Human Rights.
Paper-V Green Political Thought	CO1: will be aware of Ecofeminist Movement, interpretation of Environmental Policy in Planning Commission (NITI Ayog) , Constitution , Law and N.G.O'S.
Paper-VI Research Methods in Social Sciences	CO1: will acquire an ability to Classify & Tabulate any Information , Graphical & Diagrammatical representation of Information , Comparison and analysis of information, application of Averages & measure of central tendency and Measures of dispersion.

## Semester-IV

After completion of the Course, the student:

Paper-I International Law	CO1: will be aware of International Laws, their Definitions, Meanings & sources, Nature & scope, Relation of International Law with Municipal Law, Law of Peace , International Transactions, Force & International Law , Neutrality, Blockade & contraband.
Paper-II Principles of Public Administration	CO1: will be aware of Personal Administration , Administrative Reforms , Financial Administration, Accountability Laws , Administrative Laws
Paper-III International Organization	CO1: will understand Genesis and Evolution of International Organisations, CO2: will be aware of League of Nations, The U.N.O, Agencies of U.N.O. such as UNESCO, WHO, IMF, UNICEF.  CO3: will be aware of Regional Organizations. Nato, Warsapact, Opec Asean, SAARC. Prospects of world Government and Revision of U.N.Charter
Paper-IV India in world Affairs	CO1: will be able to understand the making of India's foreign Policy , Non Alignment, India & Major Power , India & world Organization , Contemporary challenges Before Indian Foreign Policy , Indias Foreign Policy in Post-cold war era, and India's Security concern & Nuclear Policy.
Paper-V Green Political Thought	CO1: will be aware of Green Movement in India. , Pollution and It's eradication , Eradication of Pollution in Ganga Green Belt and activism such as Namami Ganga- Ganga Rakshak, Ganga Sewak etc.
Paper-VI Research Method in Social Sciences	CO1: Will understand the Theory of Sampling, importance sample characteristics of a sample, Types of Sample , identification of Research Problem & Research design, Formulating a hypothesis and writing good thesis.

<b>B.A.[Sanskrit]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Will be able to realise human values. मानवीय मूल्यों को समझ सकेंगे।
PO2	Will become a responsible & dutiful citizen. एक जिम्मेदार और कर्तव्यपरायण नागरिक बनेंगे।
PO3	Will develop a sense of social service समाज सेवा की भावना विकसित होगी
PO4	Will have critical temper आलोचनात्मक स्वभाव रहेगा
PO5	Will develop a creative ability रचनात्मक क्षमता का विकास होगा
PO6	will be Eligible for admissions to post-graduate programs for further studies. and appear for various competitive exams of UG level eligiblity. आगे की पढ़ाई के लिए स्नातकोत्तर कार्यक्रमों में प्रवेश के लिए पात्र होंगे और यूजी स्तर की पात्रता की विभिन्न प्रतियोगी परीक्षाओं के लिए उपस्थित हों।
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Proficient in Sanskrit Speech संस्कृत भाषण में कुशल
PSO2	able to understand Indian Culture as a whole भारतीय संस्कृति को समग्र रूप से समझने में सक्षम
PSO3	able to understand Sanskrit grammer. संस्कृत व्याकरण को समझने में सक्षम।
PSO4	The highest government administrative services at the central and state level, and able to understand Sanskrit Sahitya केंद्र और राज्य स्तर पर सर्वोच्च सरकारी प्रशासनिक सेवाएं और संस्कृत साहित्य को समझने में सक्षम

## Course Outcome

Semester-I

### Course Outcome- B.A.[Sanskrit]

#### Semester-I

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के पश्चात् छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र नाटक एवं अनुवाद	CO1: अभिज्ञानशाकुन्तलम् नाटक संस्कृत साहित्य में महत्वपूर्ण स्थान रखता है। इसके अध्ययन से छात्र में पर्यावरण के प्रति अनुराग उत्पन्न होगा तथा भारतीय संस्कृति का ज्ञान प्राप्त होगा। CO2: सामान्य संस्कृत अनुवाद के अध्ययन द्वारा छात्र संस्कृत भाषा को समझने में दक्ष होगा।
द्वितीय प्रश्न-पत्र व्याकरण, छन्द एवं अलंकार	CO1: संज्ञा प्रकरण के अध्ययन के पश्चात् छात्र व्याकरण शास्त्र में महत्वपूर्ण संज्ञाओं को समझने में दक्ष होगा। CO2: नाट्य शास्त्रीय टिप्पणी के अध्ययन के पश्चात् छात्र किसी भी नाटक को पढ़ने और समझने में दक्षता प्राप्त करेगा। CO3: साहित्य दर्पण के आधार पर अलंकारों का अध्ययन करने के पश्चात् छात्र संस्कृत साहित्य में अलंकारों को समझने में दक्ष होगा।

	CO3: छन्द वेद नामक पुरुष का चरण कहा जाता है। छन्द का अध्ययन करने के पश्चात् छात्र संस्कृत काव्य पाठ करने में दक्ष होगा।
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## Semester-II

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र काव्य एवं निबन्ध	CO1: मेघदूत खण्डकाव्य का अध्ययन करने के पश्चात् छात्र गीतिकाव्य को पढ़ने में दक्षता प्राप्त करेगा तथा उसे तत्कालिक भौगोलिक ज्ञान प्राप्त होगा। CO2: किरातार्जुनीयम् महाकाव्य के प्रथम सर्ग का अध्ययन करने से छात्र में महाकवि भारवि के अर्थ गौरव को समझने में दक्षता प्राप्त होगी तथा छात्र में राजनैतिक गुण का विकास होगा। CO3: निबन्ध के द्वारा छात्र में संस्कृत लेखन कला का विकास होगा।
द्वितीय प्रश्न-पत्र नीतिशतक एवं अनुवाद	CO1: नीतिशतकम् के अध्ययन से छात्र में नैतिकता का विकास होगा। CO2: हिन्दी से संस्कृत तथा संस्कृत से हिन्दी अनुवाद करने में दक्षता प्राप्त करेगा।

## Semester-III

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के पश्चात् छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र काव्य एवं संस्कृत साहित्य का इतिहास	CO1: कादम्बरीकथामुखम् के अध्ययन से छात्र क्लिष्ट सामासिक पदों को समझने में दक्षता प्राप्त करेगा। CO2: लौकिक संस्कृत साहित्य में रामायण एवं महाभारत महत्वपूर्ण महाकाव्य हैं। इन महाकाव्यों के इतिहास का अध्ययन करके छात्र में संस्कृत साहित्य को समझने में दक्षता प्राप्त होगी।
द्वितीय प्रश्न-पत्र संस्कृत साहित्य का इतिहास, व्याकरण एवं हितोपदेश	CO1: संस्कृत साहित्य के अध्ययन से छात्र में संस्कृत साहित्य का सामान्य अध्ययन करने में दक्षता प्राप्त होगी। CO2: हितोपदेश की लघुकथाओं के माध्यम से छात्र को जीवनोपयोगी शिक्षा प्राप्त होगी।

## Semester-IV

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र वेद एवं व्याकरण	CO1: वैदिक सूक्तों के अध्ययन छात्र वैदिक मंत्रों को पढ़ने और समझने में दक्ष होगा। CO2: लघुसिद्धान्तकौमुदी के सन्धि प्रकरण से अध्ययन छात्र क्लिष्ट संस्कृत शब्दों को समझने में दक्ष होगा।
द्वितीय प्रश्न-पत्र उपनिषद् एवं शब्दरूप तथा धातुरूप	CO1: कठोपनिषद् का अध्ययन करने से छात्र में भारतीय दर्शन को समझने में दक्षता प्राप्त होगी तथा शब्दरूप तथा धातुरूप के माध्यम से उसके शब्दकोष का विकास होगा।

## Semester-V

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र नाटक	CO1: उत्तररामचरितम् नाटक का अध्ययन करने से छात्र परवर्ती राम कथा तथा महाकवि भवभूति को समझने में दक्षता प्राप्त करेगा।
द्वितीय प्रश्न-पत्र उपनिषद् एवं काव्यशास्त्र	CO1: ईशावस्योपनिषद् का अध्ययन करने से छात्र को भगवत्तत्त्वरूप ज्ञानकाण्ड को समझने में दक्षता प्राप्त करेगा। CO2: साहित्य दर्पण का अध्ययन करने से छात्र काव्य शास्त्र को समझने में दक्ष होगा।
तृतीय प्रश्न-पत्र संस्कृत व्याकरण एवं निबन्ध	CO1: लघुसिद्धान्तकौमुदी के समास प्रकरण के अध्ययन से छात्र दीर्घ सामासिक पदों को समझने में दक्ष होगा। CO2: छात्र संस्कृत लेखन कला में दक्ष होगा।

## Semester-VI

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के उपरान्त छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र भारतीय दर्शन एवं भारतीय संस्कृति	CO1: छात्र न्याय वैशेषिक दर्शन के साथ-साथ समस्त भारतीय दर्शन, भारतीय संस्कृति को समझने में दक्ष होगा।
द्वितीय प्रश्न-पत्र संस्कृत व्याकरण	CO1: व्याकरण वेद नामक पुरुष का मुख कहा जाता है। कारक प्रकरण तथा स्त्री प्रत्यय के अध्ययन से छात्र प्रौढ़ संस्कृत व्याकरण शास्त्र समझने में दक्ष होगा।
तृतीय प्रश्न-पत्र मौखिकी परीक्षा	CO1: संस्कृत वाग्-व्यवहार में दक्षता प्राप्त होगी।

<b>M.A.[Sanskrit]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Will be able to realise human values. मानवीय मूल्यों को समझ सकेंगे।
PO2	Will become a responsible & dutiful citizen. एक जिम्मेदार और कर्तव्यपरायण नागरिक बनेंगे।
PO3	Will develop a sense of social service समाज सेवा की भावना विकसित होगी
PO4	Will have critical temper आलोचनात्मक स्वभाव रहेगा
PO5	Will develop a creative ability रचनात्मक क्षमता का विकास होगा
PO6	will be eligible for admissions to Research programs and also to appear for various competitive exams of PG level eligibility. अनुसंधान कार्यक्रमों में प्रवेश के लिए और पीजी स्तर की पात्रता की विभिन्न प्रतियोगी परीक्षाओं में बैठने के लिए भी पात्र होंगे।
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Fully able to understand the history of Sanskrit language. संस्कृत भाषा के इतिहास को पूरी तरह से समझने में सक्षम

PSO2	able to compare Sanskrit language with other languages through linguistics. भाषा विज्ञान के माध्यम से अन्य भाषाओं के साथ संस्कृत भाषा की तुलना करने में सक्षम।
PSO3	able to acquire mature knowledge of Sanskrit grammar. संस्कृत व्याकरण का सही ज्ञान प्राप्त करने में असमर्थ।
PSO4	able to understand ancient text written in <i>Pali, Prakrit</i> and <i>Sanskrit</i> . पाली, प्राकृत और संस्कृत में लिखे गए प्राचीन ग्रंथों को समझने में सक्षम।
PSO5	able to acquire adequate knowledge of Ancient Indian Culture and Society. प्राचीन भारतीय संस्कृति और समाज का पर्याप्त ज्ञान प्राप्त करने में सक्षम।
PSO6	able to develop competencies and professional skills for conducting teaching, research in various fields in Sanskrit. संस्कृत में विभिन्न क्षेत्रों में शिक्षण, अनुसंधान के संचालन के लिए दक्षताओं और पेशेवर कौशल विकसित करने में सक्षम।
PSO7	able to understand Sanskrit literature, Vedic Literature and ancient Indian philosophy and Upanishads. संस्कृत साहित्य, वैदिक साहित्य और प्राचीन भारतीय दर्शन और उपनिषदों को समझने में सक्षम।

### Course Outcome- M.A.[Sanskrit]

#### Semester-I

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के पश्चात् छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र वेद	CO1: वैदिक ऋचाओं तथा वैदिक देवताओं को समझने में दक्षता प्राप्त होगी।
द्वितीय प्रश्न-पत्र पालि, प्राकृत, अपभ्रंश तथा भाषा विज्ञान	CO1: पालि, प्राकृत, अपभ्रंश तथा भाषा विज्ञान को समझने में दक्षता प्राप्त होगी।
तृतीय प्रश्न-पत्र दर्शन	CO1: न्याय दर्शन तथा वेदान्त दर्शन समझने में दक्षता प्राप्त होगी।
चतुर्थ प्रश्न-पत्र व्याकरण (लघु सिद्धान्त कौमुदी)	CO1: शब्दरूप तथा धातुरूप समझने में प्रौढ़ता प्राप्त होगी।
पंचम प्रश्न-पत्र काव्यशास्त्र (काव्य प्रकाश)	CO1: काव्यशास्त्र के अध्ययन में प्रौढ़ता प्राप्त होगी।
षष्ठ प्रश्न-पत्र श्रीमद्भगवद्गीता	CO1: श्रीमद्भगवद्गीता के प्रतिपाद्य को समझने में दक्षता प्राप्त होगी।

#### Semester-II

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के पश्चात् छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र	CO1: वैदिक शब्दकोष तथा वैदिक साहित्य का इतिहास समझने में

निरुक्त एवं वैदिक साहित्य का इतिहास	दक्षता प्राप्त होगी।
द्वितीय प्रश्न-पत्र तर्कभाषा एवं सांख्य तत्व कौमुदी	CO1: न्याय तथा सांख्य दर्शन में दक्षता प्राप्त होगी।
तृतीय प्रश्न-पत्र मौखिक परीक्षा	CO1: वाग्-व्यवहार में दक्षता प्राप्त होगी।
चतुर्थ प्रश्न-पत्र संस्कृत व्याकरण	CO1: कृदन्त एवं तद्धित प्रत्यय के प्रयोग में प्रौढ़ता प्राप्त होगी।
पंचम प्रश्न-पत्र काव्यशास्त्र एवं प्रकरण (ध्वन्यालोकः)	CO1: ध्वनि सिद्धान्त को समझने में प्रौढ़ता प्राप्त होगी।
षष्ठ प्रश्न-पत्र संस्कृत वाङ्मय में प्रतिपादित सभ्यता एवं संस्कृति की रूपरेखा	CO1: संस्कृत वाङ्मय में प्रतिपादित सभ्यता एवं संस्कृति को समझने में दक्षता प्राप्त होगी।

### Semester-III

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के पश्चात् छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र GR-A: काव्यशास्त्र	CO1: इस पाठ्यक्रम के द्वारा छात्र काव्य गुण तथा काव्य दोष आदि समझने में दक्ष होगा।
प्रथम प्रश्न-पत्र GR-B: न्याय दर्शन	CO1: इस पाठ्यक्रम के द्वारा छात्र न्याय सूत्र वात्स्यायन भाष्य समझने में दक्षता प्राप्त करेगा।
प्रथम प्रश्न-पत्र GR-C: ऋग्वेद द्वितीय मण्डल	CO1: ऋग्वेद के सूक्तों को समझने और पढ़ने में दक्ष होगा।
द्वितीय प्रश्न-पत्र GR-A: दशरूपक	CO1: दशरूपक के अध्ययन के द्वारा छात्र नाट्यशास्त्रीय शब्दों को तथा नाटक के समस्त अंगों को समझने में दक्ष होगा।
द्वितीय प्रश्न-पत्र GR-B: योग दर्शन	CO1: योगदर्शन के अध्ययन के द्वारा तथा यौगिक क्रियाओं के फलरूप छत्र आरोग्य लाभ प्राप्त करने में दक्ष होगा।

द्वितीय प्रश्न-पत्र GR-C: शुक्ल यजुर्वेद	CO1: शुक्ल यजुर्वेद के अध्ययन के द्वारा छात्र कर्मकाण्डीय प्रक्रिया में दक्ष होगा।
तृतीय प्रश्न-पत्र GR-A: महाकाव्य	CO1: इस पाठ्यक्रम के अध्ययन से छात्र नैषधीयचरितम् तथा शिशुपालवधम् जैसे प्रौढ़ महाकाव्य को पढ़ने और समझने में दक्ष होगा।
तृतीय प्रश्न-पत्र GR-B: शांकर दर्शन	CO1: इस पाठ्यक्रम के अध्ययन से छात्र आचार्य शंकर के दर्शन को समझने में दक्ष होगा।
तृतीय प्रश्न-पत्र GR-C: प्रातिशाख्य	CO1: इस पाठ्यक्रम के अध्ययन से छात्र ऋग्वेद के प्रातिशाख्य को समझने में दक्ष होगा।
चतुर्थ प्रश्न-पत्र अनुवाद मीमांसाशास्त्र	CO1: छात्र मीमांसादर्शन तथा संस्कृत वाग्-व्यवहार में प्रौढ़ता प्राप्त करेगा।
पंचम प्रश्न-पत्र शिलालेख, भारतीय संस्कृति तथा दर्शन	CO1: प्राचीन शिलालेख तथा भारतीय संस्कृति में दक्षता प्राप्त करेगा।
षष्ठ प्रश्न-पत्र भारतीय दर्शन का सर्वेक्षण	CO1: भारतीय दर्शन का समग्र ज्ञान प्राप्त होगा।

### Semester-IV

<b>Course Outcome (COs): पाठ्यक्रम के अध्ययन के पश्चात् छात्र सक्षम होगा:</b>	
प्रथम प्रश्न-पत्र GR-A: शिवराजविजयम् वृत्तरत्नाकर एवं पद्य रचना	CO1: ऐतिहासिक उपन्यासों का ज्ञान, छन्द ज्ञान तथा छन्द रचना में प्रौढ़ता प्राप्त होगी।
प्रथम प्रश्न-पत्र GR-B:	CO1: पद और पदार्थ ज्ञान में प्रौढ़ता प्राप्त होगी।

न्यायसिद्धान्तमुक्तावली	
प्रथम प्रश्न-पत्र GR-C: स्वर प्रकरण (स्वर वैदिकी)	CO1: वैदिक मंत्रों के उच्चारण में प्रौढ़ता प्राप्त होगी।
द्वितीय प्रश्न-पत्र GR-A: रसगंगाधर एवं वेणीसंहार	CO1: संस्कृत प्रौढ़ काव्यशास्त्र का ज्ञान होगा।
द्वितीय प्रश्न-पत्र GR-B: योगसूत्र	CO1: योग के तत्वों को समझने में प्रौढ़ता प्राप्त होगी।
द्वितीय प्रश्न-पत्र GR-C: शतपथ ब्राह्मण	CO1: शतपथ ब्राह्मण ग्रन्थ पढ़ने में प्रौढ़ता प्राप्त होगी।
तृतीय प्रश्न-पत्र GR-A: मौखिकी	CO1: वाग्-व्यवहार में प्रौढ़ता प्राप्त होगी तथा शास्त्र परीक्षण में सुगमता होगी।
तृतीय प्रश्न-पत्र GR-B: मौखिकी	CO1: वाग्-व्यवहार में प्रौढ़ता प्राप्त होगी तथा शास्त्र परीक्षण में सुगमता होगी।
तृतीय प्रश्न-पत्र GR-C: मौखिकी	CO1: वाग्-व्यवहार में प्रौढ़ता प्राप्त होगी तथा शास्त्र परीक्षण में सुगमता होगी।
चतुर्थ प्रश्न-पत्र वेद एवं निरुक्त	CO1: वैदिक सूक्तों तथा वैदिक शब्दों का ज्ञान प्राप्त करने में दक्षता प्राप्त होगी।
पंचम प्रश्न-पत्र भारतीय शास्त्र एवं शास्त्रकार	CO1: भारतीय शास्त्रकारों जैसे पाणिनि, पतंजलि, कात्यायन एवं कौटिल्य इत्यादि के जीवन चरित को समझने में दक्षता प्राप्त होगी।
षष्ठ प्रश्न-पत्र ज्योतिष विद्या	CO1: ज्योतिष वेद नामक पुरुष का नेत्र कहा जाता है। इसके अध्ययन से छात्र अपने जीवन के झंझावातों से उसी प्रकार उबर

	सकते हैं जैसे तेज बारिस में छाते के द्वारा अपने आप को बचाया जा सकता है।
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B.A.[Sociology]	
<b>Programme Outcome (POs)</b>	
PO1	Realisation of human values.
PO2	Responsible and dutiful citizens
PO3	Sense of social services
PO4	Critical temper
PO5	Creative ability
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Understand the basic concept of emergence of social thought
PSO2	Develop an understanding of various aspect of doing social science research with focus on methodology making research proposal, doing fieldwork, and report writing.
PSO3	Understand the thoughts of various indian social thinkers.

## Course Outcome - B.A. [Sociology]

### Semester-I

After completion of the Course, the student will:

Paper- 1 Introduction to Sociology	CO1: be aware of basic concepts , nature, Scope, Emergence, Social Perspective and relation with other forms of Social Sciences.
Paper – II Introduction to Indian Society	CO1: have knowledge about the Indian society, Basic Foundation, Villages, Citis, Towns of India. CO2: be aware of Weaker Classes, Minorities and position of Women of India.

### Semester-II

After completion of the Course, the student will:

Paper- 1 Introduction to Social Systems	CO1: be aware of Indian Social System, Institutions, Class, Caste, Religions and Education, Social Control and Social Change.
Paper – II Indian Institutions and emerging Trends	CO1: have knowledge about the basic institutions, Caste System, Jajmani System, Nucleus and Joint Family and Marriage of Indian Society. CO2: be aware of emerging trends related to Caste System, Jajmani System, Nucleus and Joint Family and Marriage of Indian Society.

### Semester-III

After completion of the Course, the student will:

Paper- 1 Social Control and Change	CO1: understand the meaning and definition of Social Control, Social Change, Informal means, Forms and causes of Social change.
Paper – II Social Problem	CO1: be aware of the concept of Social problem and their types, Social disorganization, Problem of population growth and other Societal problems.

### Semester-IV

After completion of the Course, the student will:

Paper- 1 Theories of Social Control and Change	CO1: be aware of various theories related to Social Control and Social Change. CO2: have knowledge about the process of Social change in India.
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Paper – II Social Welfare and Legislation	CO1: be aware of the concept of social welfare & legislation in reference to classes, caste, gender inequality and social reconstruction.
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#### Semester-V

After completion of the Course, the student will:

Paper- 1 Emergence of Social Thought	CO1: be aware of emergence of Sociology on intellectual bases, CO2: be aware of the socio, economic and political impact of French and Industrial revolution. CO3: be aware of Comte Positivism, Spensor dorbinism and social evolution, Durkhime Social fact and social solidarity.
Paper – II Social Research and Methodology	CO1: be aware of Social Research, Steps of Social Research and various data sources and their collection methods.
Paper – III Indian Social Thinker-I	CO1: be able to elaborate the evolution of Indian Social thought, Doctrine of Karma, Hindu Sanskars, Verna System, Purushasrtha, Sarvodaya and Social justice.

#### Semester-VI

After completion of the Course, the student will:

Paper- 1 Social Thoughts	CO1: be able to understand the concept of power and authority, dielictism, sociological schools and development of social thought in India.
Paper – II Social Statistics	CO1: be able to understand the bases of Statistics and calcualte median and mode, its merit and demerits.
Paper – III Indian Social Thinker-II	CO1: be able to elaborate and compare the thoughts of various Indian thinkers such as Arbindo, J.L. Nehru, Swami Vivekananda, Raja Ram Mohan Roy and Gandhi.

#### Program Outcomes of Master of Arts (M.A.) (PO,s)

<b>PO1</b>	The Program aim at making the students self-reliant with necessary proficiency for a wide variety of career with entrepreneurial skills and placement.
<b>PO2</b>	The Program also empowers the students to appear for various competitive examination or research program of their choice
<b>PO3</b>	The M.A. Program enables the students to acquire the knowledge with human values farming the base to deal with various problems in life with courage and humanity
<b>PO4</b>	The students acquire in depth knowledge in the field of social, Literature and humanities
<b>PO5</b>	Practical training/exposure through field visit, project work, expert lectures, demonstration, workshop and seminar gives hand-on experience to students

#### Programme Specific Outcome (PSOs)

<b>PSO1</b>	Assess the health status of population and their related determinants of health and illness
<b>PSO2</b>	Produced researchers with scientific and critical thinking, as well as disciplinary knowledge required for professional jobs in the academy or in other fields
<b>PSO3</b>	Develop knowledgeable and skilled human resources which is

	employable at the various sectors related to Home Science
<b>PSO4</b>	Apply critical thinking to analyze and problem solve the developmental concerns from birth to death.
<b>PSO5</b>	Integrate the creativity, innovation or entrepreneurship in ways that produce value

**Course Outcome - M.A. [Sociology ]  
Semester-I**

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Classical social thinker )	<b>CO1:</b> Be aware of concept of Auguste comte, low of three stages. <b>CO2:</b> able to understand about concept of Herbert spencer <b>CO3:</b> To acquire knowledge about collective representation <b>CO4:</b> Be aware about concept of Max weber <b>Co5:</b> Be aware about alienation, class and class struggle.
<b>Paper-II</b> (Contemporary indian society )	<b>CO1:</b> To acquire knowledge about indian social structure, national integration. <b>CO2:</b> To acquire knowledge about planned development in india, rural and urban development. <b>CO3:</b> to know about status of women in india, problem of population. <b>C04:</b> To acquire knowledge about communalism, regionalism. <b>Co5:</b> will be able to understand about castism.
<b>Paper-III</b> (Sociology of Development ))	<b>CO1:</b> Will be able to understand about sociology of development. <b>CO2:</b> Able to know how to takabout sociology of development, Models of development. <b>CO3:</b> will be Able to know about process of Development, role of caste social change &Development. <b>C04:</b> will be able to understand about five years plan, community. <b>C05:</b> will be able to understand about development programs and green revolution.
<b>Paper-IV (a)</b> (Sociology of india))	<b>CO1:</b> Will be able to understand about History of sociology in india. <b>C02:</b> will be understand about indian social structure. <b>CO3:</b> will be able to know about cultural pluralism and National Integration.  <b>Co4:</b> will be know about Ethnicity <b>C05:</b> To aquire knowledge about social Inequality.
<b>Paper-IV (b)</b> (Urban sociology)	<b>CO1:</b> Will have the knowledge of urban society. <b>CO2:</b> .Be able to know about concept of city  <b>C03:</b> will be able to know about origin and Growth of Urban center's. <b>CO4:</b> Will be able to know about urbanism As a way of life. <b>C05:</b> will be able to know about urban Ecology.
<b>Paper- V</b> (Continuity and change in india ) (Skill development )	<b>CO1:</b> Will understand about scheduled caste, scheduled Tribes. <b>CO2:</b> will able to know about Historicity of planning. <b>CO3:</b> Will know about Tribal Development, Approaches, Measures impact <b>C04:</b> will known about Rural Development, concept, programs.

	CO5: will known about Urban Development, problems of urban planning. .
<b>Paper-VI</b> (Group process and group Dynamics )	<b>CO1:</b> Will acquire Issues and Basic Assumption of group Dynamics. <b>CO2:</b> Will be able to understand about structure and processes of social group. CO3: will acquire about Dynamic Interaction, leadership. CO4: will understand about Elements of Social Behaviour, social Motives. CO5: will understand about Affiliation and power

## Semester-II

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Classical social thinker - II)	<b>CO1:</b> Be acquainted with the knowledge of conception of sociology.
	<b>CO2:</b> Be aware of the concept of scientific sociology, social action. <b>CO3:</b> To acquire the knowledge regarding the social system pattern variable. CO4: will be able about concept of R.k.Merton, Middle range theory. CO5: will be able about Frankfurt school : establishment and objective.
<b>Paper-II</b> (Social Research and Statistics )	<b>CO1:</b> Will be able to understand the Meaning of social research steps of social research. . <b>CO2:</b> will be acquainted about Hypothesis research ddesign. <b>CO3:</b> Understand the types of data, sampling, and method of sampling.  CO4: understand about schedule, questionnaire, case study method.  CO5: understand about statistics in social research, measurement of central tendency.
<b>Paper-III</b> (Rural sociology)	<b>CO1:</b> Be acquainted with the knowledge of Rural society . <b>CO2:</b> To know about new concept of little community and peasant community , <b>CO3:</b> To know about Rural social structure. CO4: To know about class, caste, jajmani system. CO5: Be acquire about changes in rural society.
<b>Paper-IV (a)</b> (Indian sociological perspective )	<b>CO1:</b> Be aware of Meaning and definition of sociological perspective Indological perspective. <b>CO2:</b> .Will be able to understand about structural functional perspective. <b>CO3:</b> Able to know about Marxian perspective  CO4: Able to know about subaltern perspective.  CO5: Able to know about Civilization perspective.
<b>Paper-IV (b)</b> (Women and society )	<b>CO1:</b> Understand the concept of visibility and invisibility of women, women's studies, nature and scope.
	<b>CO2:</b> Be able to understand about role of women in Economy, polity and social structure .
	<b>CO3:</b> Be aware of women in Development and Developing societies . CO4: To know about family, power and authority. CO5: To know about women and Democracy.

Paper - V (Women and social change in india ) (Skill Development )	<b>CO1:</b> Acquainted about Amethodology for women's studies . <b>CO2:</b> To know about perspective for women's studies, Critical Issues. .
	<b>CO3:</b> Will gain an ability to women and change in social organization . Co4: will be able to know about types of family, lines of Decent. C05: will be able to know about changing position of women - Impact of development.
<b>Paper-VI (Demographic Dimension and community Health )</b>	<b>CO1:</b> Able to express about population, fertility, morbidity & Mortality profile. . <b>CO2:</b> Able to control many kind of diseases. C03: Able to know about Environment, population, and community Health. C04: will gain ability about primary health care. C05: will be able about Ethnomedicine.

### Semester-III

<b>After completion of the Course the student will be able to:</b>	
<b>Paper-I</b> (Sociological Perspective )	<b>CO1:</b> Be acquainted with meaning and concept of sociological perspective. <b>C02:</b> Be acquired about structure - functional perspective. <b>C03:</b> To be know about symbolic perspective, <b>C04:</b> To be know about structural perspective. <b>C05:</b> To be know about Ethnomethodology.
<b>Paper-II</b> (Social Anthropology )	<b>CO1:</b> Be acquainted with the knowledge and concept of social anthropology . <b>CO2:</b> Able to know the concept of culture and theory of cultural development. <b>CO3:</b> to be known about Family in primitive societies.  C04: To be know about family in primitive societies types, characteristics.  C05: able to know about Marriage in primitive societies.
<b>Paper-III</b> (Sociology of Movement )	<b>CO1:</b> Understand the meaning and concept of social Movement . <b>CO2:</b> To be able about social base of social movement. <b>CO3:</b> knowledge about role of political organization and media in social movement. C04: To be know about Evolution theory of social movement. C05: To be know about different types of social movement.
<b>Paper-IV (a)</b> (Peasant society and social change )	<b>CO1:</b> Have knowledge of peasant society power structure in rural india. <b>CO2:</b> Able to know about social issues and strategy for rural development. C03: Able to know about different types of movement C04: Able to know about rural Development program's C05: Able to know about trends of change's in rural society.
<b>Paper-IV (b)</b>	<b>CO1:</b> Be able to understand about concept of Migration, urbanization,

Urbanization and social change	industrialization in india. C02: Able to know about family, religion. C03: understand about urban power structure. C04: understand about urban planning and restructuring of indian cities. C05: understand about urban slums and floating population.
<b>Paper-V</b> Theories of group Interaction (Skill Development)	<b>CO1: Acquire</b> .the knowledge of theories of social interaction. C02: understand about Maslow's hierarchy of Needs. C03: will gain the knowledge of S-R theory. C04: will know about social interaction. C05: will understand about social Deprivation, models, Techneiques of Measurement.
<b>Paper-VI</b> Gender and Development	<b>CO1:</b> Will be aware of the concept of Gender Discrimination role conflict. <b>CO2:</b> will be aware about women and patriarchy, position in society. C03: will be know about feminist movement. C04: will be know about role Adjustment. C05: will be know about sociologist Feminist.

#### Semester-IV

After completion of the Course the student will be able to:	
<b>Paper-I</b> (Neo sociological Theory )	<b>CO1:</b> Acquire in-depth knowledge of meanings of modernity, concept, theory of modernity.
	<b>CO2:</b> Will be aware of Neo functionalism. <b>CO3:</b> To inculcate expertise knowledge of Neo Marxist theory. C04: To know about structuralism and neostructurlism. C05: know about post modernity idea and theory.
<b>Paper-II</b> (Globalization and society )	<b>CO1:</b> To understand the concept, and meaning definition of globalization. <b>CO2:</b> Able to understand about Agency of globalization. C03: know about Modernization, capitalism and globalization. C04: know about benefit's and disadvantage of globalization. C05: know about process of globalization.
<b>Paper - III</b> (Sociology environment of	<b>CO1:</b> Awareness about meaning and concept of Environment. <b>CO2:</b> Knowledge about social ecology, impact of ecology on social life. <b>CO3:</b> Able to know about the environment &ecology . C04: know about considerable issues of environment &Development. C05: know about environmental idea &movement .
<b>Paper - IV (a)</b> <b>Criminology</b>	<b>CO1:</b> Able to understand meaning and scope of criminology. . <b>CO2:</b> Able to know about factor's of crime.

	<p>C03: Able to know about juvenile delinquency.</p> <p>C04: able to know about punishment, objective forms and theories.</p> <p>C05: know about Terrorism, alcoholism, drugs addiction.</p>
<b>Paper-IV (b)</b> Gender Mobility and change	<p><b>CO1:</b> Will be aware women's role in production procr-Domestic.</p> <p><b>CO2:</b> Knowledge about women's work in formal and informal sector.</p> <p>C03: will be aware about Migration and women,</p> <p>C04: will be aware about women and Development.</p> <p>C05: know about women's role in struggles for change.</p>
<b>Paper-V</b> Industrial sociology (Skill development )	<p><b>CO1:</b> Be aware of meaning of nature and scope of Industrial sociology.</p> <p><b>CO2:</b> Will be able to know about society and evolution of industrialization.</p> <p>C03: Be understand about indian social structure.</p> <p>C04: Be aware about process of industrial society.</p> <p>C05: Be aware about problems of Automation. .</p>
<b>Paper-VI</b> Population Growth and policies	<p><b>CO1:</b> Acquire the knowledge about the concept of optimism population.</p> <p>C02: To be know about trends of population growth in third world.</p> <p>C03: To be know about perspective of population and policies.</p> <p>C04: To be know about reason's of population.</p> <p>To be know about policies.</p>

<b>B.A.[Geography]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Will be able to realise human values.
PO2	Will become a responsible & dutiful citizen.
PO3	Will develop a sense of social service
PO4	Will have critical temper
PO5	Will develop a creative ability
PO6	will be eligible for admissions to post-graduate programs for further studies and will be able to appear for various competitive exams of UG level eligiblity.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The students would understand the development of the subject and delve around issues suited to the needs of the contemporary world.
PSO2	The students would learn to use geographic understanding of various sub fields such as Physiography, Resources, global economic systems, socio-cultural aspects, rural and urban milieu, environmental and disaster studies and mapping methods.
PSO3	They will be be well informed citizens who can play immense role in the civil society too. They will be able to pursue wide range of careers as planners, administrators, academicians and managers.

## Course Outcome

## SEMESTER I

Course Title	Course Outcomes
Paper-I Physical Geography - Earth System	<ol style="list-style-type: none"><li>1. Understand the functioning of Earth systems in real time and analyze how the natural and anthropogenic operating factors affect the development of landforms.</li><li>2. Distinguish between the mechanisms that control these processes.</li><li>3. Assess the roles of structure, stage and time in shaping the landforms and apply the knowledge in geographical research.</li></ol>
Paper-II Physical Geography - Atmospheric System	<ol style="list-style-type: none"><li>1. To understand the different atmospheric phenomena and climate change.</li><li>2. To analyze the dynamics of the Earth's atmosphere and global climate.</li><li>3. Assessing the role of man in global climate change.</li></ol>
Paper-III Analysis of Geographical Data and Graphical Representation	<ol style="list-style-type: none"><li>1. To differentiate between qualitative and quantitative information.</li><li>2. To know the nature of various data, different sources and methods of data collection.</li><li>3. To apply different methods for data collection and use the data for a comprehensive understanding of the spatial and non spatial phenomena.</li><li>4. To present data through graphical and diagrammatic formats.</li></ol>

## SEMESTER II

Course Title	Course Outcomes
Paper-I Human Geography	<ol style="list-style-type: none"><li>1. Detailed exposure of contemporary relevance of cultural landscape.</li><li>2. In-depth knowledge of space and society of cultural regions.</li><li>3. Understanding the settlement pattern and population resource relationship.</li><li>4. Understand the human adaptation to environment.</li></ol>
Paper-II Economic Geography	<ol style="list-style-type: none"><li>1. To distinguish different types of economic activities and their utilities.</li><li>2. To understand the relevance of the theoretical models explaining location of economic activities.</li><li>3. To understand the role of globalisation on spatial distribution of economic activities.</li></ol>

Paper-III Field Work - Surveying and Mapping	<ol style="list-style-type: none"> <li>1. This paper shall enable the students to understand fundamental concepts and issues related to field work and mapping in geographical studies.</li> <li>2. This course shall enable the students to comprehend about field work and field techniques.</li> <li>3. Students shall be well-versed with the development of questionnaire and writing the field report.</li> </ol>
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### SEMESTER III

Course Title	Course Outcomes
Paper-I Regional Geography of World: Asia, Europe, North America and Australia	<ol style="list-style-type: none"> <li>1. To understand the concept and criteria of regionalisation.</li> <li>2. To locate countries within the regions.</li> <li>3. To understand the socio-economic and cultural background of development of the countries.</li> </ol>
Paper-II Regional Study of Developed and Developing Countries: USA and China	<ol style="list-style-type: none"> <li>1. To understand the concept and criteria of regionalisation of developed and developing nations.</li> <li>2. To understand the socio-economic and cultural factors responsible for the development of USA and China.</li> <li>3. To understand the socio-economic and cultural differences between USA and China.</li> </ol>
Paper-III Map Projection and Weather Map	<ol style="list-style-type: none"> <li>1. Explain how maps work, conceptually and technically and will be able to understand science and art of cartography.</li> <li>2. Recognize the benefits and limitations of some common map projections and their use.</li> <li>3. Understand and perform interpretation of weather maps.</li> </ol>

### SEMESTER IV

Course Title	Course Outcomes
Paper-I Geography of India- I	<ol style="list-style-type: none"> <li>1. Understand the spatial distribution of physical resources of India.</li> <li>2. Understand the regional division of India on the basis of its</li> </ol>

	<p>physical resources.</p> <p>3. To develop an understanding on how regional development is related to the availability and use of physical resources.</p>
Paper-II Geography of India- II	<p>1. Understand the spatial distribution of human resources of India.</p> <p>2. To understand the regional growth in terms of population, industrialisation and urban expansion.</p> <p>3. To become concerned about the environmental problems generating due to changing trends in population characteristics, industrialization and urbanization.</p>
Paper-III Elementary Statistics	<p>1. In depth understanding about the sources and use of quantitative and qualitative data in geographical studies.</p> <p>2. To understand measures of central tendencies, dispersion and correlation to analyse the data and desired results.</p> <p>3. Understand the use of basic statistical techniques to make available data more comprehensive.</p>

## SEMESTER V

Course Title	Course Outcomes
Paper-I History of Geographical Thought	<p>1. In depth understanding about the evolution of geographical thought</p> <p>2. Detailed knowledge about the paradigms and debates in the geographical studies.</p> <p>3. Understanding of recent traditions in geography.</p>
Paper-II Earths Dynamic System	<p>1. Understand earth's tectonic and structural evolution, gain knowledge about earth's interior and develop an idea about concept of plate tectonic and resultant landforms.</p> <p>2. Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms.</p> <p>3. Understanding crustal mobility and tectonics; with special emphasis on their role in landform development.</p>

Paper-III Climatology	<ol style="list-style-type: none"> <li>1. Understand the elements of weather and climate, different atmospheric phenomena and climate change.</li> <li>2. Learn to associate climate with other environmental and human issues.</li> <li>3. To analyze the dynamics of the Earth's atmosphere and global climate and assess the role of man in global climate change.</li> </ol>
Paper-IV Map Information	<ol style="list-style-type: none"> <li>1. Comprehend the concept of scales and representation of spatial data through maps.</li> <li>2. Interpret topographical, geological and weather maps.</li> <li>3. Apply various techniques to interpret the map information.</li> </ol>

## SEMESTER VI

Paper Title	Course Outcomes
Paper-I Population Geography	<ol style="list-style-type: none"> <li>1. This paper would bring an understanding of Population Geography along with relevance of demographic data.</li> <li>2. The students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population theories.</li> <li>3. The students would get an understanding of the dynamics of population.</li> <li>4. An understanding of the implications of population composition in different regions of the world.</li> <li>5. An appreciation of the contemporary issues in the field of population studies</li> </ol>
Paper-II Agricultural Geography	<ol style="list-style-type: none"> <li>1. To understand the world agricultural systems, agricultural regions and agricultural land use and differentiate among them.</li> <li>2. To understand the physical, social, economic and cultural factors responsible for specific agricultural system and land use.</li> <li>3. To understand the political factors responsible for agricultural development.</li> </ol>
Paper-III Remote Sensing and Geographical Information System	<ol style="list-style-type: none"> <li>1. Students will demonstrate knowledge of the foundations and theories of geographic information systems (GIS) and use the tools and methods of GIS.</li> <li>2. Students will demonstrate their competence to work</li> </ol>

	<p>individually and as a team to develop and present a client-driven GIS solution.</p> <p>3. Student will be familiar with modern techniques in Geography.</p> <p>4. Students will be prepared to apply their skills in professional careers.</p>
Paper-IV Field Study, Field Trip and Report Writing	<p>1. To learn to write a report through direct observation.</p> <p>2. To extract relevant information from secondary sources of data and analyse them while report writing.</p> <p>3. To make the report presentable and comprehensive through maps, tables and diagrams.</p>

<b>M.A.[Geography]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Will be able to realise human values.
PO2	Will become a responsible & dutiful citizen.
PO3	Will develop a sense of social service.
PO4	Will have critical temper
PO5	Will develop a creative ability
PO6	will be eligible for admissions to Research programs and also to appear for various competitive exams of PG level eligibility.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Compare and contrast the theories, philosophies, and concepts in the discipline of geography, including unifying themes of spatial patterns and structures, the interrelationship between people and places, and the interactions between nature and society.
PSO2	Demonstrate an advanced understanding of and ability to differentiate among the various methodologies used in geographic research.
PSO3	Acquire, analyze, evaluate, interpret and critique geographic data and/or research.
PSO4	Communicate mastery of geographic data, theories, philosophies, and concepts in oral, written, and visual forms, with ethical engagement and respect for diversity of individuals, groups, and cultures.

## Course Outcome SEMESTER – I

Course Title	Course Outcomes
Paper-I Contemporary Geographical Thought	<p>1. A thorough knowledge of the growth, development, philosophical influences and relevance of geography from 1970 to the present time.</p> <p>2. Knowledge of emerging areas and new theorisations within the discipline</p> <p>3. An appreciation of the discipline's dynamic and inclusive nature.</p>

Paper-II Advanced Climatology	<ol style="list-style-type: none"> <li>1. To be able to analyze and interpret climatic data and understand the world climate and climatic regions.</li> <li>2. To understand the ways how various human activities are influencing world climatic phenomena.</li> <li>3. To understand the upper air circulation and its influence on regional climate.</li> <li>4. To understand the mean global atmospheric circulations and disturbances, world climate systems, climatic variability and change.</li> </ol>
Paper-III Map Projection and Computer Application in Geography	<ol style="list-style-type: none"> <li>1. To be able to understand the curvature of the earth and its appropriate representation on a flat surface with the help of suitable projections.</li> <li>2. To be able to understand the principles, methods, merits and demerits of different types of projection.</li> <li>3. To understand the basics of computer and use of computers in digital map making.</li> </ol>
Elective Paper-IV (a) Cultural Geography OR	<ol style="list-style-type: none"> <li>1. To understand the origin of cultures and factors responsible for the origin and development of specific types of culture.</li> <li>2. To identify cultural hearths and process of diffusion of cultures to the various parts of the world.</li> <li>3. To understand the role of modernisation and globalisation on existing cultural regions and predict the possible changes.</li> </ol>
Elective Paper-IV (b) Geography of Tourism and Recreation OR	<ol style="list-style-type: none"> <li>1. To understand the concept of leisure, recreation and tourism and how geographical space can define them.</li> <li>2. To understand the different types of tourism and its impact on environment.</li> <li>3. To understand the importance of tourism planning in environmental protection.</li> </ol>
Elective Paper-IV (c) Geography of Health	<ol style="list-style-type: none"> <li>1. Students would be acquainted with the basic concepts of population health from geographical perspectives.</li> <li>2. Students would get clear understanding about the process of population health transition and its major drivers. In addition, students should recognize the mechanism of how social and economic environment shapes population health.</li> <li>3. Further, the linkages between global environmental changes and population health should be well understood.</li> </ol>
Elective Paper-V (a) Geography of Resources OR	<ol style="list-style-type: none"> <li>1. At the end the course student should learn importance of natural resources.</li> <li>2. Conservation methods and awareness about community participation.</li> <li>3. Assessment of role of national and international efforts to mitigate resource problems.</li> </ol>
Elective Paper-V (b) Geography and Eco-System OR	<ol style="list-style-type: none"> <li>1. To understand the concept of ecosystem and identify the world's major ecosystem.</li> <li>2. To understand the importance of maintaining ecosystem balance and its conservation on human life.</li> <li>3. To know the environmental laws and be able to make people aware of it and work towards environmental protection.</li> </ol>

Elective Paper-V (c) Bio-Geography	<ol style="list-style-type: none"> <li>1. To understand the concept of biogeography and know the important terminologies related to ecology and biosphere.</li> <li>2. To understand the relationship of different components of biosphere and functioning of the ecosystem.</li> <li>3. To understand man's role in modifying the natural ecosystem and its consequences.</li> <li>4. To understand how we can conserve the natural ecosystems.</li> </ol>
Paper-VI Natural Resource Management (Not for Geography Students)	<ol style="list-style-type: none"> <li>1) At the end the course student should learn importance of natural resources.</li> <li>2) Conservation methods and awareness about community participation.</li> <li>3) Assessment of role of national and international efforts to mitigate resource problems.</li> </ol>

### SEMESTER – II

Course Title	Course Outcomes
Paper-I Interdisciplinary Research Methods and Techniques	<ol style="list-style-type: none"> <li>1. The students will be able to understand basic concepts of field research methods and research design in geography.</li> <li>2. The students will be able to do field work through practical experience and get skills of data collection methods and processing and analysis of obtained data.</li> <li>3. The students will be able to write dissertation based on field work on given topic.</li> </ol>
Paper-II Advanced Geomorphology	<ol style="list-style-type: none"> <li>1. Explain basic principles for development of landforms through time.</li> <li>2. Make an initial geomorphological fieldwork.</li> <li>3. Learn the techniques of geomorphological analysis.</li> </ol>
Paper-III Remote Sensing, Aerial Image Processing and Field Excursion based Assignment	<ol style="list-style-type: none"> <li>1. Overall understanding of potential of Remote Sensing, GIS and GPS</li> <li>2. Understanding of image interpretation</li> <li>3. Understanding of GIS analysis workflow and integrated applications in various domains of Geography</li> </ol>
Elective Paper-IV (a) Area Study of Africa OR	<ol style="list-style-type: none"> <li>1. To know the location and extent of the area along with the location of physical resources of the area.</li> <li>2. To know the regional divisions of the area along with their demographic characteristics, economic conditions, industrialisation and agricultural development.</li> </ol>
Elective Paper-IV (b) Area Study of South America OR	<ol style="list-style-type: none"> <li>1. To know the location and extent of the area along with the location of physical resources of the area.</li> <li>2. To know the regional divisions of the area along with their demographic characteristics, economic conditions, industrialisation and agricultural development.</li> </ol>
Elective Paper-IV (c) Area Study of	<ol style="list-style-type: none"> <li>1. To know the location and extent of the area along with the location of physical resources of the area.</li> <li>2. To know the regional divisions of the area along with their</li> </ol>

South East Asia	demographic characteristics, economic conditions, industrialisation and agricultural development.
Elective Paper-V (a) Agricultural Geography OR	<b>Course Learning Outcomes:</b> 1. The students will be able to understand and analyse the historical perspective of agriculture. 2. The students will be able to analyse the agriculture development and productivity and its impacts on various sectors 3. The students will be able to get updated knowledge of contemporary issues and strategies.
Elective Paper-V (b) Population Geography OR	1. To appreciate the active role of population geography as a distinct field of human geography. 2. To be conversant with different sources of demographic data, and well versed with debates on population-development linkages. 3. Students should be able to examine the different components of population change, its drivers, and their consequences upon contemporary socio-economic, environmental, and political changes.
Elective Paper-V (c) Geography of Tourism and Recreation	1. To understand the concept of leisure, recreation and tourism and how geographical space can define them. 2. To understand the different types of tourism and its impact on environment. 3. To understand the importance of tourism planning in environmental protection.
Paper-VI Geography of Trade and Marketing (Not for Geography Students)	1. To understand how trade and marketing as an economic activity is also geographical and to know its pattern in space and time. 2. To know the theories and policies related to world trade and marketing. 3. To understand the role of globalization in trade and marketing and its impact on natural environment.

### SEMESTER – III

Course Title	Course Outcomes
Paper-I Urban & Regional Planning	1. The students will learn about basic principles of urban and regional planning. 2. The students will know about pioneering thinkers in the field of urban planning. 3. The students will study about the different theoretical background and structure of the regional planning process
Paper-II Regional development in India	1. The course will help in understanding concept and need of sustainable regional development along with changing paradigm of regional development in India. 2. It will improve understanding about role of various development ideas shaping regional development strategies. 3. Understanding spatial and temporal pattern of area development, poverty and HDI indicators.
Paper-III	1. Overall understanding of potential of Remote Sensing, GIS and

GIS, Surveying and Computer Assisted Cartography	<p>GPS.</p> <p>2. Understanding of image interpretation and relating it with field observations.</p> <p>3. Understanding of GIS analysis workflow and integrated applications in various domains of Geography</p>
Elective Paper-IV (a) Environmental Geography OR	<p>1. To understand the composition and types of environment.</p> <p>2. To understand the concept of ecosystem, energy flow and functioning of ecosystem.</p> <p>3. To understand the causes and effect of environmental degradation.</p> <p>4. To know the environmental legislations and laws and to understand the concept of environmental management to check environmental degradation.</p>
Elective Paper-IV (b) Water Resource Management OR	<p>1. To know about the sources of water on earth and its global distribution.</p> <p>2. To understand the problems associated with water balance and human interference to it.</p> <p>3. To know about the policies in India regarding water conservation.</p>
Elective Paper-IV (c) Geographical Dimensions of Hydrology	<p>1. Apply the water balance equation to various hydrological problems in time and space.</p> <p>2. Describe how components of the water cycle are influenced by human activities.</p> <p>3. Analyse hydrological data in order to evaluate water resource management in an area.</p>
Elective Paper-V (a) Political Geography OR	
Elective Paper-V (b) Geography of Transport and Communication OR	<p>1. Students shall learn about the significance of transport in multifaceted development.</p> <p>2. Significance of various models.</p> <p>3. Role of theories related to transport network.</p> <p>4. About the Accessibility, connectivity and policy interventions.</p> <p>5. They will be applying the various approaches of transport in daily life.</p>
Elective Paper-V (c) Bio-Geography	<p>1. To understand the concept of biogeography and know the important terminologies related to ecology and biosphere.</p> <p>2. To understand the relationship of different components of biosphere and functioning of the ecosystem.</p> <p>3. To understand man's role in modifying the natural ecosystem and its consequences.</p> <p>4. To understand how we can conserve the natural ecosystems.</p>
Paper-VI Applied Economic Geography	<p>1. The students will be able to appreciate that geography and space matter in economy.</p> <p>2. The students will be able to identify some key issues that</p>

(Not for Geography Students)	<p>economic geography engages with.</p> <p>3. The students will be able to comprehend and analyse the principal questions confronting the contemporary space-economy:</p> <p>a) What are 'economic' reasons for variations in spatial distribution of population and resources?</p> <p>b) How to solve the 'mystery' of economic growth?</p> <p>c) Has the role of 'distance' and 'proximity' declined?</p> <p>d) Has the World become 'flat'?</p>
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### SEMESTER – IV

Paper Title	Course Outcome
Paper-I Techniques of Spatial Analysis	<ol style="list-style-type: none"> <li>1. To know about different types of spatial data and the methods of data collection and compilation.</li> <li>2. To perform diagrammatic and mathematical representation of spatial data.</li> <li>3. Perform hypothesis testing.</li> </ol>
Paper-II Urban Geography	<ol style="list-style-type: none"> <li>1. To understand the linkages between urban cities and the societal forces that shapes it.</li> <li>2. Critically analyse contemporary urban issues from a geographical perspective.</li> <li>3. Understand urban issues in order to engage with possible and effective planning and policy interventions.</li> </ol>
Paper-III Field Work Dissertation and Viva Voce: (3+1Credits)	<ol style="list-style-type: none"> <li>1. According to the specialization the students learn to take up a case study and generalize the phenomena studied.</li> <li>2. To apply the knowledge and techniques learnt in report writing and data analysis.</li> </ol>
Elective: Paper-IV (a) Tropical Geomorphology OR	<ol style="list-style-type: none"> <li>1. To know about the geomorphological processes in Tropical climate regions and their associated landforms.</li> <li>2. To understand the factors controlling the processes that operates in tropical climate.</li> <li>3. To understand the process of slope evolution.</li> <li>4. To understand the human activities that interfere with the natural geomorphologic processes and it's its consequences.</li> </ol>
Elective: Paper-IV (b) Monsoon Climatology OR	<ol style="list-style-type: none"> <li>1. To understand the monsoon mechanics and role of jet streams, tropical air masses, Tibetan plateau, southern oscillation and upper air circulation in the arrival and departure of monsoon.</li> <li>2. To know about the other weather phenomena such as tropical disturbances prevalent in the monsoonal climate areas.</li> <li>3. To know the regionalisation of India based on climatic characteristics such as agro climatic regions.</li> </ol>
Elective:	<ol style="list-style-type: none"> <li>1. To understand the basic framework, methods, techniques and</li> </ol>

Paper-IV (c) Resource Planning	purpose of resource planning. 2. To understand the importance of physical resource conservation and human resource development. 3. To know about the resource utilisation, development, planning and policy in India. 4. To know about the resource planning units in India.
Elective: Paper-V (a) GIS and Its Application OR	1. Understanding of geospatial data management and analysis functions 2. Understanding of analytical modelling with GIS 3. Understanding of thematic map designing using GIS .
Elective: Paper-V (b) Industrial Geography OR	1. To understand the factors influencing industrial location and development. 2. To know about the major industrial regions of the world and India. 3. To know about the problems of industrial development with special emphasis on environmental degradation. 4. To know the historical evolution of industrialization in India and impact of globalization on industrialization.
Elective: Paper-V (c) Geography of Crime and Terrorism	1. To understand the geographical approaches to study crime and terrorism. 2. To understand the different causes of crime. 3. To know about the different types of crime at national and international levels. 4. To know about the terrorism in India and understand the controlling factors.
Paper-VI Natural Hazard Management (Not for Geography Students)	1. To know about the distribution of different types of natural hazards and man's role in generating such hazards. 2. To know the occurrences of different types of natural hazards in India. 3. To know about the management and prediction of natural hazards.

<b>B.A. [Economics]</b>	
<b>Programme Outcome (POs)</b>	
PO1	The student will be able to know the basic concept of economics.
PO2	The student will be able to learn the economic behaviour in practice.
PO3	The student will gain the economic way of thinking.
PO4	The student will be able to analyze the historical and current events from an economic perspective.
PO5	The student will be eligible for admissions to post-graduate programs for further studies and will be able to appear for various competitive exams of UG level eligibility.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Will be able to understand economic theories and functioning.
PSO2	Statistical and Mathematical skill for collective and analysis of empirical data
PSO3	Will be aware of concept of development and its measurement.

PSO4	Will be aware of the development issues of Indian Economy.
Course Outcomes	SEM I
Microeconomics - I	CO01: Introduction Economic theory, Micro and Macro economics CO02: Concept of Demand-Supply, Price mechanism CO03: Consumer behaviour CO04: Concepts of Elasticity and Consumer Surplus CO05: Production Function; Laws of Returns
Indian Economy ( Nature and Problems)-I	CO01: Economic History of India CO02: 5 Yrs Plans and Economic Resources. CO03: Broad Demographic Feature of India CO04: Agri-Sector of Indian economy CO05: Agri-Marketing, and Community development programmes.
	SEM II
Microeconomics -II	CO01: Nature of Markets; Revenue & Cost Analysis CO02: Monopoly; Monopolistic Competition; Price Discrimination CO03: Theory of Distribution; Rent ; and Productivity CO04: Theory of Wage CO05: Interest; Keynesian Liquidity; Profit – Schumpeter-Knight, Mehta
Indian Economy ( Nature and Problems)-II	CO01: Industrial development in India CO02: Industrial policies in India CO03: India's External trade – composition and directions CO04: Balance of payment, FOREX Crisis, IMF CO05: Economic Reforms, Export promotion, role of MNCs
	SEM III
MacroEconomics	CO01: National Income accounting CO02: Govt expenditure; National income analysis ; Keynesian theory of Employment CO03: Consumption Function; Criticism of Keynesian Consumption CO04: Investment Function; Its effectiveness in LDCs; and Marginal Efficiency of Capital CO05: Trade Cycles; Contributions of Hawlley, Hayek, Keynes on this issue
Money & Banking	CO01: Money, Meaning, functions and classification; Money Supply CO02: The quantity theory of money; Keynes's fundamental equations. CO03: Inflation, Deflation and Reflection, Stagflation CO04: Commercial Banking; Credit Creation Multiplier CO05: Functioning of RBI; Credit Control; Monetary Policy
	SEM IV
International Trade	CO01: Macro Theories of Distribution- Ricardo, Marx and Kaldor CO02: Theories of Growth: Harrod and Domar Growth Models CO03: Interregional and International Trade importance of International Trade. CO04: Theories of International Trade CO05: Tariffs and quota, Balance of Trade and Balance of payment
Public Finance	CO01: Meaning and Scope of Public Finance; Public and Private Goods CO02: Principle of maximum social advantage CO03: Public Expenditure- Meaning, Classification and principles CO04: Public Dept- Meaning, Methods of Debt Repayment

	CO05: Taxations- Meaning, Types , and effects of Taxation
	SEM V
Economic Analysis -I	CO01: Theories of Firm ; Baumols’ Sales Maximization model; Williamson’s model of managerial discretion CO02: Welfare Economics CO03: Pareto Optimality, Kaldor – Hicks compensations principle CO04: Oligopoly, Duopoly, - Collusion and Non-collusive oligopoly CO05: Oligopoly Model, The Kinked Demand Curve, and Cartels
Development, Planning & Policies-I	CO01: Development: Meaning, Measurement and Indicators of Development CO02: Over Population, Technology Backwardness CO03: Rostow’s Stages of growth, Big Push Theory CO04: Measures of Development: Augmentation of Saving, Investment Strategy CO05: Surplus Labour as a source of Capital formation
Techniques of Economic Analysis –I	CO01: Nature of Economic Problem, Approaches to Economic Analysis, Micro & Macro Analysis CO02: Functional Relationship in Economics. Demand, Supply, Cost Revenue CO03: Rate of change and the slope of a straight line CO04: Concepts and Nature of Various Rates of Growth; Concept of Marginal Propensity to save and consume. CO05: Elementary idea and Interpretation of First Order Differential Coefficients; Elasticity of Demand and Elasticity of supply.
	SEM VI
Economic Analysis -II	CO01: Criticism of Keynesian System, Pigeon Effect and Wealth Effect CO02: Permanent and Relative Income Hypothesis CO03: Theory of Investment – Autonomous and induced investment, CO04: Concept of Accelerator, Multiplier–Accelerator; Hicks and Samuelx Theory CO05: The Harrod Problem; Solow’s model of Economic Growth; Input / Output Analysis
Development, Planning & Policies-II	CO01: Planning in India ; Transition from Central Planning to Indicative Planning CO02: Changing Role of State and Market in economic policy of India CO03: Industrial Development and Industrial Policy During Plans CO04: Employment Generation and Poverty Alleviation CO05: Export-Import Policy, Fiscal and Monetary Policies
Techniques of Economic Analysis –II	CO01: Understanding the Statistical Process, Investigation, Collection of data CO02: Measures of Central tendency CO03: Measures of Dispersion; Standard Deviation; Lorentz Curve CO04: Measures of Skewness, Correlation and its measures karl Pearson’s co-efficient CO05: Index Numbers; Role and functions of C.S.O. , N.S.S.O

<b>M.A.[Economics]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Students will acquire the knowledge of economic theories, develop

	theories, Public Finance, International Trade, Indian Economy etc.
PO2	The students are empowered for appearing various competitive examination or research programme.
PO3	Students get knowledge of various research methods.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Students will be able to know how to apply the knowledge from Economics in various sectors of Society.
PSO2	Students will be able to design policies to overcome the economical crisis.
PSO3	Students will be able to utilize their knowledge to solve issues in unemployment, poverty, agriculture production and productivity.
PSO4	Students will be able to know about various economic theories and some organizations as WTO, IMF, WB etc.

## Course Outcome

### Semester-I

Paper-I Economic Thought	CO1: Economic ideas did not evolve in isolation, but were an integral and important part of the evolution of modern social thought. Revolutionary ideas of Science, Scientific rigour and measurement played a significant role in the shaping of economic science at each stage of its evolution. This course tracing the history of economic thought would enable the student to understand the evolving process of economic discipline.
Paper-II Micro Economic Analysis	Upon successful completion of the Course, the student would be able to: CO1: Understand the various concepts of Micro economic theory. CO2: Application of Economic theory in the context of India. CO3: demonstrate competence in using diagrams and graphs to explain economic principles and their applications. CO4: analyse the economic behaviour of individuals and various aspects of consumer behaviour.
Paper-III Theories of International Trade	The student will be able to: CO1: Understand the concepts, issues and challenges of International Trade. CO2: know the importance of External Sector in India's economic growth and development. CO3: Apply the International Economic Theory in context of India. CO4: understand and analyze different policy initiatives taken by Government and other Institutions.
Paper-IV (a) Issues & Problems of Indian Economy	CO1: Student will be able to understand various features of Indian Economy. CO2: will be able to develop comprehension on issues and challenges prevailed in Indian Economy. CO3: evaluate critically the problems & Development issues of India. CO4: understand importance of different sectors and their contribution to Indian Economy.
Paper-IV (b) Indian Economic Policy	CO1: will know about various sectors of economic policies such as , Monetary Policy. Population Policy etc. CO2: will be able to understand different institutions such as NITI Ayog, NDC etc. CO3: Student will be able to understand Balance of Payments. CO4: Understand about Foreign Trade Policy, Foreign Capital in India, FERA, FEMA etc.
Paper-V Computer Application in Economics	The student will be: CO1: familiar with basic knowledge of Computers. CO2: familiar with a statistical software.. CO3: will be able to draw distributive tables, graphs, trend lines. CO4: able to interpret and estimate the parameters of multiple regressions with the

	help of software. CO5: able to use unit level data of large samples, VIZ., NSSO various rounds.
Paper-VI Environmental Economics	The student will be: CO1: familiar with the debates on approaches on linkage between Natural Environment and Human Economy. CO2: understand the linkages between environmental degradation and economic development. CO3: familiar with contemporary environmental problems. CO4: familiar with various methods of measurement of environmental resources.

#### Semester-II

Paper-I	After successful completion of this course, student will be able to: CO1: Explain the behaviour of buyer and sellers in the market using basic economic theories. CO2: apply the Market theory in context of India. CO3: analyze the economic behaviour of individuals, firms and market. CO4: know about managerial theory of firms. CO5: know about welfare economic theories, social welfare function.
Paper-II Quantitative Methods	The student will be able to: CO1: develop mathematical approach in analysis of economic problems. CO2: understand mathematical technique, which are directly useful in economic analysis. CO3: use mathematical and statistical tools for economic theory. CO4: draw economic interpretation from the application of quantitative tools to economic theories.
Paper-III International Economics	CO1: Students are able to understand meaning and components of balance of payments. CO2: students will be able to understand the concepts of exchange rate. CO3: will be able to know effects of customer Union.
Paper-IV (a) Financial Institutions	After successful completion of this Course, the student would be able to: CO1: Understand the concept of Money, near money & financial intermediaries. CO2: Understand the structures of the financial system. CO3: know about function of Central Bank. CO4: Analyze role and function of development Bank and Investment banking.
Paper-IV (b) Labour Economics	CO1: Student will be able to understand different theories on labour & employment. CO2: student will be able to analyze the latest development of labour market in developing countries with reference to India. CO3: Student are able to understand National Wages Policy, Wage and Wage Boards in India. CO4: understand the Industrial Relations, Industrial disputes, special problem of labour.
Paper-V Human Resource Development	The student will be : CO1: able to build an understanding and perspective of Human Resource Development as discipline appreciating learning. CO2: understand role of education & health in human resource development. CO3: understand different indices of Human Development such as HDI, HPI and POLI. CO4: able to analyze problem of child labour, women labour, migration of talent.
Paper-VI Industrial Economics	After completion of the Course student will be able to: CO1: understand about scope & significance of large & small industries. CO2: know about Industrial finance in India. CO3: Understand importance of public sector industries. CO4: understand theories of location. CO5: Analyze the size of firm & productivity.

Semester-III

Paper-I Macro Economic Analysis	CO1: Students comprehend different forms of national income accounting CO2: Students able to analyse income consumption relationship and investment function. CO3: Student understand various views and theories on interest and money CO4: Students critically evaluate different approaches of Business Cycle theories.
Paper-II Theory of Economic Growth	CO1: Understanding the basic facts of economic growth. CO2: Comprehensive of relationship between growth and development. CO3: Familiarity with the wide-ranging policy issues and theories in growth economics. CO4: Understanding the keynesian Analysis of economic growth with a comparison to some other growth models. CO5: A critical account of the extension of the neoclassical growth model & applications.
Paper-III Public Economics	CO1: Student will know about Public goods, private goods and merit goods. CO2: Student will be able to understand about Wagner's Law of increasing State activities. Wiseman-peacock Hypothesis. CO3: Student can analyses of budget trend in public expenditure & public debt. CO4: Student will have knowledge about Indian Tax System.
Paper-IV (a) Economics of Agriculture	CO1: Student will be able to know about the linkage between Agriculture and Industry. CO2: Understand traditional Agriculture and modernization. CO3: Understand Agriculture Development model; Lewis, Schultz and Miller CO4: Able to analyse relationship between farms, size and productivity. CO5: Will have knowledge about the Green Revolution
Paper-IV (b) Demography	CO1: Student will be able to discuss and analyze the concept of demographic theories & its applications. CO2: student will acquire knowledge about Child Women ratio, Sex ratio, Population Density etc.. CO3: Student will be able to measure Infant Mortality rate, Mortality Rate and MMR CO4: Aware of the Concept of Life-tables.
Paper-V Managerial Economics	CO1: apply the knowledge of the mechanics of Supply & demand to explain working of market. CO2: able to describe how change in Demand & Supply affects markets. CO3: will understand the choices made by a rational consumer. CO4: able to Explain relationships between productions and costs.
Paper-VI Problems of Indian Agriculture	CO1: able to understand the structure of the agriculture sector of the Indian economy. CO2: able to understand rate & impact of the Institutional support to agriculture sector. CO3: will understand the marketing of agricultural products. CO4: the student will be able to analyse the problem of agricultural labour, Agrarian unrest employment, situation and wages. CO5: will have knowledge about food policy, agriculture pricing policy, green revolution.

Semester-IV

Paper-I Monetary Economics	CO1: will have knowledge about Money and Money Supply. CO2: will be aware of various monetary theories. CO3: will have knowledge about RBI approach to Money supply. CO4: will have knowledge of controlling Money supply.
Paper-II	CO1: Will be able to understand Monetary and Physical Policies.

Indian Public Finance	CO2: Will have knowledge about Theory of Federal Finance, Fiscal Federalism in India. CO3: Will be able to analyse finance commission, Planning Commission & NITI Aayog, Central State Financial Relation in India. CO4: about Budget trends & Tax System.
Paper-III Research Methodology	CO1: Student will be able to explain, difference between social and physical sciences research. CO2: will be able to understand Research design, data collection, presentation of research report. CO3: will be able to analyse and classify the data. CO4: will know about measure of Central tendency, Mean, Median, Mode and Measure of dispersion. CO5: will understand measures of skewness, coefficient of variation.
Paper-IV (a) Economics of Infrastructure and Transport	The student will be able to understand: CO1: Infrastructure Economics and development, Characteristics of Public utilities. CO2: Role of state in Infrastructure provisions, Public-Private Partnership, Planning in India-Process, Implementation and experience. CO3: About characteristics of Demand and supply in Transport Sector, Model of Transport, Road, Water and Air Transport. CO4: About energy, electricity, gas and water supply economics. CO5: To analyse-Infrastructure Financing and Regulations.
Paper-IV (b) Economics of Public Sector in India	Students will be able to : CO1: Understand the role of public sector in the economic development, Management of Public sector enterprises. CO2: understand criteria of project selection, Investment planning, project evaluation. CO3: Analyze the investment in infrastructure. CO4: Analyze pricing policy of public enterprises & profit maximization. CO5: evaluate critically the board problems of the major enterprises of India as Indian Railways, Steel Industry, Coal Industry, BHEL.
Paper-V Rural Development	Student will be able to understand: CO1: aspects of rural development, rural infrastructure, HDI in Rural India. CO2: about development of Rural Entrepreneurship, Problems of inequality in Rural India. CO3: Analysis the causes of rural migration and solutions, Problems of inequality in Rural India. CO4: Review of Rural Development Administration and Panchayati Raj Institutions and Role of Voluntary Agencies in Rural Development CO5: Rural Development Programmes, MANREGA, National Rural Livelihood Mission, National Rural Health Mission etc.
Paper-VI Regional Economic Co-operation	Student will be able to understand: CO1: Bilateral Trade Agreement, Gravity Equation Revealed Comparative Advantage Model. CO2: About Free Trade Agreements, Scope and Importance of SAPTA, NAPTA and ASEAN. CO3: Economic Integration and regional grouping, Theories of Customs Union. CO4: Analysis of the Viner Model, Vanek Model and the Lipsey Model CO5: Indian and European Union.

## B.Lib.I.Sc.

Programme Outcome (POs)	
PO1	The student will be in a position to work at lower and middle managerial positions in all types of libraries, viz. academic, public or special.
PO2	They will have competencies to perform day to day housekeeping operations and

	provide library services such as circulation, reference and information services to users of a library.
PO3	Additionally, they will be in a position to design and develop information retrieval systems specific to the needs of a small community of users.
PO4	Another outcome of the programme is to develop a strong foundation and inspiration for higher-level courses in library and information science.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The student will be able to appreciate the basic philosophy and ethics of librarianship.
PSO2	The student will be able to understand the role and evolution of library as a social institution.
PSO3	The student will know about various types of libraries, their nature, objectives and services.
<b>Course Outcomes</b>	
	<b>SEM I</b> The students will gain an understanding of:
Library and Society	CO01: Library as societal institution CO02: The Five core laws of Lib Science CO03: Library legislations and their features CO04: Resource Sharing in Libraries CO05: Librarianship as a profession
Library Management	CO01: Library Organisational Structure CO02: Types of Information Resources, Selection Principles and Communication Media. CO03: Management and use of library resources. CO04: Participative management, TQM in libraries. CO05: Library finances
Library Classification theory	CO01: Theory and development of library classification CO02: Species of classification CO03: Approaches to library classification- categories, and sequence CO04:current trends in classification CO05:Comparison of different editions of Decimal classifications , UDC
Library Classification Practical	CO01: Dewey Decimal classification CO02: Decimal Classification CO03: Colon Classification CO04: Application of Postulates and principles for facet Analysis and synthesis
	<b>SEM II</b> The students will gain an understanding of:
Library Cataloguing Theory	CO01: Cataloguing Code and Types CO02:Forms of catalogue entries CO03: Centralized cataloguing and MARC, and CCF. CO04: Subject cataloguing – problems, vocabulary control. CO05: Recent Trends in Library cataloguing
Library Cataloguing Practical	CO01: structure of AACR-2; single author works, edited works. CO02: Handling Pseudonym authors, corporate publications, and Multi Volume books. CO03: Cataloguing of non-print media CO04: Introduction to classified catalogue code CO05: handling periodicals
Reference and Information	CO01: Study of Reference Sources Information Access tools kinds of Bibliographics. CO02: Categories of Reference Sources, Dictionaries, Encyclopedias, Year Books,

Sources	patents. CO03: Categories of Reference sources (Part-2) Geographical Sources CO04: Statistical Information Sources CO05: Mass media and institutional information sources
Information Services and Organization	CO01: Information services and its users CO02: Organisation of Information Services CO03: Reference services and its importance CO04: Document delivery services CO05: management of search/database services
Information Technology: Basics and Practical Knowledge	CO01: Role of I.T. in libraries CO02: Functions and need of Library software packages CO03: Features of Indian Software packages CO04: Library Management software packages: LIBSYS, SOUL. And INFLIBNET CO05: Library and Internet based sharing setups

## M.Lib.I.Sc.

### Programme Outcome (POs)

PO1	1. Will be trained in Technological knowledge and professional skills.
PO2	2. Will be able to effectively administer and manage Libraries and Information Centers.
PO3	3. Will learn the skills of organizing information and recorded knowledge.
PO4	4. Will become competent for job opportunities in LIS and related field.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The students will be acquainted with organization and development of Universe of knowledge and Information.
PSO2	The students will be acquainted with Research Organization and Research Methodology.
PSO3	The student will be able to understand the basic principles and fundamental laws of library science.
PSO4	The student will be able to understand and appreciate the function and purpose of library in changing social and academic environment.
Course Outcomes	SEM I The students will gain an understanding of:
Universe of Knowledge and Research Methodology	CO01: Structure, Division and Attributes of Universe of Subject CO02: Mapping of Universe of Subjects in Different classification Schemes CO03: Meaning of Research, Research Problem, & Research methodology CO04: Data Collection techniques and Analysis CO05: Report writing and Bibliometrics
Information, Communication and Society	CO01: Data, Information and Knowledge : Concept and Difference CO02: Communication of information and barriers to information communication CO03: Economics of information CO04: Information Policies : National Programme and Policies, National Information Policy (NIP) CO05: Organization and institutions involved in the development of Library and Information Services
Information, Storage and Retrieval	CO01: Information Storage and Retrieval CO02: Classification Schemes : Special Reference to UDC CO03: Thesaurus : Structure , Types, Function and Application)

	CO04: Indexing Process : Traditional and Automatic CO05: Indexing Language and Controlled Vocabulary
Academic Library System	CO01: Origin and Development of Academic Libraries CO02: Role of University Grant Commission (UGC) in the Development of College and University Libraries CO03: Collection Development in Academic Libraries and Financial Management of Academic Libraries CO04: Personnel Management in Academic Libraries CO05: INFLIBNET Services
	SEM II The students will gain an understanding of:
Information, Source, System and Programmes	CO01: Information Sources: Primary, Secondary and Tertiary CO02: Customization of Information Sources and Content Analysis CO03: Information sources CO04: Information Sources System and Programmes in Humanities, Social sciences CO05: Information Sources, Systems and Programmes Science and Technology
Information and Communication Technology: Application	CO01: Information and Communication Technology: Concept and Application CO02: Application of Computer in Library Functions Services CO03: Library Management Software Packages: LIBSYS and SOUL CO04: Functioning of ERNET, NICNET, JANET, BLAISE, OCLC, INFLIBNET CO05: Searching on the Internet and Teleconferencing Telex, Video Text.
Knowledge Organisation (Depth classification Practice) and Information Storage Retrieval (Advanced Cataloguing Practice)	CO01: Classification of Documents representing compound and complex subjects using colon classification CO02: Composite Books CO03: Multi volume Books CO04: Non Books Materials CO05: Periodicals/ Journals
Dissertation/ Viva Voce	CO01: Research Contribution

<b>BA [JMC]</b>	
<b>Programme Educational Objectives (PEOs)</b>	
PEO1	To familiarize the students with the working atmosphere of media – both print & electronic.
PEO2	To develop working skills needed for newspapers, magazines, radio, television, web journalism.
PEO3	To develop aptitude & competence to analyze & interpret the events.
PEO4	To develop writing skills for different formats used in media.
PEO5	To provide knowledge of Indian constitution, current affairs & global scenario.
<b>Programme Outcome (POs)</b>	
PO1	Students able to understand the basic concepts of communication and its role in society.
PO2	Have vision to observe the forms and characteristics of electronic media.

PO3	Have able to understand language used in various media.
PO4	Have able to develop a concept of reporting writing & editing for print media.
PO5	Students able to develop their own view about changing trends in media.
PO6	Have able to develop unbiased, objective, balance journalistic attitude towards in current scenario of nation and international events.
PO7	Have able to develop an innovative and creative thinking towards any circumstances.
PO8	Have able to accept the challenges of journalistic atmosphere.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Specific approach to develop an aesthetic sense of students towards any storyline, editing & photography.
PSO2	Conduct yoga/meditation classes for stress management of students who is going to start his/her career in hectic schedule of media world.
PSO3	Develop the journalistic point of view of every student towards any national, international, political, economical, health, culture, sports, entertainment and other events.
PSO4	Organized the debate to develop the thinking and analytical aptitude of every students.
PSO5	Effective approach to build up human being with smart personality.
PSO6	Specific approach to develop an aesthetic sense of students towards any storyline, editing & photography.

NEHRU GRAM BHARATI  
(DEEMED TO BE UNIVERSITY), PRAYAGRAJ  
COURSE OUTCOME

After completion of the course the student will be able to :

BA-JMC SEMESTER-1 <sup>st</sup>	
Paper 1 <sup>st</sup> Introduction to Communication	CO1: The students will be able to understand concepts in communication and shall be able to implement them in not only their professions but everyday life. CO2: Communication is integral to human expression and growth and has taken many forms over centuries. The students will be able to identify the use of media in providing meaningful information. CO3: After the completion of the course the students will be able to explain and review on critical evaluation of mass communication Theories.
Paper 2 <sup>nd</sup> History of Journalism	CO1: The students will be able to understand the different phases of print and broadcast journalism in India. CO2: Student will able to understand the nature of indian media during freedom movement. CO3: Students will able to aquire knowledge of indian media and its various aspects
Paper 3 <sup>rd</sup> Print Media	CO1: Students will be able to identify news values and comprehend the news process. CO2: Organize a news story according to the hard news structure. CO3: Write different leads, the body text and ending for print media.
Paper 4 <sup>th</sup> Practical & Viva-Voce	CO1: Develop basic writing skills. CO2: Acquire practicle knowledge of editing stories & writing headlines. CO3: Will able to preparing reports on various events.

BA-JMC SEMESTER-2 <sup>nd</sup>	
Paper 1 <sup>st</sup> Reporting & Editing	CO1: Will acquire Knowledge of various types of News Reporting. CO2: Acquire introductory Knowledge about news formal like : interviews Hard news soft news follow up etc. CO3: Acquire Knowledge of editing & various area's of news.
Paper 2 <sup>nd</sup> Development Communication	CO1: Students will be able to recognize and explain the concept and importance of development. CO2: Students will be able to distinguish between communication and development communication. CO3: Students will be able to describe use of different media in development communication.
Paper 3 <sup>rd</sup> History of Broadcasting in India	CO1: Acquire knowledge about History of Radio, Print & Television. CO2: Will acquire knowledge of Role & Responsibility of Broadcasting. CO3: The students will be able to understand New concept of Autonomy & Prasar Bharati.
Paper 4 <sup>th</sup> Practical & Viva-Voce	CO1: Develop basic writing skills. CO2: Acquire practical knowledge of editing stories & writing headlines. CO3: Will be able to preparing reports on various events.
BA-JMC SEMESTER-3 <sup>rd</sup>	
Paper 1 <sup>st</sup> Electronic Media & Visual Communication	CO1: Visual communication applies the fundamentals of major art forms for professional problem-solving. CO2: It is the conveyance of ideas and information in forms that can be read or looked upon. CO3: This unit will introduce students to the history, forms, elements, theories, meaning, and principles of visual communication.
Paper 2 <sup>nd</sup> Communication Technology: Computer & Internet	CO1: Understand the concept of computer & internet. CO2: Able to handle the software related to Video & Photo Editing. CO3: Define the principle of Newspaper page design.
Paper 3 <sup>rd</sup> Media Language Structure & Style	CO1: Able to understand of Media language & its structure. CO2: Acquire basic knowledge about variations of language. CO3: Acquire knowledge utility of language.
Paper 4 <sup>th</sup> Practical & Viva-Voce	CO1: Develop basic writing skills. CO2: Acquire practical knowledge of editing stories & writing headlines. CO3: Will be able to preparing reports on various events.

BA-JMC SEMESTER-4 <sup>th</sup>	
Paper 1 <sup>st</sup> Public Relations	CO1: To enable the students to integrate various functions with organizational goals and strategies. • CO2: To provide hands-on training on planning and production of brand and social campaigns. CO3: To provide skills on various events especially in media planning and production of campaigns.
Paper 2 <sup>nd</sup> Advertisements	CO1: The student will be able to identify and define the advertising concepts and will review the advertising media. CO2: The student will be able to analyze the Indian advertising scenario and will distinguish between advertising and marketing. CO3: The student will be able to categorize different types of advertisements. The students will also be able to appraise and interpret

	the legal, ethical and social aspect of advertising.
Paper 3 <sup>rd</sup> Media & Social Issues	CO1: Develop basic understanding about Indian society & its Historical feature. CO2: Acquire knowledge about Globalization & its impact on Indian media. CO3: Will able to understand Human Right.
Paper 4 <sup>th</sup> Practical & Viva-Voce	CO1: Develop basic writing skills. CO2: Acquire practice knowledge of editing stories & writing headlines. CO3: Will able to preparing reports on various events.
<b>BA-JMC SEMESTER-5<sup>th</sup></b>	
Paper 1 <sup>st</sup> Indian Constitution, Government & Politics	CO1: Develop basic understanding about India constitution. CO2: Acquire knowledge about fundamental rights & duties. CO3: Will able to understand federal system of India.
Paper 2 <sup>nd</sup> Press Laws of India	CO1: Will able to understand Press & Government in British India. CO2: Acquire knowledge about copy right act, Press Book registry act & Press council of India. CO3: Will able to understand Defamation, contempt of court & right to information act.
Paper 3 <sup>rd</sup> International Relations & Current Affairs	CO1: Acquire basic knowledge about UNO. CO2: Will able to understand foreign Policy of India & its Neighbour Countries. CO3: Will able to understand Indias socio economic scenario.
Paper 4 <sup>th</sup> Practical & Viva-Voce	CO1: Develop basic writing skills. CO2: Acquire practice knowledge of editing stories & writing headlines. CO3: Acquire knowledge to Will able to preparing reports on various events.
<b>BA-JMC SEMESTER-6<sup>th</sup></b>	
Paper 1 <sup>st</sup> Communication Research	CO1: describe the media research analysis for source, message, channel and audience. CO2: classify the applications of media research in print, electronic and PR industry. CO3: prepare media research plans for the above mentioned industries.
Paper 2 <sup>nd</sup> Social Media	CO1: Acquire knowledge about Social networking sites. CO2: Will able to understand participatory communication. CO3: Acquire knowledge about Social media policy & technology.
Paper 3 <sup>rd</sup> Project Work & Field Work (Apprenticeship)	CO1: Develop basic writing skill. CO2: student will be able to prepare reports & news. CO3: Acquire practical knowledge of media Industry.
Paper 4 <sup>th</sup> Practical & Viva-Voce	CO1: Develop basic writing skills. CO2: Acquire practice knowledge of editing stories & writing headlines. CO3: Will able to preparing reports on various events.

<b>MA [JMC]</b>	
<b>Programme Educational Objectives (PEOs)</b>	
PEO1	Necessary skills to work in various media including print, electronic & web.
PEO2	Concept and processes of communication including theories and models of communication.

PEO3	Understanding of laws related to media and media ethics .
PEO4	To introduce the students to basics of journalism and its role in society.
PEO5	Conducting communication research.
<b>Programme Outcome (POs)</b>	
PO1	Have fair understanding about various media and communication.
PO2	Have able to develop unbiased, objective, balance journalistic attitude towards in current scenario of nation and international events.
PO3	Have able to develop an innovative and creative thinking towards any circumstances.
PO4	Smooth communication and understanding about the synergic relationship between media and society.
PO5	Have the ability to conduct media and communication research.
PO6	Students able to develop a critical understanding about media as a discipline and also media as an instrument of change.
PO7	Prepare themselves for a career in teaching and research.
PO8	Pursue a career in print journalism, photo journalism, television production and writing, web journalism, radio production, social media, public relations, advertising, event management and film making.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Specific approach to develop an aesthetic sense.
PSO2	Conduct yoga/meditation for stress management.
PSO3	Develop the journalistic point of view.
PSO4	Organized the debate to develop the thinking process and creativity.
PSO5	Effective approach to build up human being with smart personality.

## Course Outcome

### Semester-I

Paper- I: Principal of mass communication	CO1: Students capable to understand the basic concepts of communication & its role in society. CO2: They were capable to implement processes & theories of communication. CO3: Students able to clarify the role of media in several countries. CO4: The students can understand various type of journalism & their importance.
Paper- II: World media: india & abroad	CO1: Students understand about print media & its specifications. CO2: They make differences between T.V., Radio, Print & other mediums. CO3: Students understand the nature & process of world media. CO4: Capable to assumes the future of media world.
Paper- III: Language Excellency & media	CO1: Students capable to understand the basics of Hindi & English grammar. CO2: They can understand the composition of words so that they are able to translate text. CO3: Students are able to write words and paragraphs in correct and effective manner. CO4: Students able to use idioms and phrases these are generally used in both the language for journalists.
Paper- IV (a):	CO1: Computer & internet is a substantive part of media in this paper students

Computer application in media	able to operate the basic of computer and internet. CO2:They able to operate applications of computer in various fields related to media. CO3:Able to do power point presentation, multimedia, adobe premier, sound & video editing. CO4:Student understand the process and basics of editing software and their uses in media and social media. CO5:Able to property operate and understand inter
Paper- IV (b) Media & internet	CO1: Students able to operate property internet and social media. CO2: The understand the internet protocols and security issues on internet. CO3: They updated by latest development in the field of internet.
Paper -V : Practical & viva voce	CO1: Students are able to secure practical model CO2: Students are capable to face the experts and ask the questions and advise. CO3: They are able to import in group and class communication. CO4:They gained able to evaluate their knowledge by through viva-voce.
Paper-VI : Communication Skill	CO1: Students are able to understand the communication nature and its process. CO2: Able to understand better communication skill. CO3: Students able to understand effective writing.

#### Semester-2<sup>nd</sup> MA-JMC

After completion of the course the student will be able to :

Paper 1 <sup>st</sup> Advance reporting & editing (Print Media)	CO1: Will acquire Knowledge of various types of News Reporting. CO2: Acquire introductory Knowledge about news formal like : interviews Hard news soft news follow up etc. CO3: Acquire Knowledge of editing & various area's of news.
Paper 2 <sup>nd</sup> Web journalism	CO1: will be able to acquire introductory knowledge of online media. CO2: Will be able to learn forms of online packages & understand the rule of online writing. CO3: Will acquire knowledge of model of online advertisement, ethical considerations & cyber law.
Paper 3 <sup>rd</sup> Media Laws	CO1: Acquire introductory knowledge about Indian constitution & fundamental rights. CO2: Understanding different press laws & acts. CO3: Acquire knowledge of ethics of journalism, freedom & responsibility of press, press council of india.
Paper 4 <sup>th</sup> Media ethics	CO1: Will develop understanding of media ethics for various mediums. CO2: Acquire knowledge of code of conduct for electronic media. CO3: Acquire introductory knowledge of digital democracy.
Paper 5 <sup>th</sup> Practicals (Portfolio)	CO1: Develop basic writing skills. CO2: Acquire practice knowledge of editing stories & writing headlines. CO3: Will able to preparing reports on various events.
Paper 6 <sup>th</sup> Media Literacy	CO1: Acquire introductory knowledge of social media & its impact. CO2: Develop an understanding of the visual message & the truth behind visual literacy. CO3: Develop an understanding of ideology in the context of our media system.

Semester-3<sup>rd</sup> MA-JMC

Paper 1 <sup>st</sup> Electronic Media (Radio & Television)	CO1: Acquire introductory knowledge about radio & television as a mass communication. CO2: Will acquire knowledge of news bulletin & art of news presentation. CO3: Develop understanding of Television programme presentation/ production & basic equipment, cameras, different parts of dighting.
Paper 2 <sup>nd</sup> Development Communication	CO1: understanding different approaches to development, its problems & issues. CO2: Knowledge about characteristics of developing societies and finding societies. CO3: Acquire introductory knowledge about the role of development and rural extension agencies indevelopment.
Paper 3 <sup>rd</sup> Media Research	CO1: Acquire introductory knowledge about media research. CO2: Understanding theoretical, conceptual & operational framework of research. CO3: Will acquire knowledge of designing research methodology & literature review tools of data collection and data interprestation.
Paper 4 <sup>th</sup> Public Opinion	CO1: Will acquire knowledge of measuring public opinion. CO2: Understanding about public opinion and democratic values. CO3: Acquire introductory knowledge about public opinion and social and cultural issues.
or	
Paper 4 <sup>th</sup> Mass Media & Opinion Polls	CO1: Acquire introductory knowledge about public opinion polls and democracy. CO2: understanding about how to conduct a poll. CO3: understading polls and media.
Paper 5 <sup>th</sup> practicals and (portfolio)	CO1: understanding radio jingles for youth. CO2: Radio features. CO3: Production of a short documentary. CO4: Prepare of research designe.
Paper 6 <sup>th</sup> Vedio journalism	CO1: Acquire introduction knowledge about video journalism, meaning concept and teachniques. CO2: understanding concept of cityzen journalist. CO3: understanding video formats and cameras.

MA-JMC Semester 4<sup>th</sup>

Paper 1 <sup>st</sup> Visual Communication	CO1: Acquire introductory knowledge about visual communication. CO2: Will aquire knowledge of various application areas of visual communication. CO3: Acquire knowledge about photo editing and video editing and audio visual presentation.
Or	
Paper 1 <sup>st</sup> Advertising & Public Relations	CO1: Acquire introductory knowledge about definition, scope, concept of ad and PR. CO2: understanding the role of advertising the role of advertising and social change. CO3: Will acquire knowledge of various types of public and tools of PR.
Paper 3 <sup>rd</sup> Dissertation	CO1: Problem selection and definition. CO2: Understanding objective of the study. CO3: Practical knowledge about data collection, tools and interprets writing research papers.
Paper 4 <sup>th</sup>	CO1: Opens up the students understanding of the subjedt and knowledge

Apprenticeship and Project work	gathered. CO2: Practical knowledge of media industry.
Paper 5 <sup>th</sup> Practicals (Advertising & PR)	CO1: Acquire knowledge of copy writing exercises for print radio and television advertisements. CO2: Understanding to prepare house journal and press releases.
Paper 6 <sup>th</sup> Photography	CO1: Acquire introductory knowledge about photography usages and advantages. CO2: Understanding digital cameras and their basics. CO3: Acquire knowledge about file formats and storing and processing of images.

## BPA

<b>Programme Outcome (POs)</b>	
PO1	The student will acquire knowledge and skills needed for professional career as a musician.
PO2	The student will be able to apply the knowledge of Performing Arts for the solution of complex problems in various domains including the cultural, societal, and environmental arenas.
PO3	Students develop an understanding of Concepts, theoretical frameworks, perspectives and methods of inquiry.
PO4	Students learn to appreciate diversity and develop cultural sensitivity.
PO5	Students imbibe human values and become responsible citizens.
PO6	Students are trained to think rationally and critically.
PO7	Recognition of self as an individual with strengths and weaknesses.
PO8	Eligible candidates for admissions to post-graduate programs for further studies.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The students will be able to give a practical demonstration of ragas.
PSO2	The students will be able to acquire knowledge about the theoretical aspects of the prescribed ragas.
PSO3	The student will be aware of History and Science of Music and classification of Ragas and Tals.
PSO4	The student will develop skills for stage performance.
PSO5	The student will be able to analyse the various musical forms and of Hindustani Music.
PSO6	The Student will be aware of Shruties in Music

### Course Outcome Semester-I

Paper-I APPLIED THEORY-I	CO1: The Student will acquire theoretical Knowledge of all the prescribed Ragas with illustrations of Nyasa, Alpatva, Bahutva, Avirbhava and Tirobhava by means of notes. CO2: the student will be able to understand how to write a songs in notation in the above Ragas with Alaps, Tans, Bolton's in Khayals and Dugun, Tigunetc. In Dhrupad and Dhamar. CO3 : The student will be able to write following Tals with different types of Layakaries, Dugun, Tigun, Chaugun and Ada. CO4: Student will be able to write Essay on any general topic related to music and Critical and detailed study of old Ragas.
Paper-II Science of Music and Studies of Shruties-I	CO1: The student will be aware of vibration and frequency, Pitch and its relation with the vibrator. CO2 : Student will understand the vocal and instrumental ranges of sound,

	<p>Amplitude, Timber.</p> <p>CO3 : Student will understand qualities of musical and unmusical sound (overtones – Swayambhu swar), Shadajgram, the relation of present day shuddha saptak with shadajgram.</p> <p>CO4 : The student will be aware of consonance and dissonance, main type of chords, Absorption, Echo, Resonance and Reverberation of sound.</p> <p>CO5: Will be aware of Rabindra Sangeet – Giti Natya, Nritya, Baitalik, Varsha Mangal, Basantotsav.</p>
Paper-III Practical	CO1: will acquire practical skills on the above two papers
Paper-IV Tabla or Folk Music (Subsidiary)	CO1: will have knowledge of ragas such as Vilambit and Drut Khyal with Alap Tans CO2: will be aware of General outline of the Ragas.

#### Semester-II

Paper-I APPLIED THEORY-II	<p>CO1: will be able to Identify Ragas from given notes.</p> <p>CO2 : will be able to interpret Critically, detailed and comparative study of the prescribed Ragas.</p> <p>CO3 : will be able to Write Tals with different types of Layakaries, Dugun, Tigun, Chaugun and Ada.</p>
Paper-II Science of Music and Studies of Shruties-II	<p>CO1: will be aware of Concept of Shruti (Different opinions on it), placement of shuddha and vikruti swars on different shruties according to Lochan, Ahobal. Pundarik, Ramamatya, Somnath etc.</p> <p>CO2: will be able to compare swars of Northern and Southern Saptak.</p> <p>CO3: will be aware of different school in Hindustani tradition , Rabindra Sangeet and Tagore's Rag-Ragnies.</p>
Paper-III Practical	CO1: will acquire practical skills on the above two papers
Paper-IV Tabla or Folk Music (Subsidiary)	CO1: ability of practical performance of Tabla or Folk Music

#### Semester-III

Paper-I Applied Theory-III	<p>CO1: will be aware of Theoretical knowledge of the prescribed Ragas with a critical and comparative study.</p> <p>CO2: will be able to Reading and writing of notation of the prescribed ragas (khyal, dhrupad, dhamar) with illustration of Nyas, Alap, Taan and Taals with prescribed Layakaries. Identification of Ragas from given notes.</p> <p>CO3: aware of musical styles, Geet, Gandharva, Gan, Deshi, Sangeet, Sihaya, Mukhachalan. Raga Lakshan, Raga Lap, Alapti and will acquire ability to Compare different styles of Indian music viz. Dhupad, Dhamar, Thumri, Tappa, Taranas and their evolution.</p> <p>CO4: will have Knowledge of talas with different types of Layakaries.</p>
Paper-II Notation Systems, Scales	<p>CO1: will be aware of various type of intervals of notes. , different musical scales, Diatonic scale, equal tempered scale, pythagorian scale, major and minor scale.</p> <p>CO2: ability to compare Notation systems of Bhatkhande, Vishnu digamber and western music, writing of simple songs in staff notation, Western notes, time signature and other salient features of western staff notation, Harmony and melody, Placement of notes on Veena according to Pt. Srinivas.</p>

Paper-III Practical	CO1: will acquire practical skills on the above two papers
Paper-IV Light Music or Tabla	CO1: will be able for practical performance of Light Music or Tabla

#### Semester-VI

Paper-I Applied Theory-IV	CO1: ability to Read and write notation of the prescribed ragas (khyal, dhrupad, dhamar) with illustration of Alpatva, Bahutva, Tirobhav and Abirbhav with prescribed Layakaries. Identification of Ragas from given notes. CO2: Will be aware of of musical styles, Akshiptika, Nibaddha and Anibaddha. Raga Swasthan Niyam, Prachlit Alap, Tan, Meend. Comparative and detailed study of different styles of Indian music viz. Dhupadm Dhamar, Khyal, Chaturang, Trivat and their evolution. CO3: will have knowledge of the following talas with different types of Layakaries and writing of the talas in Dugun and Visham Layakaries, Deepchandi, Forodast, Kumbha , Shikhar.
Paper-II Biographies of Musicians	CO1: will be able to Compare study of northern and southern taal paddhaties. CO2 : will be aware of Contribution of various scholars and musicians of medieval period of the Indian Music , Biographies of Bhatkhande, Vishnudigamber, Amir Khusaroo, Faiyyaz Khan, Pt. Ravi Shankar, Abdul Karim Khan, Bade Gulam Ali, Pt. Omkar Nath Thakur, Bade Ramdas and others of modern period. CO3: Will be aware of Application of Hindustani Ragas in Rabindra Music, Manodharma Sangeet, Rag Malika, Divyaprabandham, Different forms of Rabindra Sangeet, History of music of Bengal. CO4: will be aware of different styles of vocal and instrumental music in Karnatak music and its Guru-Shishya parampara.
Paper-III Practical	CO1: will acquire practical skills on the above two papers
Paper-IV Light Music or Tabla	CO1: will be able for practical performance of Light Music or Tabla

#### Semester-V

Paper-I Applied Theory-V	CO1: will have Theoretical knowledge of the prescribed Ragas with their subtle characterstical alongwith illustration of nyasa, Alpatva, Bahutva and comparative study of ragas, notation in the prescribed ragas and setting of given piece to a raga, Composition of Alap, Tan. Ability to compose 5 compositions on any raga. CO2: Critical study of different styles of music of North, Identification of swaras and ragas by a group of notes in any raga. CO3: will be aware of Gram Moorchhana, knowledge of all previous ragas with chief characterstics. CO4: will have Knowledge of the following tals with different types ofLayakaries, Ada Chautal, Brahma, Lakshami.
Paper-II History of Music and Classification of Ragas and Taals-I	CO1: will be aware of short history of music of ancient period upto 13th century A.D. with particular reference to Natya Shastra, Brihaddeshi, Sangeet Ratnakar. CO2: able to classify ragas and talas, Evolution of various jati-ragas. CO3: Aware of history of music in medieval and modern period, Impact of modern science in the development and propagation of music. CO4: will be acquainted with Music and its inter-relation with other arts like painting, drama, dance
Paper-III	CO1: will acquire practical skills on the above two papers

Practical	
Paper-IV Light Music or Tabla	CO1: will be able for practical performance of Light Music or Tabla

#### Semester-VI

Paper-I Applied Theory-VI	CO1: will have theoretical knowledge of the prescribed Ragas with their subtle characteristics along with illustration of Tirobhav, Abirbhav etc. and comparative study of ragas. CO2: will be aware of various kinds of Gamak, Kaku, Kutup, knowledge of all previous ragas with chief characteristics, types of Layakaries, Rudra, Shikhar, Pancham sawari.
Paper-II History of Music and Classification of Ragas and Taals-I	CO1: will be aware of short history of music of medieval period upto 16th century A.D. with particular reference to Venkatmukhi, Pt. Srinivas. Pt. Ahobal, Pt. Ramamatya. CO2 : aware of prabandh schools/gharanas of music and their exponents. CO3: aware of Concept of 'Bandish' (Composition), Comparison of Hindustani and Karnatak music system, classification of instruments (Vadya vargikaran). CO4: will be aware of main musicologists and musicians of the modern period.
Paper-III Practical	CO1: will acquire practical skills on the above two papers
Paper-IV Light Music or Tabla	CO1: will be able for practical performance of Light Music or Tabla

### MPA

<b>Programme Outcome (POs)</b>	
PO1	The Students will acquire the cultural knowledge and the professional skills necessary for a career in music.
PO2	The student will be able to demonstrate a broad knowledge of Music Theory.
PO3	The students will acquire hands-on experience with current music and media related technologies.
PO4	The students will acquire ability to demonstrate the skill set needed for music teachers for private and public schools.
PO5	Each Student will be able to demonstrate musicianship skills adequate to support the performance and pedagogy of music.
PO6	will be eligible for admissions to Research programs and also to appear for various competitive exams of PG level eligibility.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The student will acquire ability to analyse ragas and taals.
PSO2	The student will have deep knowledge of History and Science of Music.
PSO3	The student will be aware of different Gharanas and styles of Music.
PSO4	The student will develop skill for stage performance of Lokgeet (Kajari & Thumri) and Sugam Sangeet.
PSO5	The student will be able to create songs inculcating Aesthetic and beauty of Music.
PSO6	The student will be able to apply Music Therapy for solving real life

problems.

Course Outcome

Semester-I

Paper-I Analytical Studies of Ragas and Tals-1	CO1: will be aware of different Rag angas and will be able to compare between various kinds of each ang. CO2: will be aware of Alaps and tans. CO3: will have knowledge with ability to illustrate of Allap, Nyasa, combination of Swaras, Talas with Theka and Layakaries, Trital, Chautal, Ektal, Dhamar, Sooltal, Adachar tal, kaharwa, Dadra, Jhaptal, Tilwada, Roopak, Jhoomar, Basant, Rudra, Pancham, saveri, Lakshmi. CO4: will be able to Write notation of any Drut/Vilambit Khayal in the Ragas with Alaps and Tans.
Paper-II History of Indian Music	CO1: will be acquainted with knowledge of Music in Vedic, Pauranik, Ramayan and Mahabharat periods, Indian Music during Ancient, Medieval and Modern period. CO2: Will be aware of contributions of Medieval Scholars of Indian Music like Sharangdeo, Somnath, Ahobal, Pundarik Vitthal, Ramamatya, Swami Haridas, Lochan etc in Indian Music. CO3: Will be aware of Origin of Indian Music and Music Education.
Paper-III Practicals	CO1: Will acquire practical skills in above Paper-I and II
Paper-IV Stage Performance	CO1: will acquire stage performing skills of Bhairav, Ahir Bhairav, Anand Bhairav, Nat Bhairav, Gunkali, Bhimpalasi, Patdeep, Hanskinkinj, Vrindavani Sarang, Madhmad Sarang, Miyan Ki Sarang, Khambhawati, Basant Mukhari.
Paper-V Lokgeet (Kajari)	CO1: will be aware and acquire skills for performing Lokgeet (Kajari) Folk Song. CO2: will have knowledge of History, Religious Value, Subjects, Styles, Notation, Main instruments used in Kajri Singing and about Prominent Singers of Kajri.
Paper-VI Folk Song	CO1: Will be aware of Folk Song, Folk Songs of Uttar Pradesh, Social Value of Folk Songs, Season wise Folk Songs, Sanskar Songs, Agriculture related Folk Songs and Main instruments used in Folk Singing.

Semester-II

Paper-I Analytical Studies of Ragas and Tals-2	CO1: will acquire an ability in Writing notation of any Drupad/Dhamar in the mentioned Ragas with Alaps, Layakaries, Upaj etc., Rag classification of Modern Period, Writing notation of any Drut/Vilambit Khayal in the Ragas of your course with Alaps and Tans. 8. Description of Ragas in Ancient, Medieval and Modern Period.
Paper-II Science of Music	CO1: will be aware of Musical quality and their importance, Shruti, its concepts. CO2: will have knowledge of Musical scales, their origin and development, Importance of Resonance, Absorption, Consonance, Echo and Reverberation. CO3: will be able to classify Swar Talas and Ragas in Northern and Southern systems of Indian music, Swarsthan and placement of Shuddha and Vikrut swar by various Scholars, Melody and Harmony, Counter point and terminology used.
Paper-III Practicals	CO1: Will acquire practical skills in above Paper-I and II
Paper-IV	CO1: will acquire stage performing skills Bihag, Maroo Bihag. Bihagda, Sur

Stage Performance	Malhar, Nat Malhar, Jayant Malhar, Megh Malhar, Ramdasi Malhar, Jog, Jog Kauns, Nand, Rageshri, Jhinhoti and Tilang.
Paper-V Lokgeet (Thumari)	CO1: Will be acquainted with Thumri , Gharanas of Thumri , Type of Thumri, Raagas , Notation , Main instruments used in Thumri Songs and Prominent Singers of Thumri.
Paper-VI Gharana & Styles of Music	CO1: will have knowledge of Definition of Gharanas , its origin, development , Modern Method of Music education , New trends of Indian , Varieties of Gharanas and their exponents. CO2: will be acquainted with Origin and development of our instruments, Different prevalent forms of music in India like Classical, Folk music, Ceremonial music, religious music and Scope and different class of musicology. CO3: ability to compare Indian and Western music.

#### Semester-III

Paper-I Analytical Studies of Ragas and Tals-3	CO1: will have knowledge about Ragas with their typical combination like Alpatva, Bahutva, Abirbhav and Tirobhav. CO2: ability to Write notation of any Drupad/Dhamar in the mentioned Ragas with Alaps, Layakaries, Upaj etc. CO3: ability to compare Ragas with their distinction (contrast) in Sam Prakrati Ragas with illustration of Allap, Nyasa, combination of Swaras and other chief characteristics.
Paper-II Aesthetic and Beauty of Music	CO1: will be aware of Rasa, its varieties and its relation with Music , The effect of Music on human life , Alankar, Chhand and their relation with Music , Dhyan of Ragas. CO2: will have knowledge of the Principles of Aesthetics, Concept of Beautiful according to Indian Western Scholars, Relation of Rag and Ritu and Painting of Ragas.
Paper-III Practicals	CO1: Will acquire practical skills in above Paper-I and II
Paper-IV Stage Performance	CO1: will acquire stage performing skills of Kalyan, Shyam Kalyan, Pooria Kalyan, Jait Kalyan, Bilawal, Deogiri Bilawal, Yamni Bilawal, Nat Bilawal, Saurparda Bilawal, Jait shree and Bhatiyar.
Paper-V Sugam Sangeet	CO1: will be acquainted with Sugam Sangeet, its Type , Raagas , Notation, Instruments used in Sugam Sangeet and Prominent Singers of Sugam Sangeet.
Paper-VI History of Indian Music	CO1: will be acquainted with knowledge of Music in Vedic, Pauranik, Ramayan and Mahabharat periods, Indian Music during Ancient, Medieval and Modern period. CO2: Will be aware of contributions of Medieval Scholars of Indian Music like Sharangdeo, Somnath, Ahobal, Pundarik Vitthal, Ramamatya, Swami Haridas, Lochan etc in Indian Music. CO3: Will be aware of Origin of Indian Music and Music Education.

#### Semester-IV

Paper-I Analytical Studies of Ragas and Tals-4	CO1: ability to describe and illustrate Alaps and tans. CO2: will be able to classify Rag of ancient period. CO3: Ability to Describe Ragas in Ancient, Medieval and Modern Period.
Paper-II Gharana & Styles of Music	CO1: will have knowledge of Definition of Gharanas , its origin, development , Modern Method of Music education , New trends of Indian , Varieties of Gharanas and their exponents. CO2: will be acquainted with Origin and development of our instruments, Different prevalent forms of music in India like Classical, Folk music,

	Ceremonial music, religious music and Scope and different class of musicology. CO3: ability to compare Indian and Western music.
Paper-III Practicals	CO1: Will acquire practical skills in above Paper-I and II
Paper-IV Stage Performance	CO1: will acquire stage performing skills of Darbari Kanhada, Naiki Kanhada, Suha Kanhada, Sughral Kanhada, Shahana Kanhada, Kaushiki Kanhada, Abhogi Kanhada , Todi, Gujri Todi, Bilaskhani Todi, Bhupal Todi , Kedar, Maluha, Kedar Hemant, Hansdhwani.
Paper-V Music Therapy	CO1: will be acqzinted with the concept of Music Therapy , Science behind the music , The Impact of Music on Our Lives , Health & Music Therapy , Music for Comfort, Peace, Concentration, Pain & Stress , Raag treatment for some disease and Music-Based Applications in our day-today life.
Paper-VI Science of Music	CO1: will be aware of Musical quality and their importance , Shruti, its concepts. CO2: will have knowledge of Musical scales, their origin and development, Importance of Resonance, Absorption, Consonance, Echo and Reverberation. CO3: will be able to classify Swar Talas and Ragas in Northern and Southern systems of Indian music, Swarsthan and placement of Shuddha and Vikrut swar by various Scholars , Melody and Harmony, Counter point and terminology used.

## MSW

<b>MSW</b>	
<b>Programme Outcome (POs)</b>	
PO1	To develop academic Expertise in the domain
PO2	To build the Social Commitment quotient
PO3	To build on team working and leadership capabilities
PO4	To develop a value orient, people centred professional
PO5	To build evidence based research aptitude amongst candidates.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Imparting skill based Social Work training leading to proficiency in academic and field learning
PSO2	Training the budding Social Workers in engaging diverse social issues and develop professional self in addressing such issues
PSO3	Demonstrate skills in research based practice and practice based research
PSO4	Equipping the students to practice the primary and secondary methods of Social Work
PSO5	Creating holistic understanding in the national, cultural and ethical values and promotes worth and dignity of client group

## Course Outcome

	SEM I Students would be able to :
Social Work : Concept, Philosophy And Professional Development	CO01: Introduction to historical development of Social work across the world and India. CO02: Major philosophies guiding the field of Social work incl. Gandhian CO03: Social work as a profession

Social work : Dynamics of Human Behavior	CO01: Introduction to human behaviour – Group dynamics, Personality CO02: Organizational behaviour, adjustment and Motivation CO03: Handling emotions, and conflict
Social Case Work	CO01: Historical Development of Social Case Works in England, U.S.A. and India CO02: Principles and techniques of Social Case Work CO03: social case work process
Concurrent field Work	CO01: Develop field skills through active involvement CO02: Working under Field Supervisor CO03: Report writing skills
Labour Welfare	CO01: Labour Welfare – concept, need, scope and approaches CO02: Constitutional and Legal Framework of Labour welfare CO03: Role of Labour Welfare Officer
Medical Social Work	CO01: Medical Social work – meaning, need, scope, skills CO02: Role of socio-cultural factors in health domain CO03: Role of medical social workers at different levels – child guidance, family planning, and community centres.
Rural Development	CO01: Rural development- meaning, scope and forms CO02: Programmes and Policies related to rural development CO03: Problems, and Factors relevant to the domain ; Role of agencies,
Gram Pravas	CO01: To familiarize with the ground realities of Indian villages CO02: To make relevant observation/solutions to key issues
Yoga and Health	CO01: Yoga- concept, history, importance. CO02: Principles of Yoga CO03: Yoga and Social work
	SEM II Students would be able to :
Social Group Work	CO01: Social Group work – nature, scope, and significance CO02: evolving scope of social group work CO03: Approaches, Techniques, and practice of Social group work
Social Work Research	CO01: Concept of Social Work Research, - its nature, development and philosophy CO02: Social Work Research and its interplay with Interdisciplinary, Trans-disciplinary, and Multidisciplinary settings CO03: Participatory Research, Action Research and Use of Computers in it.
Community Organization	CO01: Community Organization – meaning, objections, process CO02: Resource mobilization ; Lobbying, and Advocacy. CO03: Role and Function of Community Organization Worker
Concurrent field Work	CO01: Develop field skills through active involvement CO02: Working under Field Supervisor CO03: Report writing skills
Labour Legislation in India	CO01: Factories Act 1948, Mines and plantation act 1952 CO02: ILO and Indian labour legislation CO03: Legislations on Payments and minimum setting of wages in India; Industrial disputes; Trade Unions
Psychiatric Social Work	CO01: Psychiatric Social Work - Concept, Need and Principles CO02: History of Psychiatric Social Work CO03: Role of Psychiatric Social Worker

Urban Development	CO01: Urban Development- concept, scope, Goals. CO02: Process and participation in Urban Development CO03: Concept of Local Self Govt; Consumer protection
Rural Entrepreneurship	CO01: Understand rural entrepreneurs and their limitations CO02: Search for opportunities, if any
Rural Entrepreneurship	CO01: Concept- Scope, Programmes. CO02: Skills needed; SMEs – structure, programmes, and operations
Ganga Protection and Development	CO01: Ganga Pollution – Causes and Barriers; Ganga Protection Movements CO02: Programmes and Policies on Ganga Protection CO03: Role of Social workers in Ganga Protection
	SEM III Students would be able to :
Social Action	CO01: Social Action – Meaning, scope and Process CO02: Models and approaches to social action CO03: Problems in mobilization of efforts in social action
Counselling & Communication	CO01: Counselling & Communication –concept and methods; Approaches CO02: Role and application of Psychological Testing CO03: Communications – Process, forms and barriers
Social policy, Planning & Development	CO01: Social policy concept, characters, models and approaches CO02: Social planning – concept, scope and models. Indian Experience CO03: Social development – concept and approaches; Sustainable development ,
Concurrent field Work	CO01: Develop field skills through active involvement CO02: Working under Field Supervisor CO03: Report writing skills
Human Resource Management	CO01: HRM- Concept- philosophy, principles. CO02: Human Resource Planning, Recruitment CO03: Workers Participation in Management in India
Health Psychology	CO01: Health – concepts, Importance and models in the domain CO02: Health Behaviour- causes and implications CO03: Stress and health; Women, Elderly health issues
Rural Planning in India	CO01: Rural Planning – concept, history, importance, and process CO02: Programmes of Rural Planning, Panchayati Raj. CO03: Problems of Rural Planning in India Rural Planning and Social Works
Personality Development	CO01: Personality – concept, meaning, and types CO02: Personality Development; Personality Disorders CO03: Personality Development programmes
Social Defense and Security	CO01: Social Defense: concept, meaning, and programmes CO02: Social security- concept and characteristics; Indian experience CO03: Social security legislations
Personality Development	CO01: Bem P. Allen :-Personality Theories. CO02: Hall, G.S. and Linzeg G -Theories of Personality

	CO03: Mun, H.N. :-Personality
Social Defense and Security	CO01: Social Defense: concept, meaning, and programmes CO02: Social security- concept and characteristics; Indian experience CO03: Social security legislations
	SEM IV Students would be able to :
Social Welfare Administration	CO01: Social Welfare Administration -meaning, scope, process CO02: Social Welfare- Policies and programmes CO03: Social Welfare - Budgeting & financial Control; Society Registration Act 1860; FCRA; 12A; and 80G
Demography and Environment	CO01: Populations- determinants, trends, growth. Mortality, Fertility, and Migration CO02: National Population Policy in India CO03: Environment Policies and Laws in India
Human Development and Social Work	CO01: Human Development – concept, theories and model CO02: Human Development in Indian Context; Policies and Programmes. CO03: Human Development and Social Work
Concurrent field Work	CO01: Develop field skills through active involvement CO02: Working under Field Supervisor CO03: Report writing skills
Human Resource Development	CO01: Human Resource Development- concepts, scope, process and Role CO02:HRD and HRM CO03: Programmes and Strategies of HRD
Mental Disability and Personality Disorders	CO01: Major Mental Disorders CO02: Treatment of Psychotic Disorders and Social work Intervention CO03: Minor Mental Disability; Personality Disorders
Urban Planning in India	CO01: Urban Planning – concept, history, and process CO02: Urban Planning : Approaches programmes CO03: Rural – Urban Continuum
Disaster Management	CO01: Disaster Management – stages, policies, and programmes CO02: Disaster Management: Challenges, Straggles and Legislation CO03: Disaster Management and Social work
Social Problems and Solutions	CO01: Social Problems- concept, causes, programmes CO02: Social Problems and Social Work CO03: Role of Social Workers against Social Problems
Dissertation	CO01: Dissertation work will be based on Primary Data Collection
Block Placement Report	CO01: Each Student shall be required to prepare and submit a block Placement Report of 45 days. This Block Placement will be conducted in the Specialization related Organization
Tour Report	CO01: Every Student will be required to complete a study tour. This study tour will be organized at that Place where social work Institutions

are in function.
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## Faculty of Science

### B.Sc. [Botany]

Programme Outcome (POs)	
PO1	Discipline specific competitive exams conducted by service commission
PO2	To facilitate students for taking up and shaping a successful career in Botany
PO3	To highlight the potential of these studies to become an entrepreneur
PO4	To equip the students with skills related to laboratory as well as field based studies
Programme Specific Outcome (PSOs)	
PSO1	To make the students aware about conservation and sustainable use of plants
PSO2	To make the students aware of applications of different plants in various industries
PSO3	To create foundation for further studies in Botany
PSO4	To provide thorough knowledge about various plant groups from primitive to highlyevolved
PSO5	To address the socio-economic challenges related to plant sciences
PSO6	

## Course Outcome

### 1<sup>st</sup> SEMESTER

Paper	Course Title	Course Learning Outcome
<b>Paper I</b>	<b>Mycology &amp; Microbiology</b>	<ul style="list-style-type: none"> <li>• Understand the diversity among Bacteria, Viruses and Fungi</li> <li>• Know the systematic, morphology and structure of Bacteria, Viruses and Fungi</li> <li>• Understand the life cycle pattern of Bacteria, Viruses and Fungi</li> <li>• Understand the useful and harmful activities of Bacteria, Viruses and Fungi</li> </ul>
<b>Paper II</b>	<b>Phycology</b>	<ul style="list-style-type: none"> <li>• Understand the diversity of Algae</li> <li>• Know the systematic, morphology and structure of Algae</li> <li>• Understand the life cycle pattern of Algae</li> <li>• Understand the useful and harmful activities of Algae</li> </ul>
<b>Paper III</b>	<b>Bryology</b>	<ul style="list-style-type: none"> <li>• Understand the morphological diversity of Bryophytes</li> <li>• Understand the economic importance of the Bryophytes</li> <li>• Know the evolution of Bryophytes</li> </ul>
<b>Practical</b>	<b>Laboratory</b>	Students should understand <ul style="list-style-type: none"> <li>• Study of fungal diversity w.r.t Systematic position and morphology</li> </ul>

		<ul style="list-style-type: none"> <li>• Study of life cycle of <i>Rhizopus</i> and <i>Agaricus</i></li> <li>• Gram staining of Bacteria</li> <li>• Study of Algal diversity w.r.t Systematic position and morphology</li> <li>• Study of Life cycle of <i>Spirogyra</i> and <i>Sargassum</i></li> <li>• Study of diversity of Bryophytes w.r.t systematic position and morphology</li> <li>• Study of life cycle of <i>Riccia</i>,</li> </ul>
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### 2<sup>nd</sup> SEMESTER

Paper	Course Title	Course Learning Outcome
<b>Paper I</b>	<b>Plant Pathology &amp; Lichen</b>	<ul style="list-style-type: none"> <li>• Know the terminologies in plant pathology</li> <li>• Understand the features of Lichens</li> <li>• Understand the scope and importance of Plant Pathology</li> <li>• Know the control measures of plant diseases</li> </ul>
<b>Paper II</b>	<b>Pteridology</b>	<ul style="list-style-type: none"> <li>• Understand the morphological diversity of Pteridophytes</li> <li>• Understand the economic importance of the Pteridophytes</li> <li>• Know the evolution of Pteridophytes</li> </ul>
<b>Paper III</b>	<b>Gymnospermae and Palaeobotany</b>	<ul style="list-style-type: none"> <li>• Understand Gymnosperms with respect to distinguishing characters, comparison with Angiosperms, economic importance and classification</li> <li>• Understand the life cycles of <i>Pinus</i> and <i>Gnetum</i></li> <li>• Know the scope of Paleobotany, types of fossils and geological time scale</li> <li>• Understand the various fossil genera representing different fossil groups</li> </ul>
<b>Practical</b>	<b>Laboratory work</b>	<p>Students should understand</p> <ul style="list-style-type: none"> <li>• Study of plant diseases w.r.t. causal organisms, symptoms and control measure</li> <li>• Study of diversity of Pteridophytes w.r.t systematic position and morphology</li> <li>• Study of life cycle of <i>Funaria</i>, <i>Selaginella</i> and <i>Adiantum</i></li> <li>• Study of <i>Pinus</i> &amp; <i>Gnetum</i></li> <li>• Study of different types of fossils</li> </ul>

### 3<sup>rd</sup> SEMESTER

Paper	Course Title	Course Learning Outcome
<b>Paper I</b>	<b>Morphology &amp; Embryology of Angiosperms</b>	<ul style="list-style-type: none"> <li>• Understand the habit of the angiosperm plant body</li> <li>• Know the vegetative characteristics of the plant</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn about the reproductive characteristics of the plant</li> <li>• Understand the plant morphology</li> <li>• Understand structure and development in microsporangium and megasporangium</li> <li>• Know fertilization, endosperm and embryogeny</li> </ul>
<b>Paper II</b>	<b>Taxonomy of Angiosperms</b>	<ul style="list-style-type: none"> <li>• Understand the status of angiosperms in plant kingdom</li> <li>• Realize the origin of Angiosperms with respect to time, place, origin and probable ancestors</li> <li>• Understand various angiosperm families emphasizing their morphology, distinctive features and biology</li> <li>• Know the role of cytology and Phytochemistry in Taxonomy</li> </ul>
<b>Paper III</b>	<b>Plant Anatomy</b>	<ul style="list-style-type: none"> <li>• Understand the scope &amp; importance of Anatomy</li> <li>• Know various tissue systems</li> <li>• Understand the normal and anomalous secondary growth in plants and their causes.</li> </ul>
<b>Practical</b>	<b>Laboratory</b>	<p>Students should understand,</p> <ul style="list-style-type: none"> <li>• Study of epidermal tissue system and mechanical tissue system</li> <li>• Study of normal secondary growth in stem and root of woody dicots</li> <li>• Study of anomalous secondary growth in the stem of the Plants</li> <li>• Study of Phenology of fruits, vegetables or flowering crops</li> <li>• Study of the families with respect to morphological characters using botanical terms, floral formula, floral diagram and classification giving</li> <li>• Identification of genus and species with the help of flora of the plant materials</li> </ul>

#### 4<sup>th</sup> SEMESTER

<b>Paper</b>	<b>Course Title</b>	<b>Course Learning Outcome</b>
<b>Paper I</b>	<b>Plant Physiology</b>	<ul style="list-style-type: none"> <li>• Know importance and scope of plant physiology</li> <li>• To understand the plants and plant cells in relation to water</li> <li>• Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C<sub>3</sub> and C<sub>4</sub> pathways</li> <li>• Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration</li> <li>• Learn about the movement of sap and absorption of water in plant body</li> <li>• Understand the plant movements</li> </ul>

<b>Paper II</b>	<b>Genetics &amp; Cell Biology</b>	<ul style="list-style-type: none"> <li>• Gain knowledge about “Cell Science</li> <li>• Understand Cell wall Plasma membrane, Cell organelles and cell division</li> <li>• Understand the “Science of Heredity”</li> <li>• Realize the role of genes in evolution of species</li> <li>• To understand linkage, segregation and mutation of genes during evolution.</li> <li>• Understand the biochemical nature of nucleic acids, their role in living systems, experimental evidences to prove DNA as a genetic material</li> <li>• Understand the process of synthesis of proteins and role of genetic code in polypeptide formation</li> </ul>
<b>Paper III</b>	<b>Economic Botany</b>	<ul style="list-style-type: none"> <li>• Understand the plants for human welfare</li> <li>• Concept in different types of wood</li> <li>• Learn medicinal role of plants</li> </ul>
<b>Practical</b>	<b>Laboratory</b>	<p>Students should understand,</p> <ul style="list-style-type: none"> <li>• Study of chromosomal aberrations in plant</li> <li>• Determination of Mitotic index and Metaphase frequency in plant material</li> <li>• Isolation and estimation of DNA from suitable plant material</li> <li>• Estimation of Biomass</li> </ul>

### 5<sup>th</sup> SEMESTER

<b>Paper</b>	<b>Course Title</b>	<b>Course Learning Outcome</b>
<b>Paper I</b>	<b>Ecology and Environment</b>	<ul style="list-style-type: none"> <li>• Know the scope and importance of the discipline</li> </ul>
		<ul style="list-style-type: none"> <li>• Understand plant communities and ecological adaptations in plants</li> <li>• Learn about conservation of biodiversity, Nonconventional Energy and Pollution</li> <li>• Discover botanical regions of India and vegetation types</li> </ul>
<b>Paper II</b>	<b>Biochemistry &amp; Plant Tissue Culture</b>	<ul style="list-style-type: none"> <li>• Understand the current status of Biochemistry</li> <li>• Recognize the impact of Biochemistry on socioeconomic aspects of life</li> <li>• Realize the industrial application of Biochemistry</li> <li>• Understand the importance of Bio-molecules</li> <li>• Understand the fundamentals of totipotency plant tissue culture techniques</li> <li>• Understand technique of plant tissue culture and its application.</li> </ul>

<b>Paper III</b>	<b>Ethno botany &amp; Plant propagation</b>	<ul style="list-style-type: none"> <li>• Understand the importance and scope of botanical science in the Property right</li> <li>• Learn the plants in context with tribal population</li> <li>• Understand some plants which are used as herbal cosmetics</li> <li>• Know the process of cultivation of cash crops</li> </ul>
<b>Practical</b>	<b>Laboratory</b>	<p>Students should understand,</p> <ul style="list-style-type: none"> <li>• To study on Morphology, Taxonomy of Thallus organization, Reproduction, Life Cycle, Phylogeny and interrelationships</li> <li>• Extraction and separation of free amino acid of germinating seed by circular paper chromatography</li> <li>• To study the activity of enzyme lipase in germinating seeds</li> <li>• Extraction and Detection of secondary plant metabolites from suitable plant material</li> <li>• Study Mitosis and Meiosis</li> <li>• Preparation of Cytological fixative and stains</li> </ul>

### 6<sup>th</sup> SEMESTER

<b>Paper</b>	<b>Course Title</b>	<b>Course Learning Outcome</b>
<b>Paper I</b>	<b>Plant diversity &amp; Forestry</b>	<ul style="list-style-type: none"> <li>• To understand methods of preservation &amp; preparation of preserve product</li> <li>• To understand production technology, harvesting technics</li> </ul>
		<ul style="list-style-type: none"> <li>• To study role played by green &amp; playhouses in horticulture</li> <li>• Concept forming regards various types of forests in India</li> </ul>
<b>Paper II</b>	<b>Molecular Biology &amp; Biotechnology</b>	<ul style="list-style-type: none"> <li>• Learn the scope and importance of molecular biology</li> <li>• Understand the process of synthesis of proteins and role of genetic code in polypeptide formation</li> <li>• Know the transgenic technology for the improvement of quality and quantity of plant and thereby product</li> <li>• Understand the advantages of in vitro propagation in various areas</li> <li>• Realize the application and importance of plant tissue culture and transgenic plants</li> </ul>

<b>Paper III</b>	<b>Plant Breeding and Elementary biostatics</b>	<ul style="list-style-type: none"> <li>• Understand the science of plantbreeding</li> <li>• To introduce the student with branch of plant breeding for the survival of human being from starvation</li> <li>• To study the techniques of production of new superior crop varieties</li> <li>• To study the evolution in living organisms</li> <li>• Understand Data interpretation, analysis, Graphical representation and evaluation etc.</li> </ul>
<b>Practical</b>	<b>Laboratory</b>	<p>Students should understand,</p> <ul style="list-style-type: none"> <li>• Study of various instruments used for plant biotechnology</li> <li>• DNA separation with the help of gel electrophoresis</li> <li>• Preparation of explants and inoculation on nutrient media for callus induction, Sub- culture of callus and regeneration of plants from callus</li> <li>• Hardening techniques of tissue culture plantlets</li> <li>• Preparation of stock solutions of MS medium and plant growth regulator stocks</li> </ul>

<b>M.Sc.[Botany]</b>	
<b>Programme Outcome (POs)</b>	
PO1	Students would be benefited with knowledge of core subjects like plant diversity, physiology and biochemistry, molecular cytogenetics and application of statistics etc. which are offered in these subjects Modules on analytical techniques, plant tissue culture and phytochemistry would make them obtain skills in doing research. All the courses in the programme are carefully designed to equip the students for competitive exams like CSIR NET, SET etc. and to write research proposals for grants.
PO2	<i>Application of knowledge: Maintain a high level of scientific excellence in botanical research with specific emphasis on the role of plants. Create, select and apply appropriate techniques, resources and modern technology in multidisciplinary way. Practice of subject with knowledge to design experiments, analyze and interpret data to reach to an effective conclusion.</i>
PO3	Ability to convey the concept clearly They would identify, formulate and analyze the complex problems with reaching a substantiated conclusion. Logical thinking with application of biological, physical and chemical sciences. Learning that develops analytical and integrative problem-solving approaches.
PO4	<i>Team work: Students would perform functions that demand higher competence in national / international organizations with sporty spirits and helping each other.</i>

PO5	<b>Honesty and Integrity, Ethics:</b> Student should be aware of ethical issues and regulatory considerations while addressing society needs for growth with honesty
PO6	Environmental and Sustainability Best problem-solving skills in students would encourage them to carry out innovative research projects thereby making them to use knowledge creation in depth.
PO7	Lifelong learning and motivating others to learn They would lend the support to other students to grow with them with equal opportunities.
PO8	Global thinking Knowledgeable disciple students with good values, ethics, kind heart will help in nation building globally
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Understanding the classification of plants from cryptogams to Spermatophyte. Identification of the flora in field. Study of biodiversity in relation to habitat correlate with climate change, land and forest degradation. Application of Botany in agriculture through study of plant pathology. Paleobotany to trace the evolution of plants.
PSO2	Understand the ultrastructure and function of cell membranes, cell communications, signaling, genetics, anatomy, taxonomy, ecology and plant Physiology and biochemistry. To understand the multi functionality of plant cells in production of fine chemicals. Their wide spread industrial applications.
PSO3	Molecular and Physiological adaptations in plants in response to biotic and abiotic stress. Genes responsible for stress tolerance genetic engineering of plants.

## Course Outcome Semester-I

### 1<sup>st</sup> SEMESTER

Paper	Course Title	Course Learning Outcome
Paper I (Core)	Phycology & Bryology	<ul style="list-style-type: none"> <li>• Achieve the adequate knowledge on comparative account of various algal and bryophytes' divisions</li> <li>• Learn the phylogeny and evolutionary concepts in lower group of organisms</li> <li>• In sight knowledge about the occurrence, distribution, structure and life history of lower plants such as algae, lichens, bryophytes</li> </ul>

Paper II (Core)	Mycology & Microbiology	<ul style="list-style-type: none"> <li>• Understand about the occurrence, distribution, structure and life history of fungi</li> <li>• Learn of different groups phylogeny and evolutionary concepts in working as fungi</li> <li>• Know about classification, characteristics, ultra structure of Prokaryotic and Eukaryotic microbe</li> <li>• Obtain knowledge about Host parasite interaction of different common occurring plant diseases</li> </ul>
Paper III (Core)	Pteridology & Gymnosperms	<ul style="list-style-type: none"> <li><input type="checkbox"/> Study and imparting the knowledge about the occurrence, distribution, structure and life history of lower plants such as pteridophytes and gymnosperms</li> <li><input type="checkbox"/> Learn the phylogeny and evolutionary concepts in lower group of organisms</li> <li><input type="checkbox"/> Gain adequate knowledge on comparative account of various Pteridophytes and Gymnosperms divisions</li> </ul>
Paper IV (Elective)	Palaeobotany or Plant Pathology or Applied Phycology	<ul style="list-style-type: none"> <li><input type="checkbox"/> E1. Understand the various fossil genera representing the different fossil groups</li> <li><input type="checkbox"/> Gain knowledge about the scope of Paleobotany, types of fossils and geological time scale</li> </ul>
		<ul style="list-style-type: none"> <li>• Understand the role of fossil in oil exploration and coalexavation, study of paleopalynology</li> <li>• E2. Know about organisms and the causal factors responsible for plant diseases &amp; methods of studying plant diseases</li> <li>• Familiarize with some common and indigenous native plant diseases and their remedial measure</li> <li>• Gain knowledge about the host parasite interaction processes</li> <li>• E3. Get adequate knowledge on comparative account of various fresh water and marine algal divisions</li> <li>• Familiarize with the industrial role of algae in water quality improvement, bioenergy and biofuel productions</li> <li>• Define the eco and physiological aspects of synthetic and niche partitioning behaviour of algae</li> </ul>

<i>(Practical)</i>	<b>Based on BOT 101, BOT 102 &amp; BOT 103</b>	<ul style="list-style-type: none"> <li>• Provide the materials of different plant groups for their morphological and anatomical studies</li> <li>• Use the light microscope for the study of prepared and handmade slides of plant parts</li> <li>• Learn the art of making line diagrams in practical record</li> <li>• Learn the practical side of what has been explained in theory class</li> <li>• Familiarize with the external and internal structure of flower group organism</li> <li>• Learn the microscopic technique</li> <li>• Learn the survey techniques for evaluating the values of medicinal plants</li> <li>• Know about the cellular drawing</li> <li>• Gain knowledge on plant pathological diseases</li> <li>• Gain knowledge on various biological methods of analysis</li> </ul>
<b>Paper V</b> <i>(Skill Development)</i>	<b>Applied Microbiology</b>	<ul style="list-style-type: none"> <li>• Learn the role of microorganisms in various disciplines such as in agriculture, Food production, medicine, milk products, and water treatments and in industry</li> <li>• Familiarizing the mass cultivation of microorganisms at industrial scale</li> <li>• Gaining the knowledge of microorganisms for human welfare</li> </ul>
<b>Paper VI</b> <i>(Interdisciplinary)</i>	<b>Bio-fertilizer</b>	<ul style="list-style-type: none"> <li>• Understand various aspects of organic farming systems</li> <li>• Know about the significance of green Manuring &amp; Biofertilisers</li> <li>• Learn the technique of composting and vermiculture technology</li> <li>• Familiarize on Pest, insect, weed, disease, crop residue management using biological means</li> </ul>

## 2<sup>nd</sup> SEMESTER

<b>Paper</b>	<b>Course Title</b>	<b>Course Learning Outcome</b>
<b>Paper I</b> <i>(Core)</i>	<b>Angiosperms- Morphology, Taxonomy, Anatomy &amp; Embryology</b>	<ul style="list-style-type: none"> <li>• Learn about system of classification with merits and demerits</li> <li>• Familiarize with the methods of plant Identification</li> </ul>

<b>Paper II</b> <i>(Core)</i>	<b>Plant Physiology &amp; Biochemistry</b>	<ul style="list-style-type: none"> <li>• Know about the requirement of mineral nutrition for plant growth</li> <li>• Understand the process of Photosynthesis, Respiration and Nitrogen metabolism</li> <li>• Learn about Sensory photobiology</li> <li>• Know about the Plant Growth hormones (Auxins, Gibberellins, Cytokinins, Ethylene)</li> <li>• Understand the biosynthesis of terpenes, phenols and nitrogenous compounds</li> <li>• Remember the concept of the Stress physiology –</li> </ul>
		<p>Responses of plants to biotic and abiotic stresses</p> <ul style="list-style-type: none"> <li>• Learn about basics of biosafety and good lab practices like safe chemical handling, Hazardous wastes management, Safe and proper use of lab equipments</li> </ul>
<b>Paper III</b> <i>(Core)</i>	<b>Cell &amp; Molecular Biology</b>	<ul style="list-style-type: none"> <li>• Learn about structural organization and function of intracellular organelles</li> <li>• Gain knowledge on the organization of genes and chromosomes</li> <li>• Study about the structure of atoms, molecules and chemical bonds &amp; Composition, structure and function of biomolecules</li> <li>• Gain knowledge on the principles of biophysical chemistry &amp; Bioenergetics</li> <li>• Memorize knowledge on methods of molecular separation and characterization</li> </ul>
<b>Paper IV</b> <i>(Elective)</i>	<b>Pollination Biology</b> or <b>Photobiology of Cyanobacteria</b> or <b>Floristic Diversity</b>	<ul style="list-style-type: none"> <li>• <b>E1.</b> Learn about attract insect by pollinators</li> <li>• Gain knowledge the bracts contrast in color with the leaves and other parts</li> <li>• Study about the floret biology of plants</li> <li>• <b>E2.</b> Learn about role of microalgae in biofuel, Bioenergy production and in Bioremediation and Bio magnification</li> <li>• Gain knowledge the effect of UV and Visible light on cyanobacteria</li> <li>• Study the physiological aspects of cyanobacteria regarding photosynthetic light such as Photochemical, Nonphotochemical and Light Harvesting complex</li> <li>• <b>E3.</b> Learn about Olericulture - Cultivation of commercial flower crops</li> <li>• Recall the importance of horticulture – career and occupational opportunities</li> <li>• Learn the techniques of gardening - Types, Methods &amp; Tools</li> </ul>
<i>(Practical)</i>	<b>Based on BOT 201, BOT 202 &amp; BOT 203</b>	<ul style="list-style-type: none"> <li>• Study of economically useful plants</li> </ul>

		<ul style="list-style-type: none"> <li>• Learn to solve various genetic problems</li> <li>• Know to construct Chromosome mapping</li> <li>• Institutional visit to BSI and a field study and plant collection for herbarium</li> </ul>
<b>Paper V</b> <i>(Skill Development)</i>	<b>Food Processing</b>	<ul style="list-style-type: none"> <li>• Concept of food and nutrients and energy value of food.</li> <li>• Understand the problems of Food adulteration</li> <li>• Learn about Therapeutic diets &amp; Diet planning</li> <li>• Govern the methods in food processing – thermal processing, refrigeration, freezing etc</li> <li>• Learn about food Quality &amp; food standards</li> </ul>
<b>Paper VI</b> <i>(Interdisciplinary)</i>	<b>Statistical Methods</b>	<ul style="list-style-type: none"> <li>• Learn the methods of Biostatistics and its application in biology</li> <li>• Know about the data analysis concepts in various field of botany</li> </ul>

**3<sup>rd</sup> SEMESTER**

<b>Paper</b>	<b>Course Title</b>	<b>Course Learning Outcome</b>
<b>Paper I</b> <i>(Core)</i>	<b>Morphogenesis, Tissue culture &amp; Developmental Botany</b>	<ul style="list-style-type: none"> <li>• Understand the history, Scope and Concepts in plant tissue culture</li> <li>• Learn the Techniques in Commercial plant tissue culture</li> <li>• Know about the application of tissue culture in forestry, horticulture, agriculture and pharmaceutical industry</li> <li>• Understand the vascular tissues, structure of woods and anomalous secondary growth</li> <li>• Understand structure and development of microsporangium, megasporangium, embryo and endosperm</li> <li>• Detect adulterations and understand forensic botany</li> </ul>
<b>Paper II</b> <i>(Core)</i>	<b>Genetics, Plant Breeding &amp; Organic Evolution</b>	<ul style="list-style-type: none"> <li>• Learn about Mendelian principles</li> <li>• Know about gene mapping methods &amp; Extrachromosomal inheritance</li> <li>• Familiarize about Evolution &amp; Emergence of evolutionary thoughts</li> <li>• Gain knowledge on Population genetics</li> <li>• Know in detail about breeding systems</li> <li>• Learn the techniques of Hybridization</li> <li>• Learn about the selection methods for self-pollinated, cross pollinated plants</li> <li>• Understand the role of mutations in plant breeding</li> </ul>

<b>Paper III (Core)</b>	<b>Plant Ecology &amp; Environment</b>	<ul style="list-style-type: none"> <li>• Approaches to the study of Ecology (Autecology, Synecology and Genecology)</li> <li>• Population Ecology - concept of metapopulation</li> <li>• Principles of Toxicology and types of Toxins, sources, metabolism and Biological monitoring</li> </ul>
<b>Paper IV (Elective)</b>	<b>Environmental Quality Assessment Or Vegetative Propagation or Instrumentation</b>	<ul style="list-style-type: none"> <li>• E1. Principles of Toxicology and types of Toxins, sources, metabolism and Biological monitoring</li> <li>• Know about IPR, Biosafety, Biopiracy, Bioterrorism and Bioethics related with environmental impact and policy</li> <li>• E2. Learn the techniques of Hybridization</li> <li>• Learning about the selection methods for self-pollinated, cross-pollinated plants</li> <li>• Know in detail about vegetative propagation systems</li> <li>• E3. Learn about Instruments working functions and applications in the analysis of botanical data</li> <li>• Learn the approaches and methods in study of using sophisticated instruments</li> <li>• Know about the characterizations of bioorganic molecules and their applied role in human welfare</li> </ul>
<b>(Practical)</b>	<b>Based on BOT 301, BOT 302 &amp; BOT 303</b>	<ul style="list-style-type: none"> <li>• Qualitative assessment of microelements in plant ash</li> <li>• Demonstration, working and uses of ecological instruments.</li> <li>• Study of morphological and anatomical adaptation in locally available hydrophyte and Xerophyte</li> <li>• Solve Problems from population genetics – Hardy-Weinberg law</li> <li>• Know to construct Chromosome mapping</li> </ul>
<b>Paper V (Skill Development)</b>	<b>Pomology</b>	<ul style="list-style-type: none"> <li>• Learn the techniques in Pomology - Cultivation of important fruit crops &amp; tree species</li> <li>• Learn the importance of Pomology – career and occupational opportunities</li> <li>• Learn the techniques of Pomology such as pre and post-harvest technology</li> </ul>
<b>Paper VI (Interdisciplinary)</b>	<b>Forestry</b>	<ul style="list-style-type: none"> <li>• Know about the forestry programme management system</li> <li>• Learn the wild life conservation and management</li> <li>• Learn the tree physiology and balanced the need for timber</li> </ul>

4<sup>th</sup> SEMESTER

Paper	Course Title	Course Learning Outcome
Paper I (Core)	Plant diversification & Resource Utilization	<ul style="list-style-type: none"> <li>Learn about diversity of lower Cryptogrammic to the status of higher cryptogams plants in nature</li> <li>Understand the economic value of plant products</li> <li>Develop the different types of seed and its commercial utilization</li> <li>Gain the knowledge about various plants parts utilization</li> </ul>
Paper II (Core)	Biotechnology & Genetic Engineering	<ul style="list-style-type: none"> <li>Understand the biochemical nature of nucleic acids, their role in living systems, experimental evidences to prove DNA as a genetic material.</li> <li>Understand the process of synthesis of proteins and role of genetic code in polypeptide formation</li> <li>Illustrative knowledge of Genomic and chromosomal DNA isolation, Purification</li> </ul>
Paper III	Dissertation	<ul style="list-style-type: none"> <li>Each candidate should take up a Project Work; Under the following expertise area               <ol style="list-style-type: none"> <li>Bryology field collection in Indian context</li> <li>Plant Growth Promoting Rhizobacteria</li> <li>Plant Pathological aspects of native plant diseases</li> <li>Plant Anatomical insights of rare plants</li> <li>Synthetic Ecology of cyanobacteria and microalgae of fresh water and halo tolerant strains for CO<sub>2</sub> sequestration and mitigation</li> </ol> </li> </ul> <p>Submit Project Report at the end of the second year. The candidate concerned will have to defend his project work in an open Viva- Voce examination</p>
Paper IV (Elective)	Plant Protection or Bioinformatics or Bioenergy	<ul style="list-style-type: none"> <li><b>E1. Learn about merits and demerits of plant protection</b></li> <li><b>Understand the biodiversity of lower cryptogams to higher plants</b></li> <li><b>Gain the strategy of plant protection and its utilization</b></li> <li><b>E2. Know about the bioinformatic concepts</b></li> <li><b>Gain Bioinformatic tools such as BLAST, FASTA etc.</b></li> <li><b>Understand structural, functional and molecular aspects of IN Silico concept.</b></li> <li><b>E3. Learn about the sources of bioenergy</b></li> <li><b>Understand the solid waste management of ecofriendly impacts.</b></li> <li><b>Gain the knowledge about renewable energy sources</b></li> </ul>

		<ul style="list-style-type: none"> <li>• <b>Develop the concept of Biodiversity ecosystem functioning and its services</b></li> </ul>
<i>(Practical)</i>	<b>Based on BOT 401 &amp; BOT 402</b>	<ul style="list-style-type: none"> <li>• <b>Concept making on Genomic DNA and Chromosomal DNA isolation</b></li> <li>• <b>Discriminate on the biochemical aspects of environment</b></li> </ul>
		<p>such as Protein estimation, carbohydrates estimation and lipid estimation</p> <ul style="list-style-type: none"> <li>• <b>Profiling Protein purification, Bioactive compounds characterization etc.</b></li> <li>• <b>Understanding the concept of gene, protein, DNA and RNA</b></li> <li>• <b>Discriminating among the term Isolation, estimation, purification, identification and characterization</b></li> </ul>
<b>Paper V</b> <i>(Skill Development)</i>	<b>Bioprocess Engineering</b>	<ul style="list-style-type: none"> <li>• <b>Understanding the media optimization Process</b></li> <li>• <b>Learning the media preparation for mass productin</b></li> <li>• <b>Design Bioreactor , Biofermentor for specific organismscultivation</b></li> <li>• <b>Develop Industrial scale production of humanitydemand</b></li> </ul>
<b>Paper VI</b> <i>(Interdisciplinary)</i>	<b>Herbal Medicine</b>	<ul style="list-style-type: none"> <li>• Know about history and relevance of herbal drugs in local and overall Indian system of medicine</li> <li>• Understand the techniques for drug evaluation (Chemical, Physical and Biological), Phytochemical investigations, standardization and quality control of herbal drugs.</li> <li>• Know the technique of medicinal gardening - Cultivation practices, marketing and utilization of selected medicinal plants</li> <li>• Learn the macroscopic and microscopic characters, chemical constituents, adulterants, therapeutically and pharmaceutical uses of medicinal plants</li> </ul>

<b>B.Sc. [Zoology]</b>	
<b>Programme Outcome (POs)</b>	
PO1	After completion of the programme students will have the conceptual and practical knowledge about basic and advance courses for utilizing it in seeking of jobs and self employment.
PO2	The students get opportunities to become technical expert in the government as well as private sector jobs, especially in the filed of environmental pollution, fisheries, molecular biology laboratories etc.

PO3	The students get opportunities in various competitive exams like civil services, defence, and other graduate level exams.
PO4	Students join various higher studies in advance courses in India and abroad and obtain better job opportunity and play role for social improvement.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The students get opportunities to become technical expert in the government as well as private sector jobs, especially in the filed of environmental pollution, fisheries, molecular biology laboratories etc.

## COURSE LEARNING OUTCOMES

B.Sc. I Semester

Paper I: Lower Non-chordate (BOZ101)

Course Learning Outcomes:- **The student will be able to:**

- CO1. Describe unique characters and diversity of protozoa, porifera, coelenterate and helminthes.
- CO2. Recognize life functions of protozoa, porifera, coelenterate and helminthes.
- CO3. Recognize the ecological role of phylum protozoa, porifera, coelenterate and helminthes.

Paper II- Higher Non-chordate (BOZ 102)

Course Learning Outcomes:- The student will be able to:

- CO1. Describe unique characters of annelids, arthropods, mollusca, echinoderms and hemichordates.
- CO2. Recognize life functions of annelids, arthropods, mollusca, echinoderms and hemichordates.
- CO3. Recognize the ecological role of phylum from annelid to hemichordate.
- CO4. Recognize the diversity from annelid to hemichordate.

Paper III- Taxonomy & Evolution (BOZ 103)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand the relation between Taxonomy & evolution and describe Zoological nomenclature.
- CO2. Understand theories of evolution, Lamarckism and Darwinism.
- CO3. Describe origin of species on earth.

Practical (BOZ 104)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand nervous system of the animals with practical models
- CO2. Prepare permanent slides and museum conservations
- CO3. Know about Taxonomic identification and characteristic features
- CO4. Know about animal evolution through practical process

**B.Sc.-Semester II**

Paper I- Chordates (BOZ 201)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand unique characters of urochordates, cephalochordates, fishes, reptiles, birds and mammals
- CO2. Recognize life functions of urochordates to mammals

- CO3. Know about the ecological role of different groups of chordates and diversity of chordates

Paper II- Animal Physiology (BOZ 202)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand the physiology at cellular and system levels  
CO2. Describe the physiology of respiratory, renal, digestion and reproductive systems to define normal and abnormal functions  
CO3. Understand how physiological parameters are measured in mammals  
**CO4.** Understand solution and their transport of molecule

Paper III- Endocrinology & Comparative Anatomy (BOZ 203)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand the endocrine system and their functions  
CO2. Describe the physiology endocrine and reproductive systems to define normal and abnormal functions.  
CO3. Understand the comparative anatomy of the various systems

Practical (BOZ 204)

Course Learning Outcomes:- The student will be able to:

- CO1. Know about afferent and efferent arterial system of *Scoliodon* through practical process  
CO2. Know about cranial nerves, internal ear nervous system of the animals with practical models  
CO3. Prepare the permanent slides and museum conservations  
CO4. Know about Taxonomic identification and characteristic features  
CO5. Know about vertebrate physiological study through experiments  
CO6. Know about endocrine study and their disorders through practical process

### B.Sc.-Semester III

Paper I- Cell Biology& Immunology (BOZ 301)

Course Learning Outcomes:- The student will be able to:

- CO1. Differentiate between prokaryotes and eukaryotes cells and their structure functions  
CO2. Understand the importance of the nucleus and its components.  
CO3. Understand how the endoplasmic reticulum and Golgi apparatus interact with one another and know with which other organelles they are associated  
CO4. Understand and explain the basic concepts of immune system and how it helps a person to overcome various types of diseases

Paper II- Genetics (BOZ 302)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand comprehensive and detailed understanding of the chemical basis of heredity.  
CO2. Understand about role of mutation and nucleic acid in genetics  
CO3. Evaluate conclusions that are based on genetic data  
CO4. Understand results of genetic experimentation in animals

Paper III- Biochemistry (BOZ 303)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand the physiology at cellular and system levels  
CO2. Describe the role and functions of different biomolecules

- CO3. Describe the physiology of glycolysis, Krebs's Cycle, oxidative phosphorylation and Electron Transport system
- CO4. Understand the mechanisms of Gluconeogenesis, Cori's cycle, Urea cycle, fatty acid synthesis and enzymes.

Practical (BOZ 304)

Course Learning Outcomes:- The student will be able to:

- CO1. Know about cell division mitosis and meiosis through experiments
- CO2. Know about immunological study with staining methods and blood group detection
- CO3. Know experimentally about genetic disorders and sex linked disease
- CO4.** Know about biochemical studies by experiment methods

**B.Sc.-Semester IV**

Paper I Ecology (BOZ 401)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand the concept of ecology and its type
- CO2. Understand various ecosystems
- CO3. Describe various natural biogeochemical cycles and law of energy flow
- CO4.** Understand the population dynamics and age structure

Paper II Wild Life Management (BOZ 402)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand the wild life, its type and management
- CO2. Understand various rules and act for conservations and also public movements to conserve the wild life
- CO3. Know about endangered flora and fauna and national parks and sanctuaries

Paper III Instrumentation (BOZ 403)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand principals and functioning of Centrifuge
- CO2. Develop skill for handling electrophoresis and various kinds of microscopes.
- CO3. Understand principals and functioning of microtome

Practical (BOZ 404)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand physicochemical study of water and soil through practical methods
- CO2. Know adoption through experiment/model methods
- CO3. Know wild life study through model sheet
- CO4.** Experimental knowledge of various biological instruments

**B.Sc.-Semester V**

Paper I Economic Zoology (BOZ 501)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand the life cycle of various kinds of useful insects
- CO2. Know about pest and their managements
- CO3. Know about culture study of Honey, Lac and Pearl
- CO4.** Know about protozoan disease and its impact on human health

Paper II Animal Behaviour (BOZ 502)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand animal behavior and its type
- CO2. Understand migration and social behavior of animals
- CO3. Understand reproduction and courtship behavior

#### Paper III Environmental Biology (BOZ 503)

Course Learning Outcomes:- The student will be able to:

- CO1. Know about pollution and its impact on human health
- CO2. Know about various kinds of natural resources
- CO3. Understand about biodiversity concept and its role in environment
- CO4.** Know about various kinds of techniques for environment conservation

#### Practical (BOZ 504)

Course Learning Outcomes:- The student will be able to:

- CO1. Know experimental knowledge of the life cycle of the insects/pests
- CO2. Know about preparation and submission project based on animal behaviour
- CO3.** Know about experimental estimation of the water quality and biodiversity study from various ecosystems

### B.Sc.-Semester VI

#### Paper I Molecular Biology (BOZ 601)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand structure and functions of DNA
- CO2. Understand structure and functions of RNA
- CO3. Know about the protein synthesis in prokaryotic cells
- CO4. Understand gene and its function

#### Paper II Genetic Engineering (BOZ 602)

Course Learning Outcomes:- The student will be able to:

- CO1. Know about genetic engineering and cloning
- CO2. Understand DNA finger printing
- CO3. Know about Gene therapy and Gene Library
- CO4.** Know about job orientation in genetic engineering technology

#### Paper III Biostatistics (BOZ 603)

Course Learning Outcomes:- The student will be able to:

- CO1. Understand biological data collection and analysis
- CO2. Know about data presentation in various method like charts, graphs, tables
- CO3. Determine the level of significance of data

#### Practical (BOZ 604)

Course Learning Outcomes:- The student will be able to:

- CO1. Know about molecular study based on models/experiments
- CO2. Know about genetic engineering like cloning, Recombinant Technology through work sheet
- CO3. Know about biological data collection, analysis, presentation and interpretation

## M.Sc.[Zoology]

### Programme Outcome (POs)

- PO1 The objective of the M.Sc. Zoology is to teach and learn the significance of fauna in and their biology related from animals of single cell to multi-cellular systems.
- PO2 To provide knowledge about biochemistry, biotechnology, immunology, Developmental Biology and Molecular Genetics apart from classical subjects like invertebrates, chordates and their ecology and evolution.
- PO3 To understand the value of fauna and its relevance to the society and our environment
- PO4 To understand the impact of climate change on faunal diversity and their survival.
- PO5 To equip ourselves to fit for entrepreneur with special attention on Aquaculture, Apiculture, Sericulture, medical lab technology etc.
- PO6 To give confidence to students from multiple disciplines to experience research in the field of fundamental and advanced Zoology.
- PO7 To provide knowledge to the students for utilizing the research experience and create the new ideas and develop the new products from this filed.
- PO8 To provide wide opportunities in scientific research to address the society needs

### Programme Specific Outcome (PSOs)

- PSO1 The students will be able to know about working principles, design guidelines and experimental skills of different fields of Zoology such as Genetics and Cell Biology, Ecology, Biochemistry, Molecular Biology, Biostatistics, Biodiversity, Physiology, Endocrinology, Developmental Biology, Biochemical Techniques, Animal tissue culture, Environmental Biology, Fishery Science, Cell Biology etc.
- PSO2 The course is especially designed for job oriented and self employment purpose because of having skill development & specialization papers. The syllabus covers almost all the advance knowledge and basic knowledge of zoology.

## COURSE LEARNING OUTCOMES

### M.Sc. – Semester I

#### Core Course

#### First Paper (ZOO101): Non-Chordates

#### Course Learning Outcome: **The students will be able to**

- CO1. Understand about the primitive as well as higher non-chordates animals.
- CO2. Understand about the host-parasite relationship
- CO3. Understand the parasite -human relation, disease and prevention control
- CO4. Understand about the various functions of the non-chordates animal

#### Second Paper (ZOO102): Evolution & Biostatistics

#### Course Learning Outcome: **The students will be able to**

- CO1. Exploring the basic and advance knowledge about animal origin
- CO2. Uunderstand the evolutionary trends of the animals
- CO3. Biostatistics helps to understand the nature of variability
- CO4. Derive general laws from small samples by biostatistics

#### Third Paper (ZOO103): Ecology

Course Learning Outcome: **The students will be able to**

- CO1. Understand the ecological concept
- CO2. Understand the various ecosystem freshwater and marine
- CO3. Use of biomarkers and remote sensing to better understanding of nature
- CO4. Understand the population ecology, statistical ecology and molecular ecology
- CO5. Improve our environment, manage our natural resources, and protect human health

Elective Paper

Fourth Paper (ZOO104BW): Biodiversity & Wildlife

Course Learning Outcome: **The students will be able to**

- CO1. Know the nature's balance ecosystems with healthy populations
- CO2. Know about biodiversity and its mathematical expression
- CO3. Understand the ecological importance, economic importance, investigatory importance, conservation of biological diversities.
- CO4. Become nature expert and wildlife expert
- CO5. Find job opportunity as of EIA, EMP expert

Fourth Paper (ZOO104IM): Immunology

Course Learning Outcome: **The students will be able to**

- CO1. Know about immunity and types of immunity
- CO2. Understand the antigens-antibodies relation and their properties
- CO3. Know about vaccines, vaccination and diseases
- CO4. Get scientific research post and technical post

Fourth Paper (ZOO104AZ): Applied Zoology

Course Learning Outcome: **The students will be able to**

- CO1. Know about human health related disease
- CO2. Understand various kind of epidemic disease and their prevention and control
- CO3. Get self employment jobs like dairy industry and poultry etc

Skill Development

Fifth Paper ZOO105: Aquaculture

Course Learning Outcome: **The students will be able to**

- CO1. Know about globally important culture like prawn and pearl culture
- CO2. Get self employment like fish, prawn and pearl culture
- CO3. Learn composite fish culture as a popular practice specially in rural people

Interdisciplinary Paper

Sixth Paper (ZOO106): Public Health & Hygiene

(Not for Zoology Students)

Course Learning Outcome: **The students will be able to**

- CO1. Impart knowledge about advance concepts of Public health and hygiene
- CO2. Know about composition of food and balance diet
- CO3. Gain knowledge about some common diseases their causes
- CO4. Know about prevention and treatment of the disease

PRACTICAL EXAM (ZOO107)

Course Learning Outcome: **The students will be able to**

- CO1. Understand the nervous systems study trough practical models
- CO2. Know about how to prepare permanent slides and specimen preservations

- CO3. Upgrade knowledge about taxonomy and identifying features of the animals of different phylum
- CO4. Understand physico-chemical study of the water and soil
- CO5. Learn statistical estimation and analysis of the biological data

### M.Sc. – Semester II

#### Core Course

First Paper (ZOO201): Chordata

Course Learning Outcome: **The students will be able to**

- CO1. Know about the origin of the chordates
- CO2. Know about vertebrates animals and their characteristic features
- CO3. Know about various physiological functions of the animals
- CO4. Know relation between and among various vertebrates group

Second Paper (ZOO202): Animal Physiology & Instrumentation

Course Learning Outcome: **The students will be able to**

- CO1. Understand about structure and function of kidney and heart
- CO2. Regulation mechanism of various physiological process
- CO3. Know handling and operating knowledge of various biological instruments
- CO4. Able to obtain jobs in clinical pathology

Third Paper (ZOO203): Developmental Biology & Animal Behaviour

Course Learning Outcome: **The students will be able to**

- CO1. Know about basic concept of embryonic development
- CO2. Know about aging, stem cell and their application
- CO3. Know about various kinds of animal behaviour
- CO4. Know about social and sexual behaviour
- CO5. Know about signaling communications

#### Elective Papers

Fourth Paper (ZOO204EN): Endocrinology

Course Learning Outcome: **The students will be able to**

- CO1. Know about endocrine gland and its role
- CO2. Know about the mechanism hormonal
- CO3. Know about disease caused by various hormonal disorders
- CO4. Know for reproductive disorders through hormone

Fourth Paper (ZOO204RB): Reproductive Biology

Course Learning Outcome: **The students will be able to**

- CO1. Understand knowledge about reproduction system
- CO2. Understand about modern techniques of fertilization
- CO3. Understand about sexually transmitted diseases, family planning
- CO4. Know about the medical research

Fourth Paper (ZOO20GE): Genetics

Course Learning Outcome: **The students will be able to**

- CO1. Understand basic principles of Mendelian inheritance and explore the multi-factorial inheritance.
- CO2. Learn the linkage concepts, sex determination and sex linked inheritance.
- CO3. Gain knowledge about the organeller inheritance.

#### Skill Development Course

### Fifth Paper (ZOO205): Vermiculture

Course Learning Outcome: **The students will be able to**

- CO1. Understand conceptual knowledge of Vermitechnology
- CO2. Understand practical knowledge of Vermitechnology
- CO3. Know about how to use Vermitechnology for self employment
- CO4. Know about farming in rural areas

### Interdisciplinary Course

Sixth Paper (ZOO206): Ornamental Fishery & Aquarium  
(Not for Zoology Students)

Course Learning Outcome: **The students will be able to**

- CO1. Develop skill for aquarium management as a self employment
- CO2. Know about ornamental fishery
- CO3. Get self employment jobs on the ornamental fishery

### PRACTICAL EXAM (ZOO 207)

Course Learning Outcome: **The students will be able to**

- CO1. Understand anatomy of internal ear of *Scoliodon* and nervous system of catfish
- CO2. Gain practical knowledge of permanent slide preparation of *Amphioxus* oral hood and velum also test and spicules of *Herdmania*
- CO3. Know about taxonomy and identifying features of the animals of different class of phylum chordate
- CO4. Have experimental knowledge of the human physiology viz. differential leucocytes counting (DLC) and determination of blood groups (ABO and Rh)
- CO5. Have experimental knowledge of the frog heart beat *in situ*, to observe the effects of temperature
- CO6. Have experimental knowledge of the embryonic development in chick through slides
- CO7. Do window preparation to study chick embryo development

### M.Sc.- Semester III

Core Course

First Paper (ZOO301): Biotechnology

Course Learning Outcome: **The students will be able to**

- CO1. Understand about biotechnology and application
- CO2. Know about of Red, Blue, Green and White biotechnology
- CO3. Get opportunities in biotechnological and pharmaceutical companies
- CO4. Get research opportunities in the laboratories of national and international institute

Second Paper (ZOO302): Molecular Biology

Course Learning Outcome: **The students will be able to**

- CO1. Know about advances of molecular biology
- CO2. Understand about structure and functions of DNA and RNA
- CO3. Understand about study of Genetic Engineering and its application for society
- CO4. Gain insight into the most significant molecular and cell-based of molecular biology.

Third Paper (ZOO303): Biodiversity, Natural Resources and Conservations

Course Learning Outcome: **The students will be able to**

- CO1. Understand about biodiversity and their factors
- CO2. Understand about community and habitat ecology and biodiversity measurement

- CO3. Understand about natural resources and their conservation
- CO4. Understand about various acts, laws regarding biodiversity and conservation

#### Elective Course

Fourth paper (ZOO304EB): Environmental Biology -1  
(Basics of Environmental Biology, Tools & Chemistry)

Course Learning Outcome: **The students will be able to**

- CO1. Understand about ecological concepts and models
- CO2. Understand about and ecosystem structure and functions
- CO3. Know about various instruments and their techniques for the environmental study
- CO4. Know about environmental chemistry and toxicology for science and society.

#### Elective Course

Fourth paper (ZOO304FS): Fishery Science-I  
(Taxonomy, Morphology and Physiology)

Course Learning Outcome: **The students will be able to**

- CO1. Learn about origin and evolution of fish fauna
- CO2. Know about morphology and anatomy of the fish
- CO3. Know about fish physiology
- CO4. Get jobs in fishery sector as research scientist in government or private sector

Fourth paper (ZOO304CB): Cell Biology –I  
(Cell morphology and organelles)

Course Learning Outcome: **The students will be able to**

- CO1. Understand about cell structure and its functions
- CO2. Know about bacteria, virus and cytoskeleton
- CO3. Know about mitochondria, ribosome and endoplasmic reticulum
- CO4. Understand about mitochondrial born disease

#### Skill Development course

Fifth Paper (ZOO305): Bioinformatics

Course Learning Outcome: **The students will be able to**

- CO1. Gain knowledge about bio-informatics
- CO2. Know about data base study of nucleic acid sequence
- CO3. Know about scientific role of bioinformatics in research

#### Interdisciplinary course

Sixth Paper (ZOO306): Apiculture  
(Not for Zoology Students)

Course Learning Outcome: **The students will be able to**

- CO1. Understand the basic life cycle of the honeybee
- CO2. Learn about beekeeping tools and equipment
- CO3. Learn about modern methods of apiculture for honey production
- CO4. Know about diseases of honey bee and control measures

#### M.Sc.– Semester IV

##### Core Course

First Paper (ZOO401): Biochemistry

Course Learning Outcome: **The students will be able to**

- CO1. Know about different bio-molecules and biochemical processes of cells
- CO2. Know about various enzymatic actions in the metabolism
- CO3. Know about the concepts of regulation of enzyme activity

Second + Third (ZOO402+ZOO403): Dissertation+ Viva –Voce

Course Learning Outcome: **The students will be able to**

- CO1. Know about dissertation research
- CO2. Know about writing of introduction, review of literature and methodology
- CO3. Know about data computation, data analysis, data presentation
- CO4. Know about data interpretation, discussion and reference writing methods

Elective Course

Fourth paper (ZOO404EB): Environmental Biology -II  
(Application, management & Legal Environmental Biology)

Course Learning Outcome: **The students will be able to**

- CO1. Know about ecosystem services and applications
- CO2. Know as aquatic biodiversity for hydroelectric study
- CO3. Work as consultant for environmental study.
- CO4. Get job offers as a environmental executive for EIA and EMP

Fourth paper (ZOO404FS): Fishery Science –II (Capture Fishery)

Course Learning Outcome: **The students will be able to**

- CO1. Know about knowledge of fish water resources in India
- CO2. Know about restoration and management of fish stock
- CO3. Know about riverine fishery and cold water fishery
- CO4. Know about estuarine fishery and marine fishery
- CO5. Generate jobs in freshwater and marine fishery field

Fourth paper (ZOO404CB): Cell Biology –II (Karyology, Cell division and Ageing)

Course Learning Outcome: **The students will be able to**

- CO1. Understand about the nucleus and their functions in animal cells
- CO2. Identify the stages of the cell cycle, by description of major milestones
- CO3. Identify the stages of mitosis & meiosis to explain nuclear division
- CO4. Understand mechanism of cell aging and cell death
- CO5. Understand functions and type of chromosomes

Skill Development course

Fifth Paper-ZOO405: Sericulture

Course Learning Outcome: **The students will be able to**

- CO1. Know about life cycle of silk moth
- CO2. Understand the knowledge and techniques about silk culture at large scale
- CO3. Get job and self employment via silk culture in India and abroad.

Interdisciplinary course

Sixth Paper (ZOO406): River System (Not for Zoology students)

Course Learning Outcome: **The students will be able to**

- CO1. Understand about Indian rivers and its ecology
- CO2. Understand about spiritual and socio-economical use of the rivers
- CO3. Know about the cultural, social, economic and scientific aspect Ganga river
- CO4. Understand the role of river system for society

<b>B.Sc. [Chemistry]</b>
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<b>Programme Outcome (POs)</b>	
PO1	Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry.
PO2	Solve the problem and also think methodically, independently and draw a logical conclusion.
PO3	Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of chemical reactions.
PO4	Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.
PO5	Find out the green route for chemical reaction for sustainable development.
PO6	To inculcate the scientific temperament in the students and outside the scientific community.
PO7	The students would be ready for employment in Chemistry related areas in government, private sectors (like in the field food safety, health inspection, education, etc)
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	To impart knowledge on inorganic chemistry – Atomic structure, chemical bonding, chemistry of s, p, d-blocks and zero group elements, metal and metallurgy, inorganic polymers, bioinorganic compounds, principles of volumetric and gravimetric.
PSO2	The course is so designed that the students understand the central role of chemistry in our society. and become potent enough to explore new areas of research both in chemistry and in allied fields of research and technology.
PSO3	To impart understanding on Gaseous states, thermodynamics, chemical kinetics, electrochemistry, nuclear chemistry, chemical equilibria and phase equilibria.
PSO4	To educate students about the chemistry and application of useful organic compounds - alkanes, alkenes, alcohols, aldehydes, ketones, carboxylic acids. Also, to develop understanding about stereochemistry and spectroscopy, organic reaction mechanism and heterocyclic compounds.
PSO5	To provide the laboratory experience to the students by performing lab experiments based on - qualitative and quantitative analysis, surface tension, viscosity, chromatographic techniques of separation, synthesis of organic compounds, molecular weight determination, chemical kinetics.
PSO5	Understand good laboratory practices and safety.
Course Outcomes:	Sem I Upon successful completion students will be able to:
Paper 01 (Inorganic Chemistry)	CO01: Understand the evolution of atomic structures. CO02: Understand different types of chemical bonding CO03: Acquire knowledge on electrode potential and its applications CO04: Understand general principles of extraction and purification of metals. CO05: Understand the Principles involved in Qualitative and Volumetric analysis
Paper 02 (Organic Chemistry)	CO01: Gain knowledge on Hybridization, Hyperconjugation, and Inductive effects. CO02: Understand the mechanism of organic reactions CO03: Understand Stereochemistry of organic compounds CO04: Know about preparation and properties of alkanes and cycloalkanes CO05: Gain knowledge on aromaticity and arenes.

Paper 03 Physical Chemistry	CO01: Understand the theory of gases CO02: Understands the terminology in thermodynamics and first law of thermodynamics. CO03: understand the thermochemistry CO04: understand the kinetics of chemical reactions. CO05: Acquire knowledge about basics of electrochemistry
	Sem II Upon successful completion students will be able to:
Paper 01 (Inorganic Chemistry)	CO01: Understand the periodic table and atomic properties. CO02: Acquire knowledge on Coordination compounds CO03: Understand the chemistry of zero group and S- block elements. CO04: Acquire knowledge about structure, preparation and uses of heavy water, hydrogen peroxides and compounds of beryllium, lithium. CO05: Understand the principle involved in volumetric analysis.
Paper 02 Organic Chemistry	CO01: understand the fundamentals of Optical isomerism. CO02: Acquire knowledge of geometrical isomerism. CO03: Gain knowledge on chemistry of alkenes. CO04: Preparations and chemical properties of alkynes. CO05: Understand the reaction mechanism of alkyl halides and aryl halides.
Paper 03 Physical Chemistry	CO01: Understand the equation of state and critical phenomenon CO02: Understand Joule-Thomson effect, and relation between thermodynamic quantities. CO03: Understand and solve the problems based on thermochemistry. CO04: Acquire knowledge Kinetics of complex reactions and collision theory CO05: Understand Debye -Huckel theory and applications of conductance measurement.
	SEM III Upon successful completion students will be able to understand:
Paper 01 (Inorganic Chemistry)	CO01: Shapes of molecules and Sidgwick- Powell theory CO02: Characteristics of p-block elements and application of redox potential diagram CO03: Chemistry of Peroxo , Oxyacids of P block elements , interhalogens and pseudo halogens. CO04: Extraction and isolation of the following elements B, Ge, F, Cr, Ni. CO05: Principles of gravimetric analysis
Paper02 Organic Chemistry	CO01: The Basics of UV absorption spectroscopy CO02: About the Chemistry of Monohydric alcohols CO03: Preparations and reactions of Dihydric and trihydric alcohols CO04: Mechanism of named reaction of phenols. CO05: Chemistry of ethers and epoxides.
Paper 03 Physical Chemistry	CO01: The Second Law of thermodynamics CO02: Basics of Chemical Equilibrium CO03: Phase Equilibria and Nernst distribution law CO04: Fundamentals of reversible electrodes and computation of EMF of cell CO05: Preparations, stability, determination of size of colloids and Zeta potential), and Donnan membrane theory
	SEM IV At the end of course, the students will be able to
Paper 01	CO01: Understand VSEPR; MO theories and shape of molecules.

(Inorganic chemistry)	CO02: Know about general characteristics of d-block elements CO03: Understand the Isomerism and stereochemistry of coordination compounds CO04: Understand Preparation, Properties and uses Boric acid, Borides CO05: Understand Structure and bonding of inorganic compounds
Paper02 Organic Chemistry	CO01: Acquire knowledge on fundamentals of Infrared (IR) absorption spectroscopy CO02: Understand the chemistry of aldehydes and ketones. CO03: To know about the Preparation and reactions of carboxylic acids, halo acids and hydroxyl acids. CO04: Gain knowledge about chemical reactions of carboxylic acid derivatives. Mechanisms of esterification and hydrolysis. CO05: understand organic compounds of nitrogen.
Paper 03 Physical chemistry	CO01: understand the Concept of entropy CO02: Understand thermodynamic derivation of law of mass action, Clausius Clapeyron equation and Clapeyron equation and its applications CO03: Understand Phase equilibrium of two component system, and Nernst distribution and its applications CO04: Understanding Reversible electrodes, reversible cells, and Corrosion. Application of E.M.F. measurements. CO05: Theories of surface phenomenon.
	SEM V At the end of course, the students will be able to
Paper 01 (Inorganic Chemistry)	CO01: Understand theories of Covalent bond - Heitler-London, Pauling Slater, LCAO -MO theory. CO02: Understand Metals and Metallurgy of d- block elements. CO03: Understand chemistry of f-block elements CO04: Acquire knowledge of Environmental Pollution CO05: Gain understanding about Bioinorganic chemistry.
Paper02 (Organic Chemistry)	CO01: Acquire skill of NMR and PMR spectroscopy. CO02: Understand the formation, chemical reactions of Organozinc and organomagnesium compounds CO03: Understand Heterocyclic compounds CO04: Know about the Organic synthesis via Enolates. CO05: Understand the chemistry of Monosaccharides, Disachharides and Polysacharrides.
Paper 03 Physical Chemistry	CO01: Understand thermodynamics work functions CO02: Understand the Lindemann's theory, and Transition state theory of reaction rates. CO03: Understand Laws of Photochemical reactions. CO04: Acquire knowledge on Concentration cells in Electrochemistry. CO05: understand the nuclear chemistry
	SEM VI At the end of course, the students will be able to
Paper 01 (Inorganic Chemistry)	CO01: Understand Valence bond theory, crystal field theory, and Ligand field splitting theory. CO02: Understand Metallurgical extraction of Ti, Mo, W and Re. CO03: gain knowledge on inorganic polymers.

	CO04: Understand Structures and Characteristics of Solids CO05: Understand Bioinorganic Chemistry
Paper02 (Organic Chemistry)	CO01: Understand the applied aspects of UV, IR, and PMR spectroscopy CO02: Introduction to condensed five and six – membered heterocycles. CO03: Understand about the Amino acids, Peptides and Proteins CO04: Understand Components of nucleic acids, & Structure of polynucleotides CO05: Aware about Synthetic polymers
Paper 03 (Physical Chemistry)	CO01: Acquire knowledge about the third law of thermodynamics, and residual entropy. CO02: Understand the Kinetics of homogeneous, acid-base and enzyme catalysis CO03: Understand Rice-Herzfeld mechanism, Photo electric cell, Photosensitization CO04: Gain understanding about development of atomic model. CO05: Gain knowledge on fission and fusion in nuclear chemistry.

### M.Sc.[Chemistry]

<b>Programme Outcome (POs)</b>	
PO1	Demonstrate, solve and an understanding of major concepts in all disciplines of Chemistry.
PO2	Solve the problem and also think methodically, independently and draw a logical conclusion.
PO3	Create an awareness of the impact of chemistry on the society, and development outside the scientific community.
PO4	Become professionally trained in the area of Industry, material science, lasers and Nano-Technology.
PO5	Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of Chemistry experiments.
PO6	To inculcate the scientific temperament in the students and outside the scientific community.
PO7	Apply modern methods of analysis to chemical systems in a laboratory setting.
PO8	Determine molecular structure by using UV, IR and NMR.
PO9	Study of medicinal chemistry for leading compound.
PO10	Improve the Skill of student in organic research area.
PO11	Synthesis of Natural products and drugs by using proper mechanisms.
PO12	Study of Asymmetric synthesis.
PO13	Determine the aromaticity of different compounds.
PO14	Solve the reaction mechanisms and assign the final product.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Know the structure and bonding in molecules/ ions and predict the Structure of molecule/ions.
PSO2	Understand the various type of aliphatic, aromatic, nucleophilic substitution reaction.
PSO3	Understand and apply principles of Organic Chemistry for understanding the scientific phenomenon in Reaction mechanisms.
PSO4	Learn the Familiar name reactions and their reaction mechanisms.
PSO5	Understand good laboratory practices and safety.
PSO6	Study of organometallic reactions.

PSO7	Study of free radical, bicyclic compound, conjugate addition of Enolates and pericyclic reactions.
PSO8	Study of biological mechanisms using amino acids.
PSO9	Learn about the potential uses of analytical industrial chemistry.
PSO10	Carry out experiments in the area of organic analysis, estimation, separation, derivation process, conduct metric and potentiometric analysis.
PSO11	Learn the classical status of thermodynamics.
PSO12	Gathers attention about the physical aspects of atomic structure, various energy transformation, molecular assembly in nanolevel and significance of electrochemistry.
PSO13	Understand good laboratory practices and safety.
PSO14	Introduce advanced techniques and ideas required in developing area of Chemistry.
PSO15	Make aware and handle the sophisticated instruments/equipments.
PSO16	The aim of this course is to provide conceptual understanding, development of experimental skills, designing and implementation of novel synthetic methods, developing the aptitude for academic and professional skills, acquiring the basic concepts for structural elucidation with hyphenated techniques, understanding the fundamental chemical and biological processes and rationale towards computer.
PSO17	The project/Dissertation introduced in the curriculum will motivate the students to pursue the research and find a job in reputed pharmaceutical and other industries in India and abroad.

Course Outcome  
Semester-I

Students are expected to understand:

Inorganic Chemistry I (CHE-101)	CO01: Bohr's theory, de Broglie equation, Heisenberg's Uncertainty Principle, Schrödinger's wave equation CO02: concept of MO and VB theory. Concept of resonance, molecular dipole moment, polarizing power and polarizability, Fajan's rules CO03: Inorganic Spectroscopy, Microstates and term symbols CO04: Principles of Electronic Spectroscopy-Franck-Condon principle CO05: Introduction to transition metal complexes
Organic Chemistry I (CHE-102)	CO01: Principles of stereochemistry CO02: Aromaticity- Benzenoid and non-benzenoid compounds CO03 Organic reactive intermediates CO04: Aliphatic Nucleophilic Substitution CO05: Aliphatic Electrophilic Substitution
Physical Chemistry I (CHE-103)	CO01: Brief resume of concepts of laws of thermodynamics CO02: Mathematical chemistry -Probability, Matrices, Determinants, Series, Stirling approximation CO03 Concept of operators in quantum mechanics CO04: Surface active agents CO05: Laplace law, Kelvin equation
Solvent Extraction and Chromatography (CHE-104)	CO01: Principles and applications of solvent extraction CO02: Ion exchange Resins CO03 Ion Chromatography and applications CO04: Partition Chromatography and its applied aspects CO05: Principles of Electrophoresis

Introduction to Analytical Chemistry I (CHE-105)	CO01: Methods of qualitative and quantitative analysis. CO02: Types and applications of thermogravimetry. CO03 Electro Analytical Techniques CO04: Diffraction Techniques CO05: Electrochemical Techniques
Computer Application in Chemistry (CHE-106)	CO01: FORTRAN Programming CO02: Various types of I/O statements CO03 Roots of Polynomials CO04: Computer programming based on FORTRAN CO05: Chemdraw, generation of graphs,
Skill Development Data generation and interpretation Lab (CHE-107)	CO01: Methods of qualitative and Quantitative analysis. CO02: Interpretation and statistical analysis of experimental data
Polymer Chemistry (CHE-108)	CO01: Classification of polymers CO02: Structure, Separation and Properties of Polyethylene, PVC CO03 Polymer solutions CO04: Biomedical and Engineering Application CO05: Bio polymers DNA, RNA

## Semester-II

Students are expected to understand:

Inorganic Chemistry II (CHE-201)	CO01: Theories of the coordinate linkage CO02: Electronic absorption spectra of transition metal complexes CO03: Metal Carbonyls and Nitrosyls CO04: Chemistry of f-Block Elements CO05: General chemistry of actinides including E.M.F. diagrams
Organic Chemistry II (CHE-202)	CO01: Aromatic Electrophilic Substitution CO02: Aromatic Nucleophilic Substitution CO03: Free Radical Reactions CO04: Addition to Carbon-Hetero Multiple Bonds CO05: Elimination Reactions
Physical Chemistry II (CHE-203)	CO01: Quantum states and complexions CO02: Indistinguishability of gas molecules. CO03: The Einstein model, and Debye's theory CO04: Partition functions CO05: Bose- Einstein statistics, and Fermi-Dirac Statistics
Forensic Analysis (CHE-204)	CO01: Forensic laboratory – role and operations CO02: Real Case Analysis – liquor, petroleum and firearm analysis. CO03: Forensic Toxicology CO04: Instrumentation for Forensic Analysis CO05: Instrumental Methods and SOPs
Catalysis and Green Chemistry (CHE-205)	CO01: Basic Principles of Green Chemistry CO02: Green Reagent CO03: Introduction and Basic concept of green catalysis CO04: Green Catalyst CO05: Aqueous Phase Reactions
Introduction to Analytical	CO01: Errors analysis CO02: Use of Tests of significance – t, f, and q

Chemistry II (CHE-206)	CO03: Titrimetric analysis CO04: Spectrophotometric methods CO05: Separation Techniques
Skill Development Paper Analysis and determination Lab (CHE-207)	CO01: Analysis of dairy products and petrochemicals. CO02: Determination of physico-chemical parameters of waters/ given sample CO03: Food analysis CO04: Methods of removal of waste and hazardous metal from water
Organic Chemistry (Applied Aspects Only) (CHE-208)	CO01: Organic chemistry and industry CO02: Brief introduction of the molecules CO03: Overview of antiviral drugs CO04: Bio-polymers CO05: Synthetic polymers

### Semester-III (Specialization Papers)

Students are expected to understand:

Inorganic Chemistry Paper-I Bioinorganic Chemistry -S- I (CHE-301I)	CO01: Complexes of Biological Significance CO02: Synthetic model oxygen carrier complexes CO03 Role of Metal Ions in Biological Systems CO04: MetalloProteins and MetalloEnzymes CO05: Electron Transport Proteins
Inorganic Chemistry Paper-II Organometallic Chemistry of Transition Metals-S- II (CHE-302I)	CO01: Inorganic $\pi$ Acid Ligands CO02: $\pi$ complexes of unsaturated molecules CO03 Transition organometallic compounds CO04: Transition metal compounds in catalysis CO05: Transition metal Compounds with M-H bonds
Inorganic Chemistry Paper-III Techniques in Inorganic Chemistry-S- III (CHE-303I)	CO01: Electron Microscopy- SEM and TEM CO02: Electron Microscope AFM and STM CO03 Photochemistry of Transition Metal complexes CO04: Electrochemical Methods: Cyclic voltammetry. CO05: Differential pulse voltammetry
Organic Chemistry Paper-I Bioorganic and Medicinal Chemistry-S-1 (CHE-301O)	CO01: Enzymes CO02: Mechanism of Enzyme Action CO03 Chemical structure and biological activities and theories of drug action CO04: Local Anti-infective Drugs, Psychoactive Drugs CO05: Vitamins and Hormones
Organic Chemistry Paper II Organic Reactions Mechanisms-S-II (CHE-302O)	CO01: Migration to electron deficient carbon atom CO02: Migration to electron deficient nitrogen atom CO03 Different oxidative processes CO04: Different reductive processes. CO05: Organometallic Reagents
Organic	CO01: Photochemistry of Carbonyl Compounds

Chemistry Paper III Organic Photochemistry and Pericyclic Reactions- S-III (CHE-303O)	CO02: Photochemistry of unsaturated system CO03 Photochemistry of aromatic compounds CO04: Pericyclic Reactions CO05: Sigmatropic rearrangements
Physical Chemistry Paper –I Molecular Spectroscopy -S-I (CHE-301P)	CO01: Basic concepts, classification of molecular spectra CO02: Vibration Rotation Spectra CO03 Electronic spectroscopy CO04: NMR spectroscopy CO05: ESR- Principle
Physical Chemistry Paper –II Electrochemistry -S-II (CHE-302P)	CO01: Ionic, Molar conductance CO02: Non-ideal systems CO03 Debye-Huckel theory of activity coefficients CO04: Bioelectrochemistry- Bioelectrodics CO05: Fuel cell technology
Physical Chemistry Paper –III Quantum Chemistry -S-III (CHE-303P)	CO01: Review of classical mechanics CO02: Concept of operators in quantum mechanics CO03 Quantum mechanical approaches to molecular Bonding CO04: LCAO-MO treatment of hydrogen molecule ion CO05: Huckel molecular orbital theory and its application
Skill Development Paper Hand Made Soap/Detergent Making (CHE-307)	CO01: Types of cleaning agents CO02: Properties of cleaning agents CO03 Technical skill of soap/detergent making CO04: Marketing of soap and allied products
Environmental Chemistry (CHE-308)	CO01: Introduction to Environmental Chemistry CO02: Natural cycles of environment CO03: Chemical Toxicology CO04: Air Pollution CO05: Water pollution.

## Semester-IV

Students are expected to understand:

Inorganic Chemistry Paper IV Spectral Techniques in Inorganic Chemistry-S-IV (CHE-401I)	CO01: NMR Spectroscopy CO02: Nuclear Spectroscopy CO03: Electron Spin Resonance Spectroscopy CO04: Infrared and Raman Spectroscopy: CO05: Mass Spectrometry
Inorganic Chemistry Paper V Group theory and Molecular Spectroscopy-S-V (CHE-402I)	CO01: Group Theory CO02: Rotational, Vibrational and Electronic spectroscopy CO03: Classical and quantum theory of Raman effect CO04: Introduction to NMR CO05: EPR, NQR and Mossbauer spectroscopic techniques
Inorganic	CO01: Role of Metal Ions in Biological Systems

Chemistry Paper VI Scope of Chemical Biology-S-VI (CHE-403I)	CO02: Complexes of Biological Significance: CO03: Metalloproteins CO04: Metallo enzymes CO05: Copper containing Enzymes
Organic Chemistry Paper-IV Concepts in Organic Synthesis- S-IV (CHE-4010)	CO01: Disconnection Approach CO02: Synthetic Strategies CO03: Stereochemistry in organic synthesis: CO04: Reagents in Organic Synthesis CO05: Selective organic name reaction and their synthetic applications
Organic Chemistry Paper V Spectroscopic Identification of Organic Compounds S-V (CHE-4020)	CO01: Introduction to spectroscopic techniques CO02: Nuclear Magnetic Resonance Spectroscopy CO03: Carbon-13 NMR Spectroscopy/2-D Spectroscopy CO04: Introduction to mass spectrometry CO05: Solution of Structural problems by joint application of UV, IR, and NMR
Organic Chemistry (Biosynthesis and Chemistry of Natural Products) S-VI (CHE-4030)	CO01: Bio-synthesis of Natural Products CO02: Terpenoids and Carotenoids CO03: Alkaloids CO04: Steroids CO05: Prostaglandins - Plant Pigments
Physical Chemistry Paper –I Spectroscopy and Modern Techniques -S-IV (CHE-401P)	CO01: Photoelectron Spectroscopy and Related Techniques CO02: Techniques for Studying Surface Structure CO03: LASER and MASER, NQR spectroscopy CO04: Fluorescence techniques CO05: Scanning tunnelling and atomic force microscopy (STM and AFM).
Physical Chemistry Paper –II Energetics -S-V (CHE-402P)	CO01: Thermodynamic functions for non-equilibrium states CO02: Transformations of the generalized fluxes and forces CO03: Nernst heat theorem and its application to non- condensed systems CO04: Ideal and non-ideal solutions CO05: Gibbs-Duhem-Margules equation and its applications
Physical Chemistry Paper –III Chemical Dynamics -S-VI (CHE-403P)	CO01: Kinetics of fast reactions CO02: Heterogeneous catalysis, CO03: Comparison of homogeneous and heterogenous reactions CO04: Kinetic of initiation retardation CO05: Coordination polymerization
Skill Development Paper Industrial Chemistry Laboratory (CHE-407)	CO01: Preparation of alcohol based sanitizer CO02: Synthesis of industrially significant chemicals
Nanochemistry (CHE-408)	CO01: History scope and perspectives of nanochemistry CO02: Experimental Techniques: CO03: Size Effects in Nanochemistry CO04: Applications of Nanoparticle in various fundamental research CO05: Environmental issue

<b>B.Sc. [Physics]</b>	
<b>Programme Outcome (POs)</b>	
<b>PO1</b>	<b>Knowledge:</b> Acquire the knowledge with facts and figures related to Physics understand the basic concepts, fundamental principles and scientific theories related to various scientific phenomena and their relevance in day to-day life.
<b>PO2</b>	<b>Skills:</b> Acquire the skills in handling scientific instruments & skills of observation and drawing logical inference from scientific experiments.
<b>PO3</b>	<b>Modern Tool Usage:</b> Apply appropriate techniques, skills, modern tools and IT tools to practice.
<b>PO4</b>	<b>Creativity &amp; Analysis:</b> Think creatively to propose novel ideas in explaining the evidence of data and provide new solutions to the problems and analyse the given scientific data systematically and have the ability to draw conclusion.
<b>PO5</b>	<b>Communication:</b> Communicate effectively on problems, issues and Solutions with 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.
<b>PO6</b>	<b>Ethics &amp; Environment:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms in research and the functional areas, understand the issues of environmental context and sustainable development.
<b>PO7</b>	<b>Individual and Team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
<b>PO8</b>	<b>Self-directed and Life-long Learning:</b> Acquire the ability to engage in independent and life-long learning in the broadest context of socio, economic and technological changes.
<b>Programme Specific Outcome (PSOs)</b>	
<b>PSO1</b>	Understand and apply the principles of Classical mechanics, Quantum mechanics, Thermodynamics, Nuclear physics and Electrodynamics which strengthen the historical development of Physics, concepts of basic physics laws and limits of their applicability.
<b>PSO2</b>	Understand and apply the principles of Solid state Physics, Optics, Photonics and Spectroscopy and apply in investigations of facts, diagnostics of diseases, detection of impurities and hazardous materials, preparation of microscope and telescopes for different purposes.
<b>PSO3</b>	Understand the principles of Electronics, Design and test electronic circuits which can be applied to prepare new machines to do the well-defined work in different Institutions and Industries.
<b>PSO4</b>	Understand and apply the principles of Mathematical Physics, Computational Physics and Error analysis in measurements to solve the challenging problems of complex theories of Physics and help to understand the nature of Universe.

**Course Outcome-B.Sc. [Physics]**  
**Semester-I**

After completion of the Course, the student:

Paper-I Mechanics	CO1: will be aware of the background and concept of Vector Calculus which includes the concept of physical quantities like scalar and vectors, their differentiation and integration, line, Surface, Volume and their physical significance, vector operator and its application.
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	<p>CO2: will understand Frame of reference and Inertial and non-inertial frames, Galilean transformations, invariance, Principle of Equivalence, Michelson and Morley's Experiments and Postulates of Special Relativity which explains the concept of relative motions and their effect in different physical parameters.</p> <p>CO3: will be aware of the concepts related to Relativistic dynamics and Mechanics of Rigid Bodies.</p> <p>CO4: will understand the concept related to motion under a central force and will be able to solve Two-Particle Central Force Problem.</p> <p>CO5: aware of the concept of Motion in an Inverse Square Field, Kepler's Laws and gravitation related concept.</p>
Paper-II Thermal Physics	<p>CO1: will be aware of the basic concept of Thermodynamic systems, State, Zeroth law of thermodynamics and concept of Temperature, Heat and Work, their path dependence, Thermal Processes, Kinematic theory of gases.</p> <p>CO2: will be aware of concept and application of First Law, Second Law of Thermodynamics and Entropy. Explains the concept of greenhouse effect, Black body radiations and related concepts.</p> <p>CO3: will give the Thermodynamic relations and their applications.</p>
Paper-III Electrical Circuits	<p>CO1: will be aware of basic elements of Electrical Circuits, basic rules for preparing and analysing the electrical circuits, major laws and concepts and application.</p> <p>CO2: Will be acquainted with inductive circuit, Galvanometer, A.C. Analysis, A.C. bridges and their applications.</p>
Paper-IV Practical	<p>CO1: will acquire an ability to explain and apply the concepts used in Experiments of Mechanics, perform the experiments, calculate the values with human and experimental errors and realise the concept of physics, General Properties of Matter of the Course practically.</p>

## Semester-II

After completion of the Course, the student:

Paper-I Elasticity and Fluid Mechanics	<p>CO1: will understand and able to apply the concept related to Mechanics of Non-Rigid bodies, bending of beams, Streamline flow, Poiseuille's Equation and Equations of Motion.</p>
Paper-II Conduction and Radiation of Heat	<p>CO1: will understand and able to apply the concept of Kinetic Theory of Gases, Conduction of Heat, Emission and absorption of Heat, Solar radiation and Radiation Spectrum.</p>
Paper-III Basic Semiconductor Electronics	<p>CO1: Will be aware of basic Semiconductor Electronics, concept of Conduction in Solids, P.N. Junctions, Zener Diode, Photo-diode and Solar Cell, NPN and PNP Transistors and their Characteristics and their applications in day to day life.</p> <p>CO2: Will understand the concept of Oscillators, Modulation and CRO.</p>
Paper-IV Practical	<p>CO1: will acquire an ability to explain and apply the concepts used in Experiments related to Thermal physics, Electricity &amp; Electronics of the Course practically. Will perform the experiments, calculate the values with human and experimental errors and realise the concept of physics.</p>

## Semester-III

After completion of the Course, the student:

Paper-I Optics-I	<p>CO1: will be aware of the basic concepts of Geometrical Optics, EM Waves, Interference, Newton's rings and Laser. Will understand the nature of light and wave and different phenomena, concept of spectrum, interference, diffraction and polarisation etc.</p>
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Paper-II Waves and Oscillations	CO1: Will understand and will be able to solve the problems related to Oscillations, SHM, Fourier Series, Ultrasonics generation, detection and measurement. Concept of time period, frequency, oscillations like damped, un-damped, forced and maintained oscillations, resonance and related phenomena. CO2: will be aware of One-dimensional Wave motion in non-dispersive media.
Paper-III Atomic Physics	CO1: Will be aware of Basic Concepts of Atomic Physics, Spectra of Hydrogen atom, X-rays, Magnetic properties of Materials and Quantum Concepts.
Paper-IV Practical	CO1: will acquire an ability to explain and apply the concepts of Electricity in the Experiments practically. Perform the experiments, calculate the values with human and experimental errors and realise the concept of physics.

### Semester-IV

After completion of the Course, the student:

Paper-I Optics-II	CO1: Will understand and able to apply the Fresnel's Theory of Diffraction, Fraunhofer's diffraction, Grating, Polarization.
Paper-II Electromagnetism	CO1: Will understand Electrostatics in Free Space, Dielectric materials and related laws, Electric Current, generation of magnet using electricity, Magneto-statics Concepts and various calculations related to them and generation of electricity from varying magnetic field.
Paper-III Nuclear Physics	CO1: Will be aware of Natural Radioactivity and laws of radioactive disintegration and radioactive series, concept of nucleus, internal structure of nucleus, its constituent particle, stability of nucleus, binding energy of nucleus etc. CO2: Will be aware of Counters, Nuclear Reactions and Decay, Nuclear models, Magic Numbers, Elementary Particles.
Paper-IV Practical	CO1: will acquire an ability to explain and apply the concepts of Optics like Interference, Diffraction, Polarisation etc., in the Experiments practically. Calculate the values of optical parameters with human and experimental errors and realise the concept of optics and radiations.

### Semester-V

After completion of the Course, the student:

Paper-I Quantum Mechanics-I	CO1: will be aware of the Quantum Theory & Schrodinger's wave Mechanics and Interpretation of the wave function. Method to solve so many problems which can't be resolved by Classical or Newtonian Mechanics. CO2: will be acquainted with Operators and measurement in Quantum Mechanics. CO3: Will understand the Uncertainty Principle, Time-Dependent Schrodinger Equation and Harmonic Oscillators Problem.
Paper-II Statistical Mechanics	CO1: will be acquainted with basic concepts of statistical Mechanics and their applications. Concept of Microscopic and Macroscopic systems which explains the different thermodynamic phenomena. CO2: Will be aware of ensembles and Bose Einstein and Fermi-Dirac Distribution and its applications.
Paper-III Basic Digital Electronics	CO1: will be aware of RTL, DTL and TTL their I/O Characteristics, Basic Logic Gates, Boolean Algebra, Karnaugh Mapping and combination of Logic Circuits. Different number systems like binary, octal, decimal, hexadecimal.
Paper-IV Electromagnetic Theory	CO1: Will understand concepts of Electrostatics, Electromagnetic energy, Solutions of Electromagnetic Waves, Electromagnetic Dispersion and boundary condition at a discontinuity, Fresnel's Formula, Total Internal reflection, Metallic reflection and skin depth.
Paper-V Practical	CO1: will acquire practical skills in performing the Experiments on Optics. Calculate the values of optical parameters with human and experimental errors and realise the concept of waves and optics.

## Semester-VI

After completion of the Course, the student:

Paper-I Quantum Mechanics-2	CO1: Will be aware of the concept of Angular Momentum, H-atom Problem, Time-Independent Perturbation Theory, Elementary concept of Spin and Identical Particles.
Paper-II Solid State Physics	CO1: will be acquainted with basic concept of Solid State Physics, Reciprocal Lattice, Inter-atomic forces, Free Electron Theory and Band Theory of Solids.
Paper-III Photonic Devices	CO1: will be able to review the characteristics of a semiconductor diode and BJT, Principle of Operation of FET, MOSFET, Integrated Circuits (ICs), and other Photonic devices.
Paper-IV Laser. Holography and Optical Instruments	CO1: will understand the concepts and applications of Laser, Holography and Optical Instruments.
Paper-V Practical	CO1: will acquire practical skills in performing the Experiments with Electronic devices. Calculate the values of electrical parameters with human and experimental errors and realise the concept of electronic devices.

## M.Sc.[Physics]

### Programme Outcome (POs)

PO1	The Master of Science in Physics programme provides the candidate with knowledge, general competence and analytical skills on an advanced level which will expertise them for higher studies and research. Also this knowledge and skills will be helpful for them in industry, consultancy, and public administration. This course provides in-depth understanding of principles and concept of Physics, proficiency in experimentation to understand the theoretical and experimental dimensions of Physics. The work with the Master Thesis gives special expertise on research in one particular area of Physics
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## Course Outcome-M.Sc.[Physics]

### Semester-I

After completion of the Course, the student:

Paper-I Mathematical Physics	CO1: will understand and able to apply the concept of Complex Analysis and related functions, equations, theorems; CO2: will understand Linear Differential Equations, Special Functions such as Bessel, Legendre, Hermite and Laguerre differential equations with properties of their solutions. CO3: will be aware of Integral transforms such as Laplace transform, Fourier theorem, Fourier transforms. CO4: Will be aware of Dirac delta function and Green's function and applications.
Paper-II Classical Mechanics	CO1: Will be aware of Variational Principles and Langrange's Equations and their applications. CO2: will understand concepts of Hamiltonian formalism, Canonical Transformations. , Hamilton-Jacoby Theory , Small oscillations and normal modes and their applications.
Paper-III Quantum	CO1: will be acquainted with Dirac's Bra & Ket Notations, Hilbert Space, Vector Representations of States, Projection Operators, Observables as Operators,

Mechanics-I	Orthonormality and Completeness of States, Relation between Ket and Wave-functions, Wave-functions in Coordinate and Momentum Representations. CO2: Will understand the concept of Matrix Theory of Harmonic Oscillator, Uncertainty Relations, Schrödinger, Heisenberg and Dirac Representations. CO3: will be aware of Orbital Angular Momentum, Angular Momentum Algebra, and its applications. CO5: will understand the Non Covariant Derivation of Lagrangian Equations for fields and their applications.
Paper-IV (a) Electromagnetic Theory	CO1: will understand the concepts and applications of Guided electromagnetic waves, Tensor analysis, Minkowsky space and Lorentz transformations, Covariant formulation of electromagnetism.
Paper-IV (b) Programming for Numerical Methods	CO1: will be acquainted with the basics of C++ programming, various data types, types of loops, break and continue statements, switch statement, if else, conditional operator, functions with default arguments, function overloading. CO2: will be aware of operators, Arrays, Structures, Pointers, Compound assignment in C++. CO3: will understand and will be able to programme using C++ Basic concept of Object Oriented Programming. CO4: will be aware of Newton Raphson method, Iterative method, Integration by Trapezoidal and Simpson rule, Interpolation, Matrix manipulations in C++.
Paper-IV (c) Group Theory	CO1: Will be aware of Group theory and its application, Theory of Representation, Orthogonality theorem, Theorem for possible number of irreducible representations of a group and applications to molecular and crystal symmetry.
Practicals-Virtual Laboratory Experiments	CO1: will be able to demonstrate experimentally the Franck-Hertz Experiment, Seebeck Effect, Photo-Electric Effect, Quincke's Method, Comparator, Fluorescence and pH-Effect.
Paper-V Instrumentation	CO1: will be aware of the working of various Instruments such as Multimeter, Vacuum tube voltmeter, Solid State multimeter, Digital multimeter, Cathode-ray Oscilloscope, Shunt Capacitor etc.
Paper-VI Nanotechnology	CO1: will be aware of the basic concept of Nanotechnology, Synthesis methodologie, kind of Nanostructures, Physical properties of nanomaterials and Overview of Characterization of nanomaterials by using Spectroscopy.

#### Semester-II

After completion of the Course, the student:

Paper-I Solid State Electronics	CO1: will be acquainted with the working of P-N Junction Diode, Field Effect Transistors, Feedback Amplifiers and Oscillators, Power and Radio Frequency Amplifier and Modulation.
Paper-II Statistical Mechanics	CO1: will be able to review of Gibbs ensembles, Partition function for Perfect Gas and ensemble of Harmonic Oscillators, Partition Function for Gases containing Monoatomic, Diatomic and Polyatomic Molecules. Grand partition function. CO2: will understand Grand potential, FD and BE distribution in Grand Canonical ensemble Degenerate Bose Gas, Momentum Condensation, Liquid He II, Two fluid theory, Superfluidity. CO3: will be aware and able to explain the Degenerate FD Gas, Conduction Electrons in a Metal, Fluctuations, One dimensional Random walk, Gaussian Distribution, Fluctuation in energy in canonical ensemble and concentration in Grand Canonical ensemble. CO4: will be aware of process, Equation, Correlation functions and various theorems related to random processes. CO5: will understand Conditional probability, Fokker Plank Equation and Brownian motion.

Paper-III Quantum Mechanics-II	CO1: will understand Time-Independent Perturbation Theory and Applications, Variational Method, WKB Method, Constant and Harmonic Perturbation, Transition probabilities, Fermi's Golden Rule, Semi- Classical Theory of Radiation, Einstein A and B Coefficients, Selection Rules and Scattering. CO2: will be acquainted with method of Partial Waves, Phase-Shifts, Born Approximation and their Simple Applications. CO3: will be aware and able to understand Klein Gordon Equation and Free Particle, Solution, Dirac Equation, Dirac Matrices, Covariance of Dirac Equation & Bilinear Covariants. CO5: will have knowledge about the Solution for a Free Particle, Negative Energy states and Hole Theory, Spin and Position Operator.
Paper-IV (a) Atomic and Molecular Spectroscopy	CO1: will be aware of concepts related to Atomic Spectroscopy, Microwave Spectroscopy of Diatomic Molecules Rotational Spectra, Infra-red Spectroscopy of Diatomic Molecules Vibrational Spectra (Harmonic and Anharmonic models), and Raman and Electronic Spectroscopy of Diatomic Molecules Raman Spectra (Quantum Mechanical and Classical Approach).
Paper-IV (b) Laser Fundamentals and Applications	CO1: will be acquainted with Properties of Lasers & Einstein Coefficients and Light Amplification Laser Beam Characteristics, Laser Rate Equation & Optical Resonators Laser Rate equation, Two, Three and Four Level Laser System. CO2: will have knowledge about Laser Systems, Application of Laser in Light Wave Communications Carrier Wave Communication, Analog Modulation, Digital Modulation, Optical Fibers in Communication, The Optical Fiber. CO3: will be aware of Application of Laser in Science & Industry.
Paper-IV (c) Nanobiotechnology	CO1: will be able to understand the concepts of Biological Nano-Objects Structural and Functional Regulation of DNA. CO2: will be aware of the methods of Nanobiotechnology and their applications.
Practicals-II Real Laboratory Experiments	CO1: will acquire practical skills in performing experiments and will be aware of use and calculation of Forbidden Energy Band, Boltzmann constant, Capacity and Permittivity, Curie Temperature, Modulation and Demodulations, Energy Band Gap of Si & Ge Diodes, Double Stage Amplifier, Design of CE Amplifier and Design of Regulated Power Supply.
Paper-V MS-Excel	CO1: will acquire skills of Mathematical calculation, graph plotting with the use of MS-Excel.
Paper-VI Liquid Crystals	CO1: will be aware of Various meso phases of liquid crystals, Effect of Electric Field on Liquid Crystals, Liquid Crystal Materials Refractive indices, Dielectric constants, Rotational viscosity, Elastic constants etc.

### Semester-III

After completion of the Course, the student:

Paper-I Condensed Matter Physics	CO1: will be able to understand the concepts related to Electron band theory, Superconductivity, Lattice defects and Diamagnetism.
Paper-II Nuclear Physics	CO1: will be aware of concepts related to Deuteron, Shell Model, Compound Nucleus, and Alpha, beta and gamma decay.
Paper-III (a) Introduction to Nano Scale Science and Technology	CO1: will acquire in-depth knowledge about Generic Methodologies for Nanotechnology and classification, Carbon Nanostructures Introduction, Nanostructured Molecular Materials Introduction and Evolving Interfaces of Nano Nanobiology and their applications.
Paper-III (b) Laser and spectroscopy	CO1: will understand in-depth the various concepts related to Light Sources (Arc, Spark, Discharge, Beam Foil etc.), Synchrotron, Laser, Thermal and Direct Photo Detectors, Optical Multichannel Analyzer, Charged Coupled Devices (CCD), Intensified Charged Coupled Devices (ICCD). CO2: will be aware of Fixed-frequency and Tunable lasers, YAG, Argon Ion,

	Excimer, Dye, Semiconductor Lasers , Laser Photoacoustic Spectroscopy, Laser Induced Fluorescence (LIF), Laser Induced Breakdown Spectroscopy (LIBS), Laser Optogalvanic Spectroscopy Laser, Raman Spectroscopy and Medical Applications of Laser.
Paper-III (c) Analog and Digital Electronics	CO1: will acquire the specialized knowledge of Wide band amplifier, Operational Amplifier, Linear Analog System, Non-linear Analog System and Digital Electronics .
Paper-IV (a) Synthesis and Characterization of Nanomaterials	CO1: will be aware of various methods of Synthesis and characterization of Nanomaterials.
Paper-IV (b) Electronic Spectra of Diatomic Molecule	CO1: will be able to Review of electronic spectra of diatomic molecules.
Paper-IV (c) Microwaves	CO1: will be aware of basic concepts and devices related to microwaves, Vacuum Tube Microwave Generators, Magnetron, Travelling wave tube and Microwave Measurements.
Practicals-III Nanoscience and Nanotechnology/ Laser Spectroscopy and Electronics	CO1: will acquire practical skill in performing experiments on Operational Amplifier, Unijunction Transistor, Logicom, Constant Voltage Power Supply and Transistor Biasing
Paper-V Origin	CO1: will be aware and understand Mathematical calculation Graph plotting for given equation and Curve fitting and analysis of linear, polynomial, exponential or any given function.
Paper-VI Electric and Magnetic Properties.	CO1: will be aware of the basics of Electrostatics in Free Space and various Laws. , Polarization, Ampere's Law, Biot-Savart's Law, Law of force in Magnetic Field on Currents and charged particles. Magnetic Field due to a straight infinite wire. Magnetic Field due to circular loop and Equation of Continuity, Maxwell Equations CO2: will understand the concepts of Superconductivity, Meissner effect, Type I and Type II superconductors.

#### Semester-IV

After completion of the Course, the student:

Paper-I Experimental Techniques & Control Systems	CO1: will be aware of various Experimental Techniques & Control Systems such as Data Interpretation and Analysis, Optoelectronic Devices and Detectors, Measurement and Control systems.
Paper-II Atomic and Molecular Physics	CO1: Will be aware of various concepts Quantum states of an electron, Spectrum, Width of spectral lines, Zeeman, Paschen Back & Stark effect, and Raman Spectra and Frank Condon principle.
Paper-III (a) Micro and Nano Fabrication	CO1: will understand the Basic Microfabrication Techniques, MEMS and NEMS MEMS Fabrication Techniques, Material Aspects and Applications of MEMS/NEMS Silicon - Germanium-Based Materials, Clean room standards and Process Integration Junction and Oxide Isolation.
Paper-III (b) Advanced Atomic Spectroscopy	CO1: will be aware of concepts and methods applied in advanced atomic Spectroscopy such as Lamb ,Complex Spectra and their interpretation, Breit's Scheme , Inductively Coupled Plasma Optical Emission Spectroscopy. CO2: will be aware of the Limitations of Optical Microscope and Electron Microscope, Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), Atomic Force Microscopy (AFM), Scanning Tunneling

	Electron Microscopy (STEM), Fluorescence Microscopy.
Paper-III (c) Microprocessor	CO1: will have knowledge of Microprocessor, Memory organization and mapping, Hardware description of 8085 and A to D and D to A converter and understand their working.
Paper-IV (a) Applications of NanoTechnology	CO1: Will be aware of applications of Nano Technology such as Sensors Sensors - Nanotechnology , Energy Devices Solar , Potential Defence Applications Military applications of Nanotechnology , Nanostructured Food and Packaging Materials Natural Food Nanostructures and Biomedical Applications and Nanoparticles in Drug Delivery Magnetic Nanoparticles as Contrast Agents for Medical Diagnosis.
Paper-IV (b) Electronics: Semiconductor Devices	CO1: will be acquainted with Semiconductor Physics, PN junction diode, Gunn diode and BJT and their applications.
Paper-IV (c) X-Ray Physics and Instrumentation	CO1:
Paper-IV (d) IR & Raman Epectra of Polyatomic Molecules	CO1: will have in-depth knowledge about Symmetry Elements and Symmetry Operations, Point Groups, Classification of Molecules into PointGroups. CO2: will be aware of Rotation and Rotational Spectra of Linear Polyatomic Molecules and Symmetric Top Polyatomic Molecules and related concepts. CO3: will understand Vibrational Motion, Motion in Cartesian Coordinates, Mass Weighted Cartesian Coordinates, Normal Coordinates and Normal Modes of Motion; Vibrational Energy, Infra-red and Raman Vibrational Spectra. CO4: will be acquainted with Fermi Resonance, Several Potential Minima and Inversion in Ammonia Molecule, Torsional oscillations, Active and Inactive IR and Raman Fundamentals, Functional Group Analysis.
Paper-IV (d) Electronic Spectra of Diatomic Molecule	<b>CO1:</b>
Practicals-III Project Thesis/Dissertation	CO1: will be able to prepare Thesis/Dissertation.
Paper-V Device designing	CO1: will acquire practical Skill of Device Designing
Paper-VI MATLAB Programming for Numerical Methods	CO1: Will be aware of the basics of MATLAB Programming for Numerical Methods.

## B.Sc. [Mathematics]

<b>Programme Outcome (POs)</b>	
<b>PO1</b>	Scientific temper will be developed in Students.
<b>PO2</b>	Students will acquire basic Practical skills & Technical knowledge along with domain knowledge of different subjects in the science stream.
<b>PO3</b>	Students will become employable; they will be eligible for career

	opportunities in Industry, or will be able to opt for entrepreneurship.
<b>PO4</b>	Students will be aware of and able to develop solution oriented approach towards various Social and Environmental issues.
<b>Programme Specific Outcome (PSOs)</b>	
<b>PSO1</b>	A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences.
<b>PSO2</b>	Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.
<b>PSO3</b>	A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations , terminology.

### **Course Outcome-B.Sc.[Mathematics] Semester-I**

<b>Paper-I</b> (Algebra)	<b>CO.1</b> will understand Sets and Relations, Order Relation, Equivalence Relations, functions (maps), injective and surjective functions, Direct and inverse images of subsets under functions, Binary Operation on a set.
	<b>CO.2</b> Will be aware of Number system, Natural number, Integers, Division Process in $\mathbb{Z}$ , Division Algorithm, Euclidean Algorithm, Fundamental theorem of arithmetic, Fermat's and Wilson's Theorems.
	<b>CO.3</b> Will understand Congruence's and residue classes, Rational Numbers, Real Numbers, Axioms of Real Numbers, Archimedean Property, Density Property and Complex Numbers.
	<b>CO.4</b> Will understand Complex Numbers, Relations between the roots and coefficients of a general polynomial equation in one variable, Transformation of equations, Descartes' rule of signs.
	<b>CO.5</b> Will understand Solution of Cubic equations (Cardan's Method), Solution of biquadratic equations.
<b>Paper-II</b> (Calculus)	<b>CO.1</b> will understand the basic concepts of Calculus such as Functions of one variable, Limit and Continuity, Properties of Continuous Functions, Local boundedness and local preservation of sign.
	<b>CO. 2</b> will understand Boundedness and intermediate value properties of continuous functions over closed intervals, Differentiability, Algebra of differentiable functions.
	<b>CO. 3</b> will understand Interior extremum Theorem, Rolle's theorem, Lagrange's and Cauchy's mean- value theorems, Indeterminate forms.
	<b>CO.4</b> will understand Successive differentiation, Leibnitz theorem, Maclaurin and Taylor series expansions, Tangents and normals, Asymptotes.

	<p><b>CO.5</b> will understand Local maximum and minimum points, Critical points for absolute maximum and minimum over closed intervals, Curvature, tracing of curves in Cartesian and polar coordinates.</p>
<b>Paper-III</b> (Analytical Geometry)	<b>CO.1</b> will be aware of Polar Coordinates, Distance between two given points, Polar equations of straight lines and circles.
	<b>CO.2</b> will understand Polar equation of a conic, directrix, tangents and normal, Polar of a point with respect to a conic, Asymptotes.
	<b>CO.3</b> will be aware of the concept of Orthogonal Cartesian coordinates of a point on space, Projections and direction cosines, Equation of plane in different forms, Plane bisecting angles between two given planes, Pairs of planes, Symmetrical and non-symmetrical forms of a straight line, shortest distance between two skew lines, coplanar lines.
	<b>CO.4</b> Will be acquainted Pairs of planes, Symmetrical and non-symmetrical forms of a straight line, shortest distance between two skew lines, coplanar lines.
	<b>CO.5</b> Will be aware of Equation of a sphere, plane section of a sphere and intersection of two spheres, spheres passing through a circle, tangent plane.
<b>Paper-IV</b> (Viva)	<b>CO.1</b> will be able to express the Concepts of Algebra, Calculus and Analytical Geometry Orally.

### Semester-II

<b>Paper-I</b> (Algebra)	<b>CO.1</b> will be aware of Definition of a Group with examples and simple properties, Subgroups, Cyclic groups, Coset decomposition, Lagrange's Theorem, and its consequences, Fermat's and Euler's theorems.
	<b>CO.2</b> will understand Homomorphism and isomorphism, Rings and Polynomial Rings and related theorems.
	<b>CO.3</b> Will be aware of Permutation Groups, cycle decomposition, Even and odd permutations, the alternative group $A_n$ , Cayley's theorem.
	<b>CO.4</b> Will be aware of Rings, Subrings, Ideals and quotient rings, Ring homomorphism, Integral domains and fields, Field of quotient of an Integral domain.
	<b>CO.5</b> Will be aware of Polynomial Rings over a Field,

	Division and Euclidean algorithms for Polynomials, Remainder & Factor Theorems.
<b>Paper-II</b> (Calculus)	<b>CO.1</b> will be acquainted with the concept of Functions of several variables, limits and continuity, Partial and total differentiation, Change of variables, Jacobian determinant, Homogeneous function and polynomial Euler's theorem on homogeneous functions, Integration of irrational algebraic functions and transcendental functions, Reduction formulae.
	<b>CO.2</b> will understand definite integrals, Elementary ideas of improper integrals, Beta and Gamma functions.
	<b>CO.3</b> Will be aware of Quadrature, Rectification, volumes and surfaces of solids of revolution, Double and triple integrals. Change of order of integration in double integrals.
	<b>CO.4</b> Will be aware of Definite integrals, Elementary ideas of improper integrals, Beta and Gamma functions.
	<b>CO.5</b> Will be aware of Definite integrals, Elementary ideas of improper integrals, Beta and Gamma functions.
<b>Paper-III</b> (Analytical Geometry)	<b>CO.1</b> will be aware of the concept and application of Plane of contact polar lines, angle of intersection of two spheres, power of a point, radical plane, line and center, co-axial system of spheres.
	<b>CO.2</b> will be acquainted with concept and application of Cone and cylinders with a given base, Intersection of a cone and a plane passing through the vertex of the cone, Tangent lines and planes.
	<b>CO.3</b> will have the knowledge of concept and applications of Reciprocal cones, right circular cones and cylinders, Central Conicoids.
	<b>CO.4</b> Will be aware of Director sphere, polar planes and polar lines of conicoids, enveloping cones and cylinders of central conicoids.
	<b>CO.5</b> Will be aware of Section of conicoids with a given centre, diametral planes, normals, conjugate diameters of an ellipsoid.
<b>Paper-IV</b> (Viva)	<b>CO.1</b> will be able to express the Concepts of Algebra, Calculus and Analytical Geometry Orally.

### Semester-III

<b>Paper-I</b> Linear (Algebra)	<b>CO.1</b> Will be aware of the concepts and applications of Vector Spaces, Definition, Properties and examples, Linear combination of vectors, linear sum and direct sum of subspaces.
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	<p><b>CO.2</b> Will be aware of the concepts and applications of Linear span of subsets, linear independence of subsets, Definition of a basis, Invariance of basis number, Dimension, Dimension of linear sum of subspaces, Quotient spaces, Dimension of quotient space.</p>
	<p><b>CO.3</b> Will be aware of the concepts and applications of Linear Transformations, Definition, Properties and examples, Algebra of linear transformations.</p>
	<p><b>CO.4</b> Non singular linear maps, Fundamental theorems of vector space homomorphism, First and second Isomorphism Theorem.  <b>CO.5</b> Will be aware of the concepts and applications of Rank of a linear transformation, Rank-nullity Theorem, Equivalence of one-one and onto linear transformation from <math>V</math> to <math>V</math>, Dual space and dual bases, Transpose of a linear transformation.</p>
<b>Paper-II</b> (Differential Equations)	<p><b>CO.1</b> will be acquainted with the concept and applications of Ordinary Differential Equations, , Linear equations and equations reducible to the linear form, Exact differential equations, Integrating factors.</p>
	<p><b>CO.2</b> will be acquainted with the concept and applications of First order higher degree equations, Equations solvable for <math>x</math>, <math>y</math> and <math>p</math>, Clairaut's form and Singular solutions, orthogonal trajectories.</p>
	<p><b>CO.3</b> will understand the applications of Linear differential equations with constant coefficients. Homogeneous linear differential equations and their solutions, Linear independence of solutions, Wronskian of solutions functions and its relationship with linear independence.</p>
	<p><b>CO.4</b> will be acquainted with Non-homogeneous linear differential equations, Method of undetermined coefficients.</p>
	<p><b>CO.5</b> Will be aware of Non-homogeneous linear differential equations, Method of undetermined coefficients.</p>
<b>Paper-III</b> (Mechanics)	<p><b>CO.1</b> will be acquainted with Moment of a force, Couple of Forces, Analytical conditions of equilibrium of coplanar forces.</p>
	<p><b>CO.2</b> will acquire the knowledge of Concept of Virtual work, Principle of virtual work &amp; its applications.</p>
	<p><b>CO.3</b> will understand Common Catenary, intrinsic equation of common Catenary, Cartesian equation.</p>
	<p><b>CO.4</b> Will be aware of Stable and Unstable equilibrium.</p>
	<p><b>CO.5</b> Will be aware of Forces in three dimensions, Line coordinates of a line, Central axis and Wrench, Null line and null plane.</p>

<b>Paper-IV</b> (Viva)	<b>CO.1</b> will be able to express the Concepts of Linear Algebra, Differential Equations and Mechanics Orally.
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### Semester-IV

<b>Paper-I</b> (Linear Algebra)	<b>CO.1</b> will be able to understand and apply the knowledge of Matrices, Matrix representation of a linear transformation. Change of base and its effect on matrix representation.
	<b>CO.2</b> will understand and apply the knowledge of Elementary operations on matrices, Equivalent and similar matrices, Trace of a square matrix and of a linear transformation, Definition and properties of a determinant of a square matrix, Rank of Matrices, Rank- Nullity Theorems, Row and Column rank, Determinantal rank, Equivalence of notions of all the four types of rank
	<b>CO.3</b> will be aware of the Applications of Matrices to a system of Linear equations and related theorems.
	<b>CO.4</b> Will be aware of Applications of Matrices to a system of Linear (Both homogeneous and non- homogeneous) equations, theorems on consistency of a system of linear equations.
	<b>CO.5</b> Will be aware of The characteristic equation of a matrix, Eigenvalues and eigenvectors, Cayley- Hamilton Theorem and its use in finding inverse of a matrix, Diagonalisation of square matrices having distinct Eigenvalues.
<b>Paper-II</b> (Differential Equations)	<b>CO.1</b> will be able to solve linear differential equations of second order with variable coefficients by changing the dependent/independent variable, finding particular solution by the method of variation of parameters, Linear differential equations of arbitrary orders and their solutions, Euler Cauchy equations.
	<b>CO.2</b> will be able to use Inverse operator method for particular solutions of non-homogeneous equations, Coupled linear differential equations of first order with constant coefficients.
	<b>CO.3</b> will be aware of Linearity of Laplace transform, theorems, derivatives and Integrals for Laplace transforms.
	<b>CO.4</b> Will be aware of Linearity of Laplace transform, Existence theorem for Laplace transforms Laplace transforms of derivatives and Integrals, Shifting Theorems.
	<b>CO.5</b> Will be aware of Differentiation and integrations of transforms, Inverse Laplace transform, solution of differential equations using the Laplace transform.

<b>Paper-III</b> (Mechanics)	<b>CO.1</b> will be acquainted with the Concept of velocity, Acceleration, Velocities and accelerations along radial and transverse o directions and along tangential and normal directions.
	<b>CO.2</b> will be aware of Simple Haronic Motion, Elastic string.
	<b>CO.3</b> Will understand and able to apply Motion in a resisting medium, Motion on Smooth and rough plane curves
	<b>CO.4</b> Will be aware of Central orbits, Kepler’s Laws, Inverse Square law.
	<b>CO.5</b> Will be aware of Motion of a particle in three directions, Accelerations in terms of different coordinate system.
<b>Paper-IV</b> (Viva)	<b>CO.1</b> will be able to express the Concepts of Linear Algebra, Differential Equations and Mechanics Orally.

### Semester-V

<b>Paper-I</b> (Analysis)	<b>CO.1</b> will inderstand and and able to apply the Real sequences and their algebra, Limit of a sequence, Convergent, monotonic bounded and Cauchy’s Sequences, Cauchy’s general Principal of convergence, Convergence of Infinite series of positive terms. Cauchy’s criterion, comparison test, Cauchy’s nth root test.
	<b>CO.2</b> Will be aware of various test , Limit and continuity of functions of several variables, Repeated limits, Partial derivatives, Differentiability for functions of several variables, Mean value Theorem Taylor’s theorem. , Jacobians, Maxima, Minima and saddle points of functions of two and three variables. Lagranges Multiplier method and Differentiation of vector valued functions, Gradient, Divergence and curl, vector identities.
	<b>CO.3</b> Will be aware of Limit and continuity of functions of several variables, Repeated limits, Partial derivatives, Differentiability for functions of several variables, Mean value Theorem Taylor’s theorem.
	<b>CO.4</b> Will be aware of Jacobians, Maxima, Minima and saddle points of functions of two and three variables. Lagranges Multiplier method.
	<b>CO.5</b> Will be aware of Differentiation of vector valued functions, Gradient, Divergence and curl, vector identities.

<b>Paper-II</b> (Numerical Methods)	<b>CO.1</b> will be aware of the Importance of numerical methods, floating point representation, rounding off rules.
	<b>CO.2</b> will understand the concept of Interpolation and related formula, Cubic spline interpolation, Clamped and natural splines
	<b>CO.3</b> Will be aware of Interpolation, Forward, Backward and Central differences, Calculus of finite differences, Gregory-Newton Forward and Backward interpolations formulas.
	<b>CO.4</b> Will be aware of Lagrange's and Newton's divided difference interpolation formula inverse interpolation, Formulas based on Central differences, Gauss, Stirlings, Bessel's and Evertt's interpolation formula.
	<b>CO.5</b> Will be aware of Cubic spline interpolation, Clamped and natural splines.
<b>Paper-III</b> (Complex Analysis)	<b>CO.1</b> will understand and able to apply the Continuity and differentiability of functions of a complex variable. Analytic functions, Cauchy-Riemann equations, Harmonic functions.
	<b>CO.2</b> Will be acquainted with Power series, Circle and radius of convergence, term by term differentiation, Power series representation of an analytic function, Standard exponential, trigonometric functions, logarithmic function of a complex variable, General power.
	<b>CO.3</b> Will be aware of Line integrals in the Complex plane, Cauchy's Integral theorem, Cauchy's integral formula, Successive derivatives, Taylor's series.
	<b>CO.4</b> Will be aware of Laurent's series, Liouville's theorem, Morera's theorem Zeros and singularities, Rouché's theorem.
	<b>CO.5</b> Will be aware of Poles of analytic function, Residues, Cauchy's residue theorem, contour integration.
<b>Paper-IV</b> (a)Fluid Mechanics	<b>CO.1</b> will be aware of Equation of Continuity in Fluid motion, Equation of Continuity in Cartesian Coordinates.
	<b>CO.2</b> will be aware of Equation of Continuity in Lagrangian form, Equation of Continuity in Cylindrical and Spherical coordinates.

	<p><b>CO.3</b> will be aware of Stream Line, Path Line and their equations, Velocity potential, Vorticity vector.</p>
	<p><b>CO.4</b> will be aware of Boundary surfaces of fluid particles, Euler's Equations of motion for perfect fluids.</p>
	<p><b>CO.5</b> will be aware of Bernoulli's Equation, Impulsive motion and its Equation.</p>
<p><b>Paper-IV(b)</b>Operation Research,</p>	<p><b>CO.1</b> Will be aware of Linear programming, Linear programming problem (LPP), Two- variable LP. Procedure of solving two- variable LPP by Graphical method, Some Important Definitions related to General LPP.</p>
	<p><b>CO.2</b> Will be aware of Canonical and standard forms of LPP, Slack and surplus variables, Basic solutions of LPP, Solutions of General LPP, Simplex method Big- M Method, Two Phase method.</p>
	<p><b>CO.3</b> Will be aware of Degeneracy in simplex methods, Solutions of simultaneous Linear equations using Simplex method, Duality concept in LPP, Formulation of Dual Problem, Duality Principle.</p>
	<p><b>CO.4</b> Will be aware of Duality and Simplex Method. Important Results of Duality, Economic Interpretation of Duality and Duality theorems, Dual- Simplex Method, Limitations of Linear Programming.</p>
	<p><b>CO.5</b> Will be aware of Transportation and Assignment problems, Mathematical formulation of Transportation Problem, Balanced and unbalanced transportation problems, Solution of Transportation problem, Transportation table.</p>
<p><b>Paper-IV (c)</b>Discrete Mathematics</p>	<p><b>CO.1</b> Will be aware of Mathematical Logic Statements, Truth value of a statement, Logical connectives, Conjunction, Disjunction and Negation operations, Conditional and Biconditional join, Propositional functions, Tautologies and contradictions, Law of duality, Quantifiers.</p>
	<p><b>CO.2</b> Will be aware of Mathematical Logic Statements, Truth value of a statement, Logical connectives, Conjunction, Disjunction and Negation operations, Conditional and Biconditional join, Propositional functions, Tautologies and contradictions, Law of duality, Quantifiers.</p>

	<b>CO.3</b> Will be aware of Partially ordered set, Hasse Diagrams, Minimal and Maximal element in a poset, least and greatest element, Upper bounds and least upper bound, Lower bounds and greatest lower bound, Isomorphic posets.
	<b>CO.4</b> Will be aware of Lattices, properties of lattices, Lattice as an Algebraic system, sub- lattices Isomorphic lattices, Bounded lattices, complete Lattices, complemented Lattices.
	<b>CO.5</b> Will be aware of Boolean algebra, Principle of Duality, Switching Circuits, Logic Circuits OR Gate, AND gate, Logic Networks.
<b>Paper-V</b> (Viva)	<b>CO.1</b> will be able to express the Concepts Orally.

### Semester-VI

<b>Paper-I</b> Analysis	<b>CO.1</b> will be aware of Riemann's Theory of integration of bounded functions over closed intervals and its applications.
	<b>CO.2</b> will be acquainted with the concept of Integration over two and three dimensional spaces, Line integrals, Green's Theorem in a plane, Surface integrals, Gauss' and Stokes' Theorems.
	<b>CO.3</b> will understand and able to apply Improper Integrals of first and second kinds and their convergence, Comparison tests, $\mu$ -test, Abel's and Dirichlet's tests.
	<b>CO.4</b> Will be ware of definition and examples of metric spaces, Open and closed spheres, Open and closed sets, Interior boundary and exterior points.
	<b>CO.5</b> Will be aware of the concept of Limits of subsets, Closure and interior of a set, Continuity of maps between metric spaces and their characterization
<b>Paper-II</b> Numerical Methods	<b>CO.1</b> will understand Numerical differentiation and Integration : Formulas for differentiation based on Lagrange's and on Gregory Newton's interpolation, quadrature formula Trapezoidal and Simpson's One- Third and three- eighth rules.
	<b>CO.2</b> will be aware of Numerical Methods for O. D. E.'s First order equations, incremental methods, Euler's, Taylor series and Improved Euler methods, RungeKutta method.

	<p><b>CO.3</b> Will be acquainted with Multistep methods, Predictor corrector pairs, Adam's- Bash forth, Adam's- Moulton and Milne Formulas, Second Order Equations, Taylor Series method.</p>
	<p><b>CO.4</b> Will be aware of Numerical Linear Algebra, Gauss Elimination, Gauss Jordan method, LU decomposition, Cholesky's Method, Diagonally dominant matrices, Gauss Jacobi and Gauss Seidel iteration formulas.</p>
	<p><b>CO.5</b> Will be aware of Least square approximation, Estimation of Eigen values Determination of elgenvalues and eigenvectors by iteration, Gerschgorin Theorem for positions of eigenvalues.</p>
<b>Paper-III</b> Tensor Calculus	<p><b>CO.1</b>will have the knowledge of Transformation of coordinates, Contravariant and covariant vectors, Scalar, invariants, Scalar product of two vectors.</p>
	<p><b>CO.2</b> Will be able to understand Tensors of any order, symmetric and skew- symmetric tensors, Addition and multiplication of tensors, contraction composition and quotient law.</p>
	<p><b>CO.3</b>will be aware of Fundamental and Curvature tensor, Ricci tensor, curvature tensor identities.</p>
	<p><b>CO.4</b> Will be aware of Christoffel symbols, Covariant derivatives of covariant and contravariant vectors, Covariant differentiation of tensors.</p>
	<p><b>CO.5</b> Will be aware of Curvature tensor, Ricci tensor, curvature tensor identities.</p>
<b>Paper-IV</b> (a)Fluid Mechanics	<p><b>CO.1</b> will be acquainted with Two dimensional fluid motion, Stream function, Cauchy Riemann Equations, Complex potential.</p>
	<p><b>CO.2</b> Will understand Concept of source and sink, Strength of source and sink, Velocity potential due to a source and sink.</p>
	<p><b>CO.3</b> Will understand Doublet, Complex potential due to doublet, Image system</p>
	<p><b>CO.4</b> Will understand Motions of Sphere in perfect Fluid and motion of Liquid past a sphere.</p>
	<p><b>CO.5</b> Will understand Navier-Stokes equations for viscous flows-some</p>

	exact solutions.
<b>Paper-IV</b> (b)Operation Research	<b>CO.1</b> Will be aware of Initial Basic Feasible solution, Methods of Finding Initial basic Feasible Solution, Optimality test, Modified Distribution (MOD) Method, Degeneracy of transportation problems.
	<b>CO.2</b> Will be aware of Maximization Transportation Problem, Trans-shipment Problem, Game theory characteristics of Game theory, Basic Definitions, Competitive Games, Zero- Sum and Non- Zero Sum Games.
	<b>CO.3</b> Will be able to understand the Two person zerosum games, Minimax- Maximin Criterion, Saddle Point, Solution of rectangular Games with and without Saddle Points, Minimax-Maximin Principal Dominance Property.
	<b>CO.4</b> Will be aware of Graphical Method for $2 \times n$ and $m \times 2$ games without Saddle point, Applications and Limitations of Game theory, Network analysis, Basic Concepts, Construction of Network diagram analysis of Network diagram.
	<b>CO.5</b> Will be aware of Critical path method, Object of CPM. Labeling method, Method based on time estimates, Slack and Float, percalculation requirements for the application of CPM and PERT.
<b>Paper-IV</b> (c)Discrete Mathematics	<b>CO.1</b> Will be aware of Discrete numeric functions Sum and Product of two discrete numeric functions, Generating functions, Recurrence relations.
	<b>CO.2</b> Will be aware of Linear Recurrence relations with constant coefficients, Homogeneous Solution, Particular solutions, Solutions by Method of Generating function.
	<b>CO.3</b> Will be aware of Graphs, Directed Graphs, In degree and Out degree of a vertex, Even and Odd vertex, Adjacent vertices, Walk, Trail, Path, Length of a Path Circuits.
	<b>CO.4</b> Will be aware of Subgraph, Spanning subgraph, Operations on graphs, Complement of a subgraph, Connected and disconnected circuit graph, Isomorphic Graph, Regular

	Graph, Bipartite Graph, Matrix representation of a Graph, Adjacency matrix.
	<b>CO.5</b> Will be aware of Euler Graph, Properties of Eulerian Graph (Without Proof), Hamiltonian Graph, Weighted Graph, Trees, Distance and centers in a tree, Eccentricity of a vertex, radius and diameter.
<b>Paper-V</b> (Viva)	<b>CO.1</b> will be able to express the Concepts Orally.

### **M.Sc.[Mathematics]**

<b>Programme Outcome (POs)</b>	
<b>PO1</b>	This programme also offers training in problem solving skills.
<b>PO2</b>	The student will be able to develop logical reasoning techniques and Techniques for analyzing the situation.
<b>PO3</b>	The students shall appreciate the necessity of various Algebraic structures with binary operations such as Group, Ring.
<b>Programme Specific Outcome (PSOs)</b>	
<b>PSO1</b>	The student shall get an insight in the behavior of curves defined on a closed and bounded interval and some important properties of continuous, monotonic, and differentiable functions.
<b>PSO2</b>	To develop logical, analytical and Mathematical thinking power in the minds of students in order to cater the Mathematical needs of the society.
<b>PSO3</b>	The student will learn concepts like finite state machine, Boolean algebra.

### **Course Outcome-M.Sc.[Mathematics] Semester-I**

<b>Paper-I</b> (Abstract Algebra)	<b>CO.1</b> Will be aware of Isomorphism theorems for groups, Symmetric groups, Alternating groups, Dihedral groups, Matrix groups, Internal and External direct product and their relationship.
	<b>CO.2</b> Will be aware of subnormal and normal series, Zassenhaus' lemma (statement only), Schreier's refinement theorem, Composition series, Jordan-Hölder's theorem, Chain conditions.
	<b>CO.3</b> Will be aware of action of a group $G$ on a set, Stabilizer subgroups and orbit decomposition, Class equation of an action, Transitive and effective actions, Equivalence of actions.
	<b>CO.4</b> Will be aware of Sylow subgroups, Sylow's Theorem I, II and III, $p$ -groups, Examples and applications, Groups of order $pq$ ,

	<p>commutator subgroup and commutator series of a group, Solvable groups, Solvability of subgroups and factor groups and of finite p-groups, Examples.</p>
	<p><b>CO.5</b> Will be aware of Factorization theory in commutative domains, Prime and irreducible elements, G.C.D., Euclidean domains, Maximal and prime ideals, Principal ideal domains, Divisor chain condition, Unique factorization domains, Examples and counter examples, Chinese remainder theorem for rings and PID's, Polynomial rings over domains.</p>
<b>Paper-II</b> (Complex Analysis)	<p><b>CO.1</b> Will be aware of Review of algebra and geometry of <math>\mathbb{C}</math>. Stereographic correspondence, complex differentiable functions, analytic functions, Cauchy-Riemann equations, necessary and Sufficient conditions for analyticity, power series and its radius of convergence, analytic function represented by power series, complex exponential, trigonometric and hyperbolic functions, conjugate functions, construction of analytic functions.</p>
	<p><b>CO.2</b> Will be aware of Complex line Integral over a piecewise smooth paths and its elementary properties, length of a curve, necessary and sufficient condition for independent of the line integral, Cauchy-Goursat theorem (statement only), Cauchy integral formula for derivatives.</p>
	<p><b>CO.3</b> Will be aware of Morera's theorem, Cauchy's estimate, Liouville's theorem, zeros of an analytic function, Cauchy's theorem for simply connected domains, Taylor series, isolated singularities (removable singularities, poles. and isolated essential singularities), Laurent series expansion theorem.</p>
	<p><b>CO.4</b> Will be aware of Open mapping theorem (Statement only), Maximum modulus theorem, Residue and singularity, residue at infinity, Cauchy theorem for residue, meromorphic function, argument principle, Rouché's theorem, Evaluation of Contour integrals.</p>
	<p><b>CO.5</b> Will be aware of Schwarz lemma, Mobius transformations, fixed points of a Mobius transformation, cross ratio and its invariance under Mobius transformation.</p>
<b>Paper-III</b> (Ordinary Differential Equations)	<p><b>CO.1</b> Will be aware of Picard's method of Successive Approximations, Lipschitz' conditions, Existence and Uniqueness Theorems of Picard, p-discriminants and c-discriminants, Singular solutions.</p>
	<p><b>CO.2</b> Will be aware of Linear differential equations of arbitrary order, Wronskians, Abel Formula, Linearly independent solutions.</p>

	<p><b>CO.3</b> Will be aware of Power series method for solution of general linear equations for higher order, Legendre equations, Orthogonality relations for Legendre polynomials, Rodrigues' formula, Recurrence relations, Bessel's equation, Bessel functions' of I and II kind, Recurrence Relations.</p>
	<p><b>CO.4</b> Will be aware of Laplace transforms, Existence criteria, Properties. Transforms of standard functions, Transforms of derivatives and integrals.</p>
	<p><b>CO.5</b> Will be aware of Inverse Laplace transforms, Existence and uniqueness criteria, Exponential shift, Applications to initial value problems.</p>
<p><b>Paper-IV</b> (a) Fluid Dynamics</p>	<p><b>CO.1</b> will be aware of Kinematics-Lagrangian and Eulerian methods, Equation of continuity, Boundary surface, Stream lines, Path lines, Velocity potential, Irrotational and rotational motion, Vortex lines.</p>
	<p><b>CO.2</b> will be aware of Lagrange's and Euler's equation of motion, Bernoulli's theorem, Equation of motion by flux method, Impulsive action, Equation referred to moving axes.</p>
	<p><b>CO.3</b> will be aware of Motion in two dimension, Complex velocity potential, Source, sinks, doublets and their images, Milne-Thomson circle theorem, Two-dimensional motion produced by motion of circular, co-axial and elliptic cylinder in an infinitemass of liquid. Kinetic energy of liquid.</p>
	<p><b>CO.4</b> will be aware of Blasius Theorem, Motion of a sphere through a liquid rest at infinity, Liquid streaming past a fixed sphere, Equation of motion of sphere, Vortex motion and its elementary properties, Motion due to circular and rectilinear vortices, Wave motion of a gas.</p>
	<p><b>CO.5</b> will be aware of Speed of sound, Equation of motion of gas, Subsonic, sonic and supersonic flows of a gas, Stress component in a real fluid, Relation between rectangular components of stress, Connection between stresses and gradient velocity, Navier-Stoke's equation of motion.</p>
<p><b>Paper-IV</b> (b) Probability Theory</p>	<p><b>CO.1</b> will be aware of Random Experiment and Probability Measure Random experiments, sample space, events, algebra of events, axiomatic definition of probability, probability spaces, relationship of axiomatic and classical probability, role of frequency ratios, probability of union of events, conditional probability and associated probability</p>

	space, Bayes theorem, independence of events.
	<b>CO.2</b> will be aware of Random Variable and Random Vector Random variables as functions, induced probability measure via inverse mapping, induced probability distribution, distribution functions, distribution functions and their properties, probability mass function (pmf) of discrete random variables, probability density function (pdf) of continuous random variables.
	<b>CO.3</b> will be aware of Mathematical Expectation and Functions of Random Variables, moments, factorial moments, moment generating function, probability generating function, Expectation of jointly distributed random variables.
	<b>CO.4</b> will be aware of Statistical Distributions: Bernoulli distribution, binomial distribution, Poisson distribution, derivation of Poisson distribution as a limiting case of binomial distribution, negative binomial distribution.
	<b>CO.5</b> will be aware of Normal distribution and its relationship with the binomial and Poisson distribution, Cauchy distribution, bivariate normal distribution and its marginal and conditional distributions.
<b>Paper-IV</b> (c) Classical Mechanics	<b>CO.1</b> Will be aware of System of Particles –Energy and Momentum methods. Use of Centroid, Motion of a Rigid Body- Euler’s Theorem, Angular momentum and kinetic energy.
	<b>CO.2</b> Will be aware of Euler’s equation of motion of rigid body with one point fixed, Eulerian angles, motion of a symmetrical top.
	<b>CO.3</b> Will be aware of Generalized coordinates, Velocities and momenta, Holonomic and nonholonomic systems, D’ Alembert’s Principle, Lagrange’s equations of motion, Conservative forces.
	<b>CO.4</b> Will be aware of Lagrange’s equations for impulsive forces, Theory of small Oscillations of conservative holonomic dynamical system, Hamilton’s equations of motion.
	<b>CO.5</b> Will be aware of Variational Principle and Principle of Least Action, Contact transformations, Poisson’s Brackets, Hamilton Jacobi equation.
<b>Paper-V</b> (Discrete	<b>CO.1</b> will be aware of Partially ordered sets and lattices, Lattice as an algebraic system, sublattices, Isomorphism of lattices, Distributive and modular

Mathematics)	lattices. Lattices as intervals, Similar and projective intervals.
	<b>CO.2</b> will be aware of Fundamental dimensionality relation for modular lattices, Decomposition theory for lattices with ascending chain conditions, i.e. reducible and irreducible elements. Independent elements in lattices.
	<b>CO.3</b> will be aware of Boolean algebras, Conversion of a Boolean algebra into a Boolean ring with unity and vice-versa, Direct product of Boolean algebras, Uniqueness of finite Boolean algebras, Boolean functions and Boolean expressions.
	<b>CO.4</b> will be aware of Graphs, Konisberg seven bridges problem, Finite and infinite graphs, Incidence vertex, Degree of a vertex. Isolated and pendant vertices, Null graphs. Isomorphism of graphs, Subgraphs, walks, Connected and disconnected graphs, Components of a graph, Euler graphs.
	<b>CO.5</b> will be aware of Hamiltonian and circuits, The traveling salesman problem, Trees and their properties, Pendant vertices in a tree. Rooted and binary tree, Spanning tree and fundamental circuits.
<b>Paper-VI</b> (X-Ray Mathematical Statistics)	<b>CO.1</b> Will be aware of Types of data: Concepts of a statistical population and sample from a population, qualitative and quantitative data; nominal and ordinal data; cross-sectional and time series data; discrete and continuous data; frequency and non-frequency data.
	<b>CO.2</b> Will be aware of Presentation of Data: Construction of tables with one or more factors of classification. Diagrammatic and graphical representation of grouped data. Frequency distributions, cumulative frequency distributions and their graphical representation.
	<b>CO.3</b> Will be aware of Analysis of Quantitative Data: Univariate data- Concepts of central tendency or location, dispersion and relative dispersion, skewness and kurtosis, and their measures including those based on quantiles and moments. Sheppard's correction for grouped data (without derivation).
	<b>CO.4</b> Will be aware of Bivariate Data: Scatter diagram. Product moment correlation coefficient and its properties. Coefficient of determination. Concepts of error in regression, linear Regression and related results, Correlation ratio, Rank correlation- Spearman's and Kendall's measures. Intra class correlation.
	<b>CO.5</b> Will be aware of Multivariate Data Multiple regression, multiple correlation and partial correlation in three variables.

## Semester-II

<b>Paper-I</b> (Differential Geometry)	<b>CO.1</b> Will be aware of Curves in space $R^3$ , parameterized curves, regular curves, helices, arc length, reparametrization (by arc length), tangent, principal normal, binormal, osculating plane, normal plane, rectifying plane, curvature and torsion of smooth curves, Frenet-Serret formulae, Frenet approximation of a space curve.
	<b>CO.2</b> Will be aware of Osculating circle, osculating sphere, spherical indicatrices, involutes and evolutes, intrinsic equations of space curves, isometries of $R^3$ , fundamental theorem of space curves, surfaces in $R^3$ , regular surfaces, co-ordinate neighborhoods.
	<b>CO.3</b> Will be aware of Normal fields and orientability of surfaces, angle between two intersecting curves on a surface, Gauss map and its properties, Weingarten map, second and third fundamental forms, classification of points on a surface.
	<b>CO.4</b> Will be aware of Curvature of curves on surfaces, normal curvature, Meusnier theorem, principal curvatures, geometric interpretation of principal curvatures, Euler theorem, mean curvature, lines of curvature, umbilical points, minimal surfaces, definition and examples, Gaussian curvature, intrinsic formulae for the Gaussian curvature.
	<b>CO.5</b> Will be aware of Christoffel symbols, Gauss formulae, Weingarten formulae, Gauss equations, Codazzi-Mainardi equations, curvature tensor, geodesics, geodesics on a surface of evolution, geodesic curvature of a curve.
<b>Paper-II</b> (Partial Differential Equations)	<b>CO.1</b> will be aware of Formation of P.D.E.'s, first order P.D.E.'s, Classification of first order P.D.E.'s, Complete, general and singular integrals, Lagrange's or quasi-linear equations.
	<b>CO.2</b> will be aware of Integral surfaces through a given curve, Orthogonal surfaces to a given system of surfaces, Characteristic curves.
	<b>CO.3</b> will be aware of Pfaffian differential equations, Compatible systems, Charpit's method, Jacobi's Method.
	<b>CO.4</b> will be aware of Linear equations with constant coefficients, Reduction to canonical forms, Classification of second order P.D.E.'s.
	<b>CO.5</b> will be aware of Method of separation of variables:- Laplace, Diffusion and Wave equations in Cartesian, cylindrical and spherical

	polar coordinates, Boundaryvalue problems for transverse vibrations of strings and heat diffusion in a finite rod, Classification of linear integral equations, Relation between differential and integral equations.
<b>Paper-III</b> (Topology)	<b>CO.1</b> will be able to understand Definition and examples of topological spaces (including metric spaces). Open and closed sets, Subspaces and relative topology. Closure and interior, Accumulation points and derived sets, Dense sets Neighborhoods, Boundary,Bases and sub-bases. Homeomorphism, First and second countability and separable space, Lindelof space.
	<b>CO.2</b> will be able to understand The separation axioms $T_0$ , $T_1$ , $T_2$ $T_3$ , $T_{3(1/2)}$ and $T_4$ , their characterizationsand basic properties, Urysohn's lemma, and Tietze extension theorem.
	<b>CO.3</b> will be able to understand Compactness, Basic properties of compactness the finite intersection property; local compactness, One-point compactification.
	<b>CO.4</b> will be able to understand Connected spaces and their basic properties, Connectedness of the real line, Components, Locally connected spaces.
	<b>CO.5</b> Will be aware of Product topology in terms of the standard sub-base and its characterizations, Product topology and separation axioms, connectedness.countability properties and compactness.
<b>Paper-IV</b> (a)RingTheory	<b>CO.1</b> Will be able to understand the Ring, Homomorphisms of rings, Ideals, factor rings, Endomorphism of rings, idempotent and Nilpotent elements, Matrix rings, Modules and their Lattice, change of rings, Bimodules, Annihilators, Module homomorphisms, factor theorem, Exact sequences, Five lemma, Faithful and balanced module.
	<b>CO.2</b> Will be able to understand the Direct summands, split exact sequences, Large and Small submodules, Direct products, Internal and external Direct sums. Decomposition of rings, idempotent. Semi simple modules, and Jacobson radical Generation andcogeneration, Trace and Rejct, Finite generation and cogeneration.
	<b>CO.3</b> Will be able to understand the Chain conditions, Composition series, Jordan- Holder theorem, fitting's lemma Indecomposable

	decomposition of modules, Azumaya decomposition and Krui Schmidt Theorem.
	<b>CO.4</b> Will be able to understand the Simple Artinian rings, Wedderburn's theorem, Wedderburn-Artin theorem, Jacobson density theorem, Primitive Jacobson radical of rings, Nakayama lemma, Simiprimitive rings, Local Hopkin's theorem, Levitzki's theorem.
	<b>CO.5</b> Will be able to understand the Projective and Injective modules, Homfunctor, Exact Functors, Dualbasis lemma, projective covers, Injective Test lemma (Bear's criterion), injective Envelopes, Direct sum of injectives, Injective cogenerators. Tensor products and functors, flat modules.
<b>Paper-IV</b> (b)Operations Research	<b>CO.1</b> Will be aware of Linear programming, convex sets, hyperplanes and half spaces, vertices of convex set, polyhedron and polytopes, separating and supporting hyperplanes, basic definition and theorem for a general linear programming problems using convex set theory, a simple LPP model and its graphical solution, standard form of general LPP, basic feasible solution, simplex Method and algorithm.
	<b>CO.2</b> Will be aware of Transportation problem, mathematical formulation of a transportation problem, balanced and unbalanced transportation problem, initial basic feasible solution of a transportation problem using North-West corner rule, least cost method and vogel's approximation method (VAM), optimum solution of transportation problem using u-v method.
	<b>CO.3</b> Will be aware of Assignment problem, mathematical formulation, Hungarian method for solving assignment problems, sales man routing problems.
	<b>CO.4</b> Will be aware of Sequencing problem, problem with n-jobs and 2-machines, problems with n-jobs more than 2-machines (Johnson's method).
	<b>CO.5</b> Will be aware of Network analysis, construction of network, time calculation in network by CPM and PERT method, critical activity and slack time.
<b>Paper-IV</b> (c)Fields and Galois Theory	<b>CO.1</b> will understand the concept of Eisenstein's irreducibility criterion, Characteristic of a field, Prime subfields, Field extensions, Finite extensions, Simple extensions, Algebraic and transcendental extensions. Factorization of polynomials in extension fields.

	<p><b>CO.2</b> Will be aware of Splitting fields and their uniqueness. Separable field extensions, Perfect fields, Separability over fields of prime characteristic, Transitivity of separability.</p>
	<p><b>CO.3</b> Will be aware of Automorphisms of fields, Dedekind's theorem, Fixed fields, Normal extensions, Splitting fields and normality, normal closures, Galois extensions, Fundamental theorem of Galois theory.</p>
	<p><b>CO.4</b> Will be aware of Primitive element theorem, Finite fields, Existence and uniqueness, Subfields of finite fields, Characterization of cyclic Galois groups of finite extensions of finite fields, fundamental theorem of algebra.</p>
	<p><b>CO.5</b> Will be aware of Cyclotomic extensions and polynomials, Cyclic extensions, Solvability by radicals, Galois' characterization of such solvability, Generic polynomials, Abel-Ruffini theorem, geometrical constructions.</p>
<b>Paper-V</b> (Difference Equations)	<p><b>CO.1</b> Will be aware of Introduction, Difference calculus-The difference operator, Summation, Generating functions and approximate summation.</p>
	<p><b>CO.2</b> Will be aware of Linear Difference equations-First order equations, General results for linear equations, Equations with constant coefficients, Applications, Equations with variable coefficients, Non-linear equations that can be linearized, The Z-transform.</p>
	<p><b>CO.3</b> Will be aware of Stability theory-Initial value problems for linear systems, Stability of linear systems, Stability of non-linear systems, Chaotic Behavior</p>
	<p><b>CO.4</b> Will be aware of the self adjoint second order linear equation, Sturmian theory Green functions, Disconjugacy, Riccati equations, Sturm-Liouville problem, Finite Fourier Analysis.</p>
	<p><b>CO.5</b> Will be aware of Boundary Value problems for non-linear equations, The Lipschitz case, Existence of solutions, Discretization of Partial differential equations.</p>
<b>Paper-VI</b> (Application)	<p><b>CO.1</b> Will be aware of Financial Derivative-An Introduction, Types of Financial Derivative- Forwards and Futures, Option and its kinds, and</p>

of Mathematics in Finance)	SWAPS, The Arbitrage Theorem and Introduction to Portfolio Selection and Capital Market Theory, Static and Continuous, Time Model.
	<b>CO.2</b> Will be aware of Pricing by Arbitrage-A single-Period option Pricing Model, Multi-Period Pricing Model, Bounds on Option Prices, The Ito's Lemma and the Ito's Integral.
	<b>CO.3</b> Will be aware of The Dynamics of Derivative Prices-Stochastic Differential Equations (SDEs)-Major Models of SDEs, Linear Constant Coefficient SDEs, Geometric SDEs, Square Root Process.
	<b>CO.4</b> Will be aware of Mean Reverting Process and Ornstein-Uhlenbeck Process, Martingale Measure and Risk-Neutral Probabilities, Pricing of Binomial Options with equivalent martingale measure.
	<b>CO.5</b> Will be aware of The Black-Scholes Option Pricing Model-using no arbitrage approach, Limiting case of Binomial Option Pricing and Risk-Neutral Probabilities.

### Semester-III

<b>Paper-I</b> (Functional Analysis)	<b>CO.1</b> Will be aware of Normed linear spaces, Quotient spaces, Banach spaces and examples, Bounded linear transformations on normed linear spaces, $B(X, Y)$ as a normed linear space.
	<b>CO.2</b> Will be aware of Open mapping and closed graph theorems, Uniform boundedness principle, Hahn-Banach theorem and its applications, Dual space, Separability, Reflexivity, Weak and weak* convergence of operators, Compact operators and their basic properties.
	<b>CO.3</b> Will be aware of Inner product spaces, Hilbert spaces. Orthogonal sets, Bessel's inequality, complete orthonormal sets and Parseval's identity, Structure of Hilbert spaces.
	<b>CO.4</b> Will be aware of Projection theorem, Riesz representation theorem Riesz-Fischer theorem, Adjoint of an operator on a Hilbert space, Reflexivity of Hilbert spaces.
	<b>CO.5</b> Will be aware of Self-adjoint operators, Positive, projection, normal and unitary operators and their basic properties.
<b>Paper-II</b> (Riemannian)	<b>CO.1</b> Will be aware of Riemannian metrics, Riemannian manifolds, examples, Levi-Civita connection, fundamental theorem of Riemannian geometry, Curvature

an Geometry)	tensors- Riemannian curvature tensor, sectional curvature, Schur's Theorem, Ricci curvature, scalar curvature.
	<b>CO.2</b> Will be aware of Gradient vector fields, divergence of a vector field, Covariant derivative along a curve, parallel transport, length of a curve. Distance function, geodesics.
	<b>CO.3</b> Will be aware of Jacobi fields, Gauss Lemma, complete Riemannian manifolds, Hopf-Rinow Theorem, The theorem of Hadamard, Riemannian immersions, second fundamental form, Gauss equation.
	<b>CO.4</b> Will be aware of Lie derivative, Lie derivatives of scalars, vectors, tensors and linear connections, commutation formula for Lie differential operator and covariant differential operator.
	<b>CO.5</b> Will be aware of Motion, Affine motion, projective motion in a Riemannian space, curvature collineation, conformal and homothetic transformations.
<b>Paper-III</b> (Measure and Integration )	<b>CO.1</b> Will be aware of Countable and uncountable sets, cardinality and cardinal arithmetic, Schroder-Bernstein theorem, the Cantor's ternary set and its properties.
	<b>CO.2</b> Will be aware of Semi-algebras, algebras, monotone class, $\sigma$ -algebras, measure and outer measure, Caratheodory extension process of extending a measure on a semi- algebra to generate $\sigma$ -algebra, completion of a measure space.
	<b>CO.3</b> Will be aware of Borel sets, Lebesague outer measure and Lebesgue measure on R, translation invariance of Lebesgue measure , existence of a non measurable set, characterization of Lebesgue measurable sets, the Cantor- Lebesgue function.
	<b>CO.4</b> Will be aware of Measurable functions on a measure space and their properties, Borel and Lebesgue measurable function, simple functions and their integrals, Littlewood's three principle(statement only) Lebesgue integral on R and its properties.
	<b>CO.5</b> Will be aware of Bounded convergence theorem, Fatou's lemma, Lebesgue monotone convergence theorem, Lebesgue dominated convergence theorem, Minkowski;s and Holder;s inequalities.
<b>Paper-IV</b> (a)Theory of Relativity	<b>CO.1</b> Will be aware of The special theory of relativity: inertial frames of reference: postulates of the special theory of relativity; Lorentz transformations; length contraction, time dilation; variation of mass; composition of velocities; relativistic mechanics; world events, word regions and light cone; Minkowski space-time.
	<b>CO.2</b> Will be aware of Energy-momentum tensors: the action principle; the electromagnetictheory; energy-momentum tensors (general); energy-momentum tensors (special cases); conservation laws.

	<p><b>CO.3</b> Will be aware of General Theory of Relativity: introduction; principle of covariance; principle of equivalence; derivation of Einstein's equation; Newtonian approximation of Einstein's equations.</p>
	<p><b>CO.4</b> Will be aware of Solution of Einstein's equation and tests of general relativity: Schwarzschild solution; particle and photon orbits in S. Schwarzschild space-time gravitational red shift; planetary motion; bending of light; radar echo delay.</p>
	<p><b>CO.5</b> Will be aware of Brans-Dicke theory: scalar tensor theory and higher derivative gravity; Kaluzaklein theory.</p>
<p><b>Paper-IV</b> (b) Wavelet Analysis</p>	<p><b>CO.1</b> Will be aware of the discrete Fourier transform and the inverse discrete Fourier transform, their basic properties and computations, The fast Fourier transform, The discrete cosine transform and the fast cosine transform.</p>
	<p><b>CO.2</b> Will be aware of Construction of wavelets on <math>\mathbf{Z}_N</math>, First stage and by iteration, The Haar system, Shannon wavelets, Daubechies <math>D</math> wavelets on <math>\mathbf{Z}</math>, Description of <math>l^2(\mathbf{Z})</math>, <math>L^2[-\pi, \pi)</math>, <math>L^2(\mathbf{R})</math>, their orthonormal bases, Fourier transform and convolution on <math>l^2(\mathbf{Z})</math>, wavelets on <math>\mathbf{Z}</math> Haar wavelets on <math>\mathbf{Z}</math>.</p>
	<p><b>CO.3</b> Will be aware of Orthonormal bases generated by a single function in <math>L^2(\mathbf{R})</math>, Fourier transform and inverse Fourier transform of a function <math>f</math> in <math>L^1(\mathbf{R}) \cap L^2(\mathbf{R})</math>, Parseval's relation, Plancherel's formula, Orthonormal wavelets in <math>L^2(\mathbf{R})</math>, Balian-Low theorem.</p>
	<p><b>CO.4</b> Will be aware of Multi-resolution analysis and MRA wavelets, certain function in <math>L^2(\mathbf{R})</math> For which <math>\{\psi_{j,k}\}</math> does not form an orthonormal system, compactly supported wavelets, band-limited wavelets.</p>
	<p><b>CO.5</b> Will be aware of Franklin wavelets on <math>\mathbf{R}</math>, Dimension function, Characterization of MRA Wavelets (Sketch of the proof), Minimally Supported Wavelets, Wavelet Sets, Characterization of two-interval wavelet sets, Shannon wavelet.</p>
<p><b>Paper-IV</b> (c) Algebra</p>	<p><b>CO.1</b> Will be aware of Homotopy of paths, fundamental group of a topological space, fundamental groups, functor, homotopy of maps of topological spaces;</p>

ic Topology	<p>homotopy equivalence; contractible and simply connected spaces.</p> <p><b>CO.2</b> Will be aware of Fundamental group of the circle, Calculation of fundamental groups of <math>S^n</math> (<math>n &gt; 1</math>) <math>RP^2</math>.</p> <p><b>CO.3</b> Will be aware of Covering spaces, unique lifting theorem, path-lifting theorem, covering homotopy theorem, criterion of lifting of maps in terms of fundamental groups, universal covering space.</p> <p><b>CO.4</b> Will be aware of Singular complex of a topological space, singular homology groups and their functoriality, homotopy invariance of homology, Eilenberg-Steenrod axioms (without proof), abelianization of the fundamental group.</p> <p><b>CO.5</b> Will be aware of Calculations of homology of <math>S^n</math> Brouwer's fixed point theorem for <math>f: D^n \rightarrow D^n</math> (<math>n &gt; 2</math>) and its applications to spheres and vector fields, Meyer-Vietoris sequence and its Applications.</p>
<b>Paper-V</b> (Sampling Theory)	<p><b>CO.1</b> Will be aware of Simple random sampling and Stratified sampling Sample surveys versus complete enumeration, Non sampling errors, Simple random sampling with and without replacement, simple random sampling for attributes, Stratified random sampling, advantages of stratification, methods of allocation.</p> <p><b>CO.2</b> Will be aware of Use of auxiliary information, systematic and cluster sampling Use of auxiliary information: Ratio, regression and product method of estimation, Systematic sampling, Cluster sampling with equal clusters.</p> <p><b>CO.3</b> Will be aware of Quality Control Importance of statistical methods in industrial research and practice, specification of items and lot qualities corresponding to visual gauging, count and measurements, types of inspection, determination of tolerance limits.</p> <p><b>CO.4</b> Will be aware of Vital Statistics Crude, death rates, infant mortality rates, standardized death rate, complete and abridge life table – construction and uses, mortality rate and probability of dying, use of survival tables.</p> <p><b>CO.5</b> Will be aware of Measurement of fertility - crude birth rate, general fertility rate, total fertility rate, gross reproduction rate, net reproduction rate, population growth and logistic model for population projection.</p>
<b>Paper-VI</b> (Bio-Mathematics)	<p><b>CO.1</b> Will be aware of Dimensional Analysis in Mathematical Physiology, Budckingham's Theorem, mathematics of diffusion, Fick's Law of diffusion, Diffusion Through a Membrane, Convective Transport.</p>

	<b>CO.2</b> Will be aware of Population Biology: Malthusian Model, Logistic model, Equilibrium Analysis, Stability & Classification of equilibrium points, predator-Prey Models, Lotka- Volterra Model.
	<b>CO.3</b> Will be aware of Biofluid mechanics: Basic Equations of Viscous Fluid motion, Poiseuille's Pulsatile Flow of Blood, Analysis of Arterial Flow Dynamics
	<b>CO.4</b> Will be aware of Blood flow in Veins: Elastic Instability, Steady Flow in Collapsible Tube, unsteady Flow in Veins: Heart Mechanics- Equations, Active Contraction to Heart Muscle, Fluid and solid Mechanics of Heart
	<b>CO.5</b> Will be aware of Micro-circulation: Introduction, Pressure and velocity distribution in micro vessels, Velocity- Hematocrit Relation, Bolus Flow, Stokes flow, mechanics of flow at low Reynolds number, Blood flow in pulmonary blood vessels.

### Semester-IV

<b>Paper-I</b> (Number Theory)	<b>CO.1</b> Will be aware of Primes, Fundamental Theorem of Arithmetic, Euclid's theorem, Fermat and Mersenne Primes, Infinitude of Primes of certain types. Congruence's, Euler's phi function, Euler-Fermat theorem, Fermat's little theorem, Wilson's theorem.
	<b>CO.2</b> Will be aware of Linear congruence equations, Chinese Remainder theorem, multiplicatively and expression for $(n)$ , Congruence equations of higher degree, Prime power congruence's, Power residues.
	<b>CO.3</b> Will be aware of Quadratic Residues, Legendre symbols, Gauss' lemma, Quadratic Reciprocity law and applications, Jacobi symbol, Tests of Primality, Factors of Mersenne numbers.
	<b>CO.4</b> Will be aware of Multiplicative functions $\tau$ and $\mu$ their multiplicatively, Moebius inversion formula and its converse, Group structure under convolution product and relations between various standard functions, Diophantine equations, Sums of squares.
	<b>CO.5</b> Will be aware of Simple continued fractions, Infinite continued fractions and irrational numbers, Periodicity, Pell's equation. Distribution of primes, Function $\pi(x)$ , Tschebyschef's theorem, Euler's identity, Euler's formula for $(n)$ , Jacobi's formula.
<b>Paper-II</b> (Differential Manifolds)	<b>CO.1</b> Will be aware of n-dimensional real vector space, contravariant vectors, dual vector space, covariant vectors, tensor product, second order tensors, tensors of type $(r, s)$ , symmetry and skew symmetry of

	tensors, fundamental algebraic operations, quotient law of tensors.
	<b>CO.2</b> Will be aware of Topological manifolds, compatible charts, smooth manifolds, examples, smooth maps and diffeomorphisms, definition of a Lie group, examples.
	<b>CO.3</b> Will be aware of Tangent and cotangent spaces to a manifold, derivative of a smooth map, immersions and submersions, submanifolds, vector fields, algebra of vector fields, $\phi$ -related vector fields.
	<b>CO.4</b> Will be aware of Integral curves of smooth vector fields, complete vector fields, flow of a vector field, distributions, tensor fields on manifolds, r-forms, exterior product, exterior differentiation.
	<b>CO.5</b> Will be aware of Affine connections (covariant differentiation) on a smooth manifold, torsion and curvature tensors of an affine connection, identities satisfied by curvature tensor.
<b>Paper-III</b> (Calculus of variations and Integral Equations)	<b>CO.1</b> Will be aware of Euler's equations, Functional dependence order derivatives, Functional dependence on functions of several independent variables. Variational problems with moving boundaries.
	<b>CO.2</b> Will be aware of One sided variation, Variational problems with subsidiary conditions, isoperimetric problems, Rayleigh-Ritz method, Galerkin's method.
	<b>CO.3</b> Will be aware of Classification of integral equations, Neumann's iterative method for Fredholm's equation of second kind,
	<b>CO.4</b> Will be aware of Volterra type integral equation, integral. Equation of first kind convolution type integral
	<b>CO.5</b> Will be aware of Non-linear voltera equations. Hilbert Schmidt theory.
<b>Paper-IV</b> (a)Finsler Geometry	<b>CO.1</b> Will be aware of Line elements, Finsler space, Minkowskian space, Tangent space, Indicatrix, Metric Tensor, Dual tangent space, Angle between two vectors, Generalized Christoffel symbols, Geodesics.
	<b>CO.2</b> Will be aware of $\delta$ -derivative, Partial $\delta$ -derivative, Fundamental postulates of E. Cartan, Different deductions, Cartan's two processes of covariant differentiation, Berwald connection parameters, Berwald's covariant

	<p>differentiation.</p> <p><b>CO.3</b> Will be aware of Commutation formulae resulting from Cartan’s covariant differentiation, Cartan curvature tensor, Commutation formulae resulting from Berwald’s covariant differentiation, Berwald curvature tensor, Generalizations of Bianchi identities, Space of scalar curvature, Space of constant curvature, Generalization of Schur’s theorem, Recurrent spaces.</p> <p><b>CO.4</b> Will be aware of Projective change, Projective invariants, Projective change of Berwald’s connection parameters, Projective deviation tensor, Generalized Weyl’s projective curvature tensor, Projective connection parameters, Projectively flat spaces,</p> <p><b>CO.5</b> Will be aware of Infinitesimal transformations, Lie derivative of scalars, vectors and tensors, Lie derivative of connection parameters of Cartan and Berwald, Motion, Affine motion and Projective motion.</p>
<p><b>Paper-IV</b> (b)Module Theory</p>	<p><b>CO.1</b> Will be aware of Modules over a ring, Endomorphism ring of an abelian group, R-Module structure on an abelian group M as a ring homomorphism from R to <math>\text{End } Z^M</math> submodules, Direct summands, Annihilators, Homomorphism, Factor modules, Statements of Correspondence theorem and Isomorphism theorems, <math>\text{Hom}_R(M, N)</math> as an abelian group and <math>\text{Hom}_R(M, M)</math> as a ring, Exact sequences.</p> <p style="text-align: right;">z</p> <p><b>CO.2</b> Will be aware of Free modules, Homomorphism extension property, equivalent characterization as a direct sum of copies of the underlying ring, existence of a basis of a vector space, Split exact sequences and their characterizations.</p> <p><b>CO.3</b> Will be aware of Projective modules, Injective modules, Baer’s characterization, Divisible groups, Examples of injective modules.</p> <p><b>CO.4</b> Will be aware of Submodules of finitely generated free modules over a PID, Torsion submodule, Torsion and torsion-free modules, Direct decomposition into <math>T(M)</math> and a free module, p-primary components, Decomposition of p-primary finitely generated torsion modules, Decomposition into invariant factors and uniqueness, Direct sum decomposition of finite abelian groups into cyclic groups and their enumeration.</p> <p><b>CO.5</b> Will be aware of Reduction of matrices over polynomial rings over a field, Similarity of matrices and <math>F[x]</math>-module structure, Rational canonical form of matrices, Elementary Jordan matrices,</p>

	Reduction to Jordan canonical form, Diagonalizable and nilpotent parts of a linear operator.
<b>Paper-IV</b> (c)Magneto-hydrodynamics	<b>CO.1</b> Will be aware of Maxwell's electromagnetic field equations, equation of motion of conducting fluid, energy equation magneto fluid dynamics approximation.
	<b>CO.2</b> Will be aware of Properties of MFD equations, MFD equation for special cases , magnetic Reynolds numbers, Boundary conditions Alfven's theorem, magnetic body force, Ferrar's law of isorotation.
	<b>CO.3</b> Will be aware of One dimensional flows- Quasi one dimensional assumptions, Equation of continuity, Equations for average electric current density, electric and magnetic fields, Equations of motion and energy.
	<b>CO.4</b> Will be aware of Study flow of inviscid, Viscous and heat conducting fluids, Viscous flows- Hartmann flow, Hydromagnetic coquette flow, Hydromagnetic flow through an annulus.
	<b>CO.5</b> Will be aware of MFD Pipe flow, MFD boundary Layer approximations, MFD flow past on infinite flat plate, MFD flow past a semi infinite flat plate, MFD Rayleigh problem.
<b>Paper-V</b> (Mathematical Modelling)	<b>CO.1</b> Will be aware of Uncoupled and coupled linear Systems, Reduction of coupled linear system to uncoupled linear system, Exponentials of operators, Fundamental theorem for linear systems, Non-homogeneous linear systems.
	<b>CO.2</b> Will be aware of Non-linear Autonomous system, Linearization, The phase plane & its phenomena, Critical points, Types of critical points, Phase plane analysis, Conservative systems.
	<b>CO.3</b> Will be aware of Variational matrix, Stability analysis of linear and nonlinear systems using variational matrix, Liapunov Function, Stability by Liapunov's Direct Method.
	<b>CO.4</b> Will be aware of Mathematical model, Formulation of mathematical models, Classification of mathematical models, Malthusian growth model, Logistic growth model, Regrowth Model, Delayed differential models.

	<b>CO.5</b> Will be aware of Lotka-Volterra predation model, Rosenzweig-MacArthur model, Lotka- Volterra competition model, Lotka-Volterra models of mutualism, obligate and non-obligate mutualism, effect of mutualism on predator-prey and competitive systems.
<b>Paper-VI</b> (Application of Mathematics in Insurance)	<b>CO.1</b> Will be aware of Concepts from Insurance-Introduction, The claim Number Process, The claim Size Process, Solvability of the Portfolio, Reinsurance and Ruin Problem.
	<b>CO.2</b> Will be aware of Premium and ordering of Risks-Premium Calculation Principles and Ordering Distributions, Distribution of Aggregate claim Amount- Individual and Collective Model, Compound Distributions, Claim Number of Distributions.
	<b>CO.3</b> Will be aware of Recursive Computation Methods, Lundberg Bounds and Approximation by compound Distribution.
	<b>CO.4</b> Will be aware of Risk Processes-Time Dependent Risk Models, Poisson Arrival Processes, Ruin Probabilities and Bounds Asymptotic and Approximation.
	<b>CO.5</b> Will be aware of Time Dependent Risk Models-Ruin Problems and Computations of Ruin Functions, Dual Queuing Model, Risk Model in Continuous Time and Numerical Evaluation of Ruin Functions.

<b>Faculty of Commerce</b>	
<b>B.Com.</b>	
<b>Programme Outcome (POs)</b>	
PO1	The program will enable students to develop business acumen, managerial skills and abilities, and be capable of maintaining business accounts.
PO2	Students will be able to communicate effectively both in terms of business as well as social interaction.
PO3	The program will encourage entrepreneurship spirit among students and encourage them to participate effectively in social, commercial and civic issues ultimately leading to national development.
PO4	The program will develop the ability to think critically and

	independently translating into a well developed personal value system.
PO5	will be eligible for admissions to post-graduate programs for further studies and will be able to appear for various competitive exams of UG level eligibility.
PO6	The student will develop self employment skill in different areas.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	The student will be aware of basic concepts of Accounting, different laws of Business, Principle of Management and Theory of Economics.
PSO2	The student will be aware of business statistics and various economic environments.
PSO3	The student will develop communication skill and will be aware of various theories of Cost and Direct Taxation.
PSO4	The student will develop practical skill for calculating tax liabilities, Managerial finance and auditing.
PSO5	The student will be aware of fundamental of computing in business, decision making at managerial level and practical knowledge of Corporate accounting and Secretarial Practices.
PSO6	The student will be able to understand principles of marketing, International marketing, banking and insurance.
PSO7	The student will be aware of different labour laws, Social Security.
PSO8	The student will have developed a strong sense about analysis of Financial Markets and financial services.
PSO9	The student will be aware of in-depth knowledge of Sales Marketing and Foreign trade.

## Course Outcome B.Com. 1<sup>st</sup> Semester

After completion of the course the student will :-

Paper 1 (Financial Accounting)	C01: Aware of principle and concepts of accounting.
	C02: Aware of the technical expertise in maintaining the books of Accounts.
	C03: Understand and appreciate the work of maintaining the books of Accounts for future reference
	C04: Able to understand practical application of accounting.
Paper 2 (Elements of Statistics)	C01: Able to understand concept of statistics.
	C02: Aware of practical exposure on calculation of measures of average.
	C03: Understand and appreciate the work of collection of data.
Paper 3 (Business Economics)	C01: Understand the knowledge of Economics.
	C02: Able to demand and supply.
	C03: To provide knowledge about various types of market in micro Economics.
	C04: Have better understanding of law of production.
Paper 4 Principle of Management)	C01: Have knowledge about evolution of management thoughts.
	C02: Able to plan, decide and manage a business.
	C03: Able to understand organisation structure and different types of Organisation.
	C04: Aware of principle, function and different management theories.

Paper 5 (Contract Law)	C01: Have knowledge about business and corporate law. C02: Able to understand contract and various types of contracts. C03: Able to various provision of contract law and principle of contract.
Paper 6 (Business Environment)	C01: Able to understand business environment and various type of business environment. C02: Have knowledge about Indian Economy system. C03: Able to understand monetary system and industrial sickness. C04: Have better understanding of unemployment and poverty.

## B.Com. 2<sup>nd</sup> Semester

After completion of the course the student will be :-

Paper 1 (Advance Accounting)	C01: Aware of accounting method, procedure and technique. C02: Have knowledge about reserve and provision. C03: Understand and appreciate to branch accounting and departmental Accounting. C04: Able to practical use of accounting in non profit organization.
Paper 2 (Business Statistics)	C01: Aware of calculation of measures of correlation and regression. C02: Have knowledge about interpolation and extrapolation. C03: Understand Central Statistics Organisation (CSO) and National Sample Survey Organization (NSSO). C04: Aware of techniques and concept of different types of Index numbers.
Paper 3 (Theories of Distribution)	C01: Have understand the various theories of distribution. C02: Aware of concept of pubic finance. C03: Have knowledge about various sources of public revenue and Principle of taxation.
Paper 4 (Business Management)	C01: Have understand the use of management in business. C02: Aware of direction and motivation theories. C03: Have knowledge about leadership, Communication, staffing And controlling. C04: Understand the changes in business and ability to Manage changes.
Paper 5 (Business Law)	C01: Have understand the concept of sale of goods act 1930. C02: Understand various aspect of partnership act 1932. C03: Have knowledge about foreign exchange Management act 2000 C04: Have knowledge about consumer protection act 1986
Paper 6 (Economic Environment)	C01: Have understand the NITI Aayog. C02: Able to understand world trade organization and UNCTAD C03: Have knowledge about World Bank and IMF.

## B.Com. 3<sup>rd</sup> Semester

After completion of the course the student will :-

Paper 1 (Theory of Cost)	C01: Have knowledge about cost accounting and their method And technique C02: Aware of Element of cost. C03: Able to differentiate between cost and financial Accounting. C04: Able to understand costing principles.
Paper 2 (Principles of tax)	C01: An expertise and able to understand the Income tax act 1961 C02: Able to solve different problem related to calculation of salary And taxable income. C03: Have understand the process of filling the return. C04: Have knowledge about income tax authorities.
Paper 3 (Business finance)	C01: Have knowledge about finance and their use in business. C02: Able to understand cash flow statement and fund flow Statement. C03: Aware of capitalization and theories of capitalization C04: Will be expertise in working capital management.
Paper 4 (Theory of Communication)	C01: Have better understanding of communication and different theories of communication C02: Aware to report writing. C03: An expertise and able to understand interview skill. C04: Able to apply modern forms of communication
Paper 5 (Principles of Auditing)	C01: Have better understanding of method and procedure of auditing. C02: Aware of Importance of Vouching. C03: Have knowledge about method of valuation and verification.
Paper 6 (Indian Economy)	C01: Have understand the structure of Indian economy. C02: Able to know about economy planning in India. C03: Be aware of Uttar Pradesh economy. C04: Have better understand of development of industries in India.

## B.Com. 4<sup>th</sup> Semester

After completion of the course the student will :-

Paper 1 (Cost Accounting)	C01: Have knowledge about unit costing. C02: Able to calculate tender price and contract price. C03: Able to solve the problem related to process costing and operating costing. C04: Able to understand cost audit.
Paper 2 (Income tax law and practice)	C01: Able to calculate profit from business and Profession. C02: Aware of concept of set off and Carry forward of losses. C03: Have knowledge about computation of total taxable income of Individual. C04: Able to understand and calculate TDS.
Paper 3	C01: Able to use of finance in managerial Decision.

(Managerial finance)	C02: Have knowledge about leverage and understand its use in Finance. C03: Appreciate and understand the theories of dividend. C04: Have knowledge about capital budgeting and its method.
Paper 4 (Business Communication)	C01: Able to demonstrate a good understanding of effective business writing and effective business communications. C02: Able to developing and delivering effective Presentations. C03: have knowledge about nonverbal communication and apply it.
Paper 5 (Auditing)	C01: Able to understand about company auditor. C02: have better understanding about auditor report. C03: Able to know about audit of banking and insurance companies.
Paper 6 (Rural Development and Agriculture)	C01: Have knowledge about land reform in India. C02: Able to know about problem related to agriculture. C03: Have knowledge about agricultural development in Uttar Pradesh.

## B.Com. 5<sup>th</sup> Semester

After completion of the course the student will:-

Paper 1 (Corporate Accounting)	C01: Able to solve problem related to share and debenture. C02: Be an expertise in preparation of final account of companies. C03: Have knowledge about calculation of goodwill of companies. C04: Aware of profit prior to incorporation.
Paper 2 (Management Accounting)	C01: Aware of technique management accounting in decision making. C02: Understand and appreciate to Responsibility accounting and Differential cost accounting. C03: Able to solve practical problem related to fund flow statement, Cash flow statement. C04: Have knowledge about business budgeting.
Paper 3 (Corporate Law)	C01: Aware to company and types of company. C02: Able to understand formation and Incorporation of company. C03: Understand different types of document related to company. C04: Have knowledge about share capital, transfer of share, borrowing power and debenture.
Paper 4 (Fundamentals of computer)	C01: Able to understand the history of computer and types of computer C02: Able to differentiate between software and hardware of computer.

	C03: Able to calculate computer number system.
	C04: Have knowledge about set theories.
Paper 5 Group I A- (Principle of Marketing)	C01: Have understand the marketing and consumer behavior. C02: Able to understand product and product life cycle. C03: Understand and appreciate to marketing research C04: Aware to marketing of agriculture product.
Paper 5 Group II A-(Principle of life Insurance)	C01: Able to understand insurance and types of insurance. C02: Have knowledge about principle related to insurance. C03: Able to know about procedure of insurance claims.
Paper 5 Group III A-( Industrial labour welfare)	C01: Aware to labour welfare and types of labour welfare. C02: Have knowledge about industrial dispute and settlement. C03: Able to know process of collective bargaining. C04: Understand the fixation of wages and different theories of wages.
Paper 5 Group IV A- (Financial Market in India)	C01: Aware to Indian financial system. C02: Able to know about money market and instrument of money Market. C03: Have knowledge about RBI and understand the method of Credit control. C04: Aware to capital market and mutual fund.
Paper 6 Group I B- (International Marketing)	C01: Able to understand international market and international Marketing environment C02: Have knowledge about total quality management. C03: Aware to international marketing advertisement instruments.
Paper 6 Group II B- (Indian monetary system and policy)	C01: Able to understand Money and classification of money. C02: Able to understand different theories related to money. C03: Have knowledge about Monetary policy reforms in India. C04: Able to differentiate between monetary policy and fiscal policy.
Paper 6 Group III B- (Social security in India)	C01: Able to know development of social security in India. C02: Aware of different Act related to social security in India. C03: Have knowledge about fringe benefit and services. C04: Able to understand provision related to industrial accidents and safety
Paper 6 Group IV B- (Security and Financial Services)	C01: Able to know investment. C02: Have knowledge about Portfolio management and investment environment. C03: Able to know the risk return relationship. C04: Have knowledge about various institution related to security Market.

## B.Com. 6<sup>th</sup> Semester

After completion of the course the student will:-

Paper 1 (Advance)	C01: Able to know the accounting standard C02: Able to solve the problem related to amalgamation and
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Corporate Accounting)	reconstruction of companies. C03: Able to understand the liquidation of companies. C04: Gain ability of solving problem related to Holding companies.
Paper (Advance Management Accounting)	C01: Able to know different types of budget and budgetary control. C02: Have knowledge about management costing system. C03: Aware to abortion and marginal costing. C04: Able to solve problem related to break even analysis and profit Analysis.
Paper 3 (Corporate law and Secretarial practice)	C01: Able to understand annual general meeting of company. C02: Have knowledge about appointment and qualification of Director. C03: Aware to company secretary.
Paper 4 (Computer application in business)	C01: Able to know about information technology. C02: Have knowledge about E-Commerce and various types of E-Commerce C03: Able to knowledge about accounting package C04: Gain ability of accounting software (Tally, Wings)
Paper 5 Group I A- (Sales Management)	C01: Aware of sales management and policies related to sales C02: Able to knowledge about recruitment, selection and training of sales personnel. C03: Have knowledge about controlling sales efforts. C04: Able to knowledge about international sales management.
Paper 5 Group II A-(Principle of General Insurance)	C01: Aware of Marine and Fire insurance C02: Have knowledge about Agent and Branch Manager related to insurance. C03: Able to differentiate between life insurance and general insurance. C04: Gain ability of calculation of premium related to marine and fire insurance.
Paper 5 Group III A- (Consumer Behavior)	C01: Have knowledge about consumer behaviour. C02: Able to knowledge about personality, perception related to consumer. C03: Aware of model related to consumer attitude.
Paper 5 Group IV A- (Finance of Micro Small and Medium Enterprise)	C01: Aware of MSME act 2006. C02: Able to knowledge about credit risk management of MSME. C03: Have knowledge about cluster development program. C04: Able to knowledge about technology related to MSME.
Paper 6 Group I B- (Foreign Trade)	C01: Able to knowledge related to foreign trade policy. C02: Able to differentiate between balance of trade and balance of payment. C03: Aware of fixing of quotation of foreign price. C04: Have knowledge about EXIM policy.
Paper 6 Group II B- (Indian Banking System)	C01: Able to knowledge about Bank. C02: Aware of Electronic banking. C03: Have knowledge about NABARD. C04: Able to knowledge about central bank (RBI).
Paper 6 Group III B- (Labour	C01: An expertise and able to understand factory act 1948. C02: Have knowledge about industrial disputes act 1947, wages

Law)	payment act 1936. C03: Able to knowledge about minimum wages act 1948. C04: An expertise and able to understand the apprentices act 1961.
Paper 6 Group IV B- (Working Capital Management)	C01: Able to understand the importance of working capital management. C02: Aware of cost of capital, capital budgeting, and leverage. C03: Have knowledge about cash management, receivable Management and inventory management.
Viva Voce	C01: Able to express his views on the course orally.
Environmental studies	C01: Aware of the environmental problem and solution.

## M.Com.

### Programme Outcome (POs)

PO1	The student will develop an ability to apply the knowledge in problem solving and analysis of various societal economic problems.
PO2	The Student will develop to skills for working like team, leadership and managerial and administrative skills.
PO3	Students can go further for opting wide range of professional Courses like CA/CS/CMA/CFA or research.
PO4	The student will ba able to apply the knowledge in practical use of various theories of commerce in business.
PO5	The student will develop ability to work in team with enhance interpersonal skill and communication.

### Programme Specific Outcome (PSOs)

PSO1	The student will gain ability to make practical use of Management accounting in decision making.
PSO2	The student will gain ability to make practical use of various economic theories in decision making.
PSO3	The student will be able to develop understanding about the organizational behaviour and its management.
PSO4	The student will be able to Inculcate the knowledge of business and the techniques of managing the Business with special focus on Accounting, finance, and financial services.
PSO5	The student will be able to identify knowledge based accounting principles and the latest application oriented corporate accounting methods.
PSO6	The student will be able to develop decision-making skill through costing methods and practical application of management accounting principles.
PSO7	The student will be able to enhance taxation skills through a thorough understanding of tax laws.

## Course Outcome M.Com. 1<sup>st</sup> Semester

After completion of the course the student will :-

Paper 1 (Management Accounting: Theory and	C01: Have knowledge about management accounting thought in Brief. C02: Able to understand financial statement analysis and cash flow and fund flow statement in depth.
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Practice)	C03: Aware of budget and budgetary control technique for managerial decision. C04: Able to knowledge about variance analysis for controlling in management.
Paper 2 (Managerial Economics)	C01: Able to apply the concept, tools and techniques of economics in analyzing and interpreting managerial decision. C02: Have knowledge about business cycle and inflation and Deflation. C03: Aware of managerial economic theories and consumer choice theory in brief.
Paper 3 (Organizational Behavior and Management)	C01: Able to work in teams with enhance interpersonal skill and communication. C02: Able to understand the conceptual framework of management and organizational behavior. C03: Have knowledge about different theories related to personality, learning and motivation.
Paper 4 (Marketing Management)	C01: Able to start their own business. C02: Have knowledge about marketing research in brief. C03: Able to understand channels of distribution in depth.
Paper 5 (Indian Culture and Tourism Management)	C01: Able understand conceptual knowledge of Indian culture and understand various place of tourism management. C02: Aware of tourism industries. C03: Able to start earing from tourism management.
Paper 6 (E-Commerce)	C01: Able to start their business at online culture. C02: Aware of IT act 2000 and cybercrime. C03: Able to understand online business transactions in brief. C04: Have knowledge about E-Commerce business models in depth.

## Course Outcome M.Com. 2<sup>nd</sup> Semester

After completion of the course the student will :-

Paper 1 (Advanced Corporate Accounting)	C01: Able to understand the conceptual knowledge of corporate accounting and understand Indian company act 2013. C02: Aware of provision related to accounting of amalgamation of Companies as per accounting standard 14 in brief. C03: Have knowledge about valuation of share and goodwill in depth.
Paper 2 (Human Resource Management)	C01: Able to understand the conceptual knowledge about human resource management. C02: Have knowledge about succession planning and career Development in brief. C03: Able to knowledge about performance appraisal and human resource audit and research.
Paper 3 (Economic	C01: Able to understand business environment and economic environment in details.

Environment)	C02: Aware of role of government in economic development. C03: Have knowledge about international economic institutions in Depth. C04: Aware of five year plan and NITI Aayog in brief.
Paper 4 A (Production Management)	C01: Aware of conceptual knowledge about production management. C02: Able to understand plant location and plant layout in brief. C03: Have knowledge about production information system.
Paper 4 B (Security Analysis and Portfolio Management)	C01: Have knowledge related to theory and management of Investment. C02: Able to understand the relationship of risk and return. C03: Aware of capital market theories and stock exchange in depth. C04: Able to differentiate between primary and secondary market.
Paper 4 C (Principles of Insurance)	C01: Have conceptual knowledge of insurance. C02: Able to differentiate between life insurance and general insurance. C03: Aware of different rules related to life insurance, fire insurance and marine insurance. C04: Able to understand claim settlement under marine losses and fire losses.
Paper 5 (Disaster and Risk Management)	C01: Have knowledge about disaster and risk management. C02: Aware of role of government in disaster risk management in brief. C03: Able to understand disaster management policy in depth.
Paper 6 (Indian Economy)	C01: Able to knowledge about nature, structure, growth and composition of economy in depth. C02: Have knowledge about agriculture in India. C03: Able to understand industrial development in India.

## Course Outcome M.Com. 3<sup>rd</sup> Semester

After completion of the course the student will :-

Paper 1 (Statistical Analysis)	C01: Able to use various statistical tools for the analysis of economic and business data. C02: Able to differentiate between correlation and regression. C03: Have knowledge about probability theories. C04: Aware of time series analysis and Interpolation and Extrapolation in depth.
Paper 2 (Managerial Finance)	C01: Aware of conceptual knowledge of managerial finance. C02: Have knowledge about working capital management in brief. C03: Able to calculate cost of capital and bonds and share value. C04: Able to understand management of cash in depth.
Paper 3 (Fundamental of Entrepreneurship)	C01: Able to knowledge about entrepreneurial culture and industrial Growth in brief. C02: Able to understand external environment of business in depth.

	C03: Have knowledge about social responsibility of entrepreneurship. C04: Aware of entrepreneurial development programmers(EDP) in brief.
Paper 4 A (Sales and Advertisement Management)	C01: Able to familiarize with process of management of sales and advertisement C02: Aware of depth knowledge of sales force management. C03: Have knowledge about selling process in brief.
Paper 4 B (Mutual Fund Investment Analysis)	C01: Able to understand basic and working knowledge about mutual fund. C02: Aware of mutual fund investment schemes. C03: Able to comparison of mutual fund investment with other Options.
Paper 4 C (Insurance and Risk Management)	C01: Having knowledge about insurance salesmanship in depth. C02: Able to understand conceptual knowledge of insurance. C03: Aware of different person related to insurance (Branch Manager, development officer, insurance agent)
Paper 5 (Women Empowerment and Entrepreneurship)	C01: Able to understand knowledge about women empowerment. C02: Aware of theories of development of women in brief. C03: Aware of constitutional and other legal provision for women Empowerment. C04: Able to knowledge about social welfare programme related to women empowerment in brief.
Paper 6 (Rural and Agricultural Marketing)	C01: Aware of knowledge about rural and agriculture marketing. C02: Able to understand product planning for rural market in depth. C03: Have knowledge about promotion of agricultural product.

## Course Outcome

### M.Com. 4<sup>th</sup> Semester

After completion of the course the student will :-

Paper 1 (Cost Analysis)	C01: Able to understand basic concept and the tools used in cost accounting. C02: Aware of brief knowledge of material control and machine hours rate. C03: Having knowledge of cost audit and cost record. C04: Able to knowledge of integrated account and nonintegrated account in depth.
Paper 2 (Research Methodology)	C01: Aware of basic understanding of research methodology. C02: Able to understand the application of modern tools of analysis And interpretation of data. C03: Have knowledge about research design and method of research. C04: Able to understand the method of data collection and hypothesis testing.
Paper 3 (Indian Direct Tax Systems)	C01: Aware of conceptual knowledge of Indian direct tax and understanding of income tax law. C02: Able to understand assessment of individual, Hindu undivided family and firm.

Paper 4 A (Labour Problem and Social Security)	C01: Able to understand the conceptual knowledge of reforms of the labour and their social security measures. C02: Aware of international labour organization (ILO) C03: Have knowledge about labour welfare in brief.
Paper 4 B (International Economics)	C01: Aware of knowledge about theory and practices of international business. C02: Able to understand various theories related to foreign exchange rate in brief. C03: Have knowledge about instrument of export promotion.
Paper 4 C (Indian Financial System)	C01: Able to comprehensive knowledge about Indian financial system. C02: Aware of financial institutions (IDBI, UTI, LIC, IFCI, SFCS, SIDCS, EXIM BANK) C03: Have knowledge about roles of SEBI guideline.
Paper 5 (Self Employment and Entrepreneurship)	C01: Able to understand principles of entrepreneurship. C02: Aware of basic problem of management of small business units with special reference to India. C03: Have knowledge about rural entrepreneurship in depth.
Paper 6 (Public Finance and Taxation)	C01: Able to knowledge about public finance. C02: Have knowledge about budgetary system in India in brief. C03: Aware of indirect tax system and GST.

## Faculty of Law

### LL.B.

#### Programme Outcome (POs)

- PO1 **Professionalism:** Students will learn the underlying values and professional and ethical standards of conduct in the legal profession.
- PO2 **Skills of Advocacy and drafting:** Students will be equipped in skills of advocacy and client counselling will also be equipped in legal drafting.
- PO3 **Legal & Critical Thinking:** The programme will inculcate analytical thinking in students and develop legal perspective on social issues
- PO4 **Problem Solving Skills:** Students will be able to solve socio-legal problem through the application of law and legal concepts.

#### Programme Specific Outcome (PSOs)

- PSO1 Familiarizing students with basic laws and judicial interpretations at the national and international level.
- PSO2 Promoting ethical practices in the profession of law and inter-disciplinary approach to legal profession.
- PSO3 Apprising students of the legal system, rule of law, administration of justice and imparting professionally and socially relevancy of legal education.
- PSO4 Sensitizing students towards the issues of access to justice of the deprived, marginalized and weaker sections of society.
- PSO5 Producing internationally competent litigating lawyers, corporate lawyers, judges, judicial officers, legal officers, researchers, law reformers, law teachers, etc.
- PSO6 Imparting skills of legal reasoning, problem solving, research, legal writing, oral and written communication, persuasion, leadership and teamwork.

Course Outcome  
Semester-I

After completion of the Course, the student :

Paper-I Jurisprudence- I (Legal Method)	CO1: Students will be acquainted with the basic ideas and fundamental principles of Law in the given society. CO2: Knowledge of Law and Legal precepts will help the students to face exigencies of life boldly and courageously CO3: Students will be inculcated with standards of ideal for human conduct in terms of law for the maintenance of Public conscience. CO4: Students will be able to identify such pressing demand or problems which require solution within the parameters of the law, justice and other social norms.
Paper-II - Law of Contract	CO1: The system of formation and discharge of contracts in India and the role of courts in enforcing them. CO2: The concept of voluntarily created civil obligations. CO3: Synthesis of case laws, identification of issues, applicability of relevant provisions and critical analysis of the judicial decisions with reference to the Indian Contract Act, 1872, the Specific Relief Act, 1963, the Indian Majority Act, 1875, and the Information Technology Act, 2000. CO4: Tracing the existing legal framework through latest Judgments and applicability of provisions in the evolving as well as technological driven society.
Paper-III - Law of Torts	CO1: Read, interpret and apply the Law of Torts in Indian and international context. CO2: Apply their knowledge to solve factual situations under tort law and support them with logical arguments. CO3: Practice in this area in the law courts/consumer fora. CO4: Write research papers/notes, case comments and work in research houses.
Paper-IV - Law of Crimes- I: Indian Penal Code	CO1: The students should be able to identify the concept of criminal liability as distinguished from the civil liability. CO2. Identify the elements of crime in given factual situations entailing culpability. CO3. Be familiar with the range of Specific Offences (Bodily offences and Property offences)
Paper-V Family Law-I	CO1: Students will be able to know mutual rights and duties in law in the personal sphere of family. CO2. Students will be enlightened, through case law, about the interpretation of statutory law by judiciary. CO3. Students will get exposure to legal institutions working for settlement of family disputes.

Semester-II

After completion of the Course:

Paper-I Law of Evidence	CO1: will acquire the knowledge of the basics of Law of evidence and develop an understanding of the law of evidence and its operation. CO2: To discuss the overview about the courts and various principles and provisions that govern the Law of Evidence. CO3: To contradict and contrast between the English law and the Indian law and the Adversarial and the Inquisitorial system of law CO4: To demonstrate a detailed knowledge of specific areas of current importance and to analyze the evolving nature of law of evidence. CO5: To ascertain and discuss the facts of complex legal problems including implementation of the involving question of Law of Evidence.
Paper-II	CO1: Exhibit conceptual understanding of tackling family law problems.

Family Law – II	CO2. Have adequate knowledge of relevant issues addressed by family law such as Hindu joint family, coparcenership, partition, succession of Hindu law and gift, will and inheritance of Muslim law. CO3. Be equipped with tools to critically analyse family law and ascertain its social impact. CO4. Be able to break down complex family law problems and come up with workable and welfare-enhancing solutions.
Paper-III Law of Crimes- II	CO1: will be acquainted with importance of criminal procedure and its indispensable attributes in a civilized society. CO2. Will be familiar with the powers, functions, and duties of police as one of the primary functionary of the criminal justice. CO3. Will be familiar with the stages of investigation and trial in criminal cases.
Paper-IV - Property Law	CO1: Exhibit conceptual understanding of the doctrines stipulated under the Transfer of Property Act, 1882. CO2. Have adequate knowledge regarding the modes of transfer of property including sale, mortgage, lease, gift etc. CO3. Be equipped with tools to critically analyse property law and ascertain its social impact. CO4. Be able to effectively apply the knowledge to built cohesive and logical arguments and solve practical problems.
Paper-V Public International Law	CO1: Understand the meaning of Public International Law, its legal basis and its position vis-à-vis the Indian legal system; CO2: Distinguish between various sources of Public International Law and their respective use in any given dispute involving questions of law; CO3: Understand the relationship between Public International Law and the national legal system with special emphasis on India CO4: Understand and reflect upon the jurisprudential doctrines and law related to the principle of State Responsibility, Law of the Sea, State Jurisdiction, Diplomatic and Consular Immunities; and CO5: Appreciate the International Human Rights instruments and institutions laying down human rights standards and India's position on protection of human rights.

### Semester-III

After completion of the Course:

Paper-I Constitutional Law-I	CO1: The principal aim of the outcome of this course is that the students should be able to attain factual and theoretical knowledge and develop critical analytical thinking and articulation particularly on the following topics CO2: Nature of the Indian Constitution, theory of Basic Structure of the Constitution and the Indian federalism; CO3: Power to cede Indian territory to a foreign State, power to create and extinguish a State, alteration of name, area and boundary of existing States; CO4: Working of the three organs of the State; The President/Governor and the Council of Ministers; Legislative procedures and Privileges; Judicial review of Ordinances; The independence of judiciary and the appointment and transfer of Judges of Constitutional Courts; Distribution of legislative powers between the Centre and the State;
Paper-II Company Law	CO1: To critically evaluate the existing legal framework relating to company and regulatory framework of companies in accordance with the Companies Act, 2013 including the Companies (Amendment) Act, 2017. CO2: To demonstrate a detailed knowledge of specific areas of current

	<p>importance and to appreciate the evolving nature of company law.</p> <p>CO3: Enable the development of critical and analytical abilities in the area of Company Law, culminating into a presentation during the class sessions of the course.</p> <p>CO4: Familiar with the current policy trends and developments in Company Law in India, UK and USA and of the likely impact of these trends and developments on the major topics in Company Law.</p> <p>CO5: Describe the theoretical assumptions that underlie the way companies are regulated in India and the way changes to those assumptions might result in law reform.</p> <p>CO6: Identify and articulate complex legal issues that arise in business practice and demonstrate advanced analysis of statutory provisions and case-law; sophisticated</p>
Paper-III Special Contracts	<p>CO1: able to Demonstrate advanced understanding of the underlying legal principles, rules and institutions which regulate partnership/ contracts, agreement.</p> <p>CO2: will understand seller and buyer rights and also duties and partnership rights and duties.</p> <p>CO3: Know the rationale behind the formation of partnership agreements, limited liability partnerships and appreciate their contribution to laws in organizations.</p>
Paper-IV Moot Court Exercise and Internship	<p>CO1: practice at all the stages of any case/matter and at all the fora with critical thinking</p> <p>CO2. will be able to do appellate advocacy by independent research, preparation of arguments and presenting arguments in a persuasive manner in appellate courts</p> <p>CO3. Able to do trial advocacy, i.e., case analysis, client interviewing and advise, how to conduct examination-in-chief and cross-examination of witnesses, preparation and presentation of arguments on facts and law in the trial courts.</p> <p>CO4. Interview clients and advise them on procedural aspects of litigation, costs and possible legal and social consequences, etc.</p> <p>CO5. To work in teams and develop the cooperative nature essential for the legal practice.</p>

#### Semester-IV

After completion of the Course, the student:

Paper-I <b>Constitutional Law – II</b>	<p>CO1: will Understand the jurisprudence of Constitutional Law and its relationship with politics, society and economy.</p> <p>CO2: will acquire comprehensive understanding of the complex relation among impact of liberalization, Role of State and the significance and utility of the Fundamental Rights, Directive Principles of State Policy and Fundamental Duties.</p> <p>CO3: will acquire Understanding of the basic constitutional mandates on secularism socialism, judicial review, and rule of law, equality, liberty, social justice and economic justice.</p> <p>CO4: Adapt appropriate methods of analysis and interpretation of the constitutional provisions and application of Doctrines evolved by the judiciary while interpreting constitution.</p>
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	CO5: will be prepared for their constructive participation in justice system and to grow
Paper-II <b>Administrative Law</b>	CO1: will be able to Explain the foundational concepts and basic principles of administrative law.  2. will be able to Apply their knowledge to solve factual situations relating to administrative law and support them with logical arguments.  3. will acquire an ability to Write research papers/notes and case comments and work in research houses.  4. will be able to Make appropriate administrative choices  5. Practice in this area in the law courts/tribunals
Paper-III <b>Alternative Dispute Resolution</b>	CO1: will be able to Describe, analyse and apply the substantive rules of ADR  CO2. Will be able to Choose appropriate ADR, Communicate effectively, Draw functional, legal settlement agreements, Choose appropriate negotiation strategy , Practice Mediator’s skills and Solve the ethical dilemmas .  CO3: will be able to Identify the relationship between present justice delivery system and various ADR mechanism and the growing dependence on the ADR process  CO4:will Develop the understanding of the rules and principles operating the domestic arbitration, international arbitration in India and issues related thereto;  CO5. Will be able to Apply various alternative dispute resolving techniques and their application through negotiation, meditation, lok-adalats and other ADR forums. To give overview to the students and enhance their understanding that how ADR can be used in to the specific kinds of disputes i.e. Matrimonial Disputes, Intellectual Property Right, Business disputes etc .
Paper-IV <b>Labour Law</b>	CO1: will be able to demonstrate an advanced understanding of the underlying legal principles, rules and institutions which regulate employer employee relationship in Indian industrial law.  CO2. Will have Increased intellectual understanding of students of labor law and individual employment rights, both in terms of black letter law and public policy as a labor lawyer.  CO3: will have Developed understanding of rationale behind the formation of Trade Unions and their working and appreciate their contribution to labour laws in organizations.

## B.A. LL.B.

<b>Programme Outcome (POs)</b>	
PO1	<b>Professionalism:</b> Students will learn the underlying values and professional and ethical standards of conduct in the legal profession.
PO2	<b>Skills of Advocacy and drafting:</b> Students will be equipped in skills of advocacy and client counselling will also be equipped in legal drafting.
PO3	<b>Legal &amp; Critical Thinking:</b> The programme will inculcate analytical thinking in students and develop legal perspective on social issues
PO4	<b>Problem Solving Skills:</b> Students will be able to solve socio-legal problem through the application of law and legal concepts.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Familiarizing students with basic laws and judicial interpretations at the national and international level
PSO2	Sensitizing students towards the issues of access to justice the deprived, marginalized and weaker sections of society.
PSO3	Apprising students of the legal system, rule of law, and administration of justice.
PSO4	Imparting skills of legal reasoning, legal writing, oral and written communication, persuasion, leadership and teamwork.
PSO5	have professional skills for litigation.
PSO6	be able to represent the interest of the clients in a professional and ethical manner.
PSO7	acquire the knowledge of social sciences for better appreciation of legal systems.
PSO8	be able to comprehend and understand the socio-legal issues.
PSO9	will develop sound legal reasoning and argumentative skills.
PSO10	Inculcate Research Skills.
PSO11	Will be able to work as social activist.
PSO12	develop critical thinking and will be able to present arguments in a logical manner.

### Course Outcome [BA LL.B.] Semester-I

After completion of this Course, the student :

<p>Paper-I GeneralEnglish-I</p>	<p>CO1: Identify deviant use of English both in written and spoken forms  CO2: Recognize the errors of usage and correct them  CO3: Recognize their own ability to improve their own competence in using the language  CO4: Understand and appreciate English spoken by people from different regions  CO5: Use language for speaking with confidence in an intelligible and acceptable manner  CO6: Understand the importance of reading for life  CO7: Develop an interest for reading  CO8: Read independently unfamiliar texts with comprehension  CO9: Understand the importance of writing in academic life  CO10: Write simple sentences without committing errors of spelling and grammar</p>
<p>Paper-2 PoliticalScience-I</p>	<p>CO1: The student will come to know about the ideas of individual sages and philosophers on politics and functioning of government.  CO2: They will be able to interlink the themes on the functioning of the Monarchy and its relationship with the people taking the cue from the ideas of individual thinkers.  CO3: Students will be able to explain the trajectory of ideas on key political questions and institutions of ancient India.</p>
<p>Paper-3 SOCIOLOGY-I(GENERALPRINCIPLES)</p>	<p>CO1: Define Sociology and demonstrate nature, scope and subject-matter of Sociology.  CO2: Demonstrate how Sociology differ from and similar to other social sciences and their areas of interdependence.  CO3: Acquaint themselves with the basic concepts of Sociology like society, community, association, culture, social change, social stratification etc.  CO4: Know the basic social institutions like family, marriage, kinship in a scientific way.  CO5: Understand and demonstrate how self develops through various process of interaction. Demonstrate how societal and structural factors influence individual behaviour.  CO6: Explain social change and the</p>

	<p>factors affecting social change. Realize the importance of cultural lag to understand social change.</p>
<p>Paper-4 Economics–I(GeneralPrinciples)</p>	<p>CO1: Students will be able to identify and explain economic concepts and theories related to the behavior of economic agents, markets, industry and firm structures, legal institutions, social norms, and government policies. CO2: Students will be able to integrate theoretical knowledge with quantitative and qualitative evidence in order to explain past economic events and to formulate predictions on future ones. CO3: Students will be able to evaluate the consequences of economic activities and institutions for individual and social welfare.</p>
<p>Paper-5 LawofTortsincludingMotorVehicle AccidentandConsumerProtectionAct</p>	<p>CO1. Read, interpret and apply the Law of Torts in Indian and international context. CO2. Apply their knowledge to solve factual situations under tort law and support them with logical arguments. CO3. Practice in this area in the law courts/consumer fora. CO4. Write research papers/notes, case comments and work in research houses</p>

B.A. LL.B.  
Course Outcome  
Semester-2

After completion of this Course, the student :

<p>Paper-1 GeneralEnglish–II</p>	<p>CO1: Identify deviant use of English both in written and spoken forms CO2:Recognize the errors of usage and correct them CO3: Recognize their own ability to improve their own competence in using the language CO4: Understand and appreciate English spoken by people from different regions CO5: Use language for speaking with confidence in an intelligible and acceptable manner CO6:Understand the importance of reading for life CO7: Develop an interest for reading CO8: Read independently unfamiliar texts with comprehension CO9:Understand the importance of writing in academic life CO10: Write simple sentences without committing errors of spelling and grammar</p>
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<p>Paper-3 Sociology– II(SociologyofIndia)</p>	<p>CO1: Explore the roots of Indian civilization. CO2: Know economy, polity and society of ancient, medieval and modern India. CO3: Understand and analyze the key concepts of Hinduism, Jainism, Buddhism, Islam and impact of these religions on society. CO4: Understand and analyze the areas of interrelations between India and South Asia. CO5: Demonstrate social, economic, political transformation of Indian society under colonial rule. CO6:Realize the basic issues of Indian society like unity in diversity, problems of nationalism and principles of Indian Constitution. CO7: Define globalization and analyze its impact on social, economic, political, cultural spheres.</p>
<p>Paper-4 Economics– II(IndianEconomics)</p>	<p><i>CO1: Develop ideas of the basic characteristics of Indian economy, its potential on natural resources.</i> <i>CO2: Understand the importance, causes and impact of population growth and its distribution, translate and relate them with economic development.</i></p>
<p>Paper-2 PoliticalScience–II</p>	<p>CO1: Students will be able to learn key concepts needed to understand the political phenomenon. b. They will come to know about the role and functions of Political theory. CO2: They will come to know how liberal and Marxist traditions look at and understand politics. d. They will learn what is power and how does it operate in society and politics. CO3: They will be able to explain the debates on the distributive theory of justice. CO4: They will come to understand and explain different theories and contemporary debates in democracy.</p>
<p>Paper-5 LawofContract</p>	<p>CO1: The system of formation and discharge of contracts in India and the role of courts in enforcing them. CO2: The concept of voluntarily created civil obligations. CO3: Synthesis of case laws, identification of issues, applicability of relevant provisions and critical analysis of the judicial decisions with reference to the Indian Contract Act, 1872, the Specific Relief Act, 1963, the Indian Majority Act, 1875, and the Information Technology Act, 2000. CO4: Tracing the existing legal framework through latest Judgments and applicability of provisions in the evolving as well as technological driven society.</p>
<p>Paper-6 InternationalHumanR ights</p>	<p>CO1: At the end of the course, the student will be able to apply and understand humanitarian law and the institutional structure for its implementation. This apart, it will sensitize and enable them to examine the problems of human rights in times of conflict and issues relating to refugees, the reasoning for inclusion, exclusion, cessation and</p>

nonrefoulment and denial of refugee law in India.

B.A. LL.B.  
Course Outcome  
Semester-3

After completion of this Course, the student :

Paper-1 GeneralEnglish–III(IncludingLegalWriting)	CO1: Scan complex legal texts. Summarize information and reconstruct arguments in a coherent presentation. CO2: Produce organized and coherent communications and essays with clear paragraphs and appropriate methods for introducing and concluding. CO3: Produce well-supported communications and essays using different patterns of development taking into consideration purpose and audience.
Paper-2 PoliticalScience–III(Concepts&Ideology)	CO1: The students will be able to answer how politics have been used by different schools and approaches differently. CO2: The students will be able to explain what are different schools to understand the state and why the state is so central to discourses in politics. CO3: The students would be able to explain what are contemporary discourses on rights, liberty, equality, and justice. CO4: They will be able to explain how democracy is defined and understood differently and what are the key issues at the core of discussions on democracy.
Paper-3 Sociology&Law–III	CO1: This course provides an understanding of the interrelation between law and society.. The course also addresses various problems of Indian society and measures taken to eradicate these problems. Studying the course students will gather knowledge on various social problems.
Paper-4 ConstitutionalLaw–I	CO1: To create and set up a basic philosophical tenets of Indian Constitutional Law CO2: To instill not just a bare understanding of but a perspective on constitutional developments in Indian Constitutional Law. CO3: To understand the system of Government and the fundamental principles governing its organization. CO4: To understand the detailed analysis of fundamental freedoms guaranteed under the Indian Constitution.
Paper-5 ICT & Legal Research (Skill Enhancement Course)	CO1: The provisions of the Information Technology Act, 2000 in relation to e-commerce, e-governance and cybercrimes

	<p>CO2: The application of other laws viz. jurisdiction, contract and Trade mark to cyberspace</p> <p>CO3: Synthesis of case laws, identification of issues, applicability of relevant provisions and critical analysis of the judicial decisions with reference to the Information Technology Act.</p> <p>CO4: The gaps in the existing legal framework and countering these challenges thrown up by ever changing technological developments</p>
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B.A. LL.B.  
Course Outcome  
Semester-4

After completion of this Course, the student :

Paper-1 English–IV(LegalLanguage)	
Paper-2 PoliticalScience– IV(InternationalRelations)	<p>CO1: Familiarization with the key concepts of the discipline of IR.</p> <p>CO2: Understanding of linkages between Classical Realism and Classical Geopolitics.</p> <p>CO3: Comprehensive understanding of the key assumptions and arguments of the mainstream IR. d. Appreciation of what is Global IR and why non-western perspectives are needed.</p> <p>CO4: Greater appreciation of the important role played by non-Western countries in building post-War norms and institutions in key areas such as universal sovereignty, human rights, development, and regionalism.</p> <p>CO5: Understanding the agency of the Global South in these areas is key to countering IR's ethnocentrism and developing new concepts, theories, and methods.</p>
Paper-3 Economics and Law III	
Paper-4 FamilyLaw– I(Marriage,Divorceand MatrimonialDisputes)	<p>CO1: Students will be able to know mutual rights and duties in law in the personal sphere of <b>family</b>.</p> <p>CO2: Students will be enlightened, through case law, about the interpretation of statutory law by judiciary.</p> <p>CO3: Students will get exposure to legal institutions working for settlement of family disputes</p>

<p>Paper-5 CONSTITUTIONALLAW–II</p>	<p>CO1: The principal aim of the outcome of this course is that the students should be able to attain factual and theoretical knowledge and develop critical analytical thinking and articulation particularly on the following topics:-  CO2: Nature of the Indian Constitution, theory of Basic Structure of the Constitution and the Indian federalism;  CO3: Power to cede Indian territory to a foreign State, power to create and extinguish a State, alteration of name, area and boundary of existing States;  CO4: Working of the three organs of the State;  CO5: The President/Governor and the Council of Ministers;  CO6: Legislative procedures and Privileges;  CO7: Judicial review of Ordinances;  CO8: The independence of judiciary and the appointment and transfer of Judges of Constitutional Courts; Distribution of legislative powers between the Centre and the State;</p>
<p>Paper-6 PRIVATEINTERNATIONALLAW</p>	<p>CO1: Understand the meaning of Private International Law, its legal basis and its position vis-à-vis the Indian legal system;  CO2: Distinguish between various sources of Private International Law and their respective use in any given dispute involving questions of law;  CO3: Understand the relationship between Private International Law and the national legal system with special emphasis on India</p>

B.A. LL.B.  
Course Outcome  
Semester-5

After completion of this Course, the student :

<p>Paper-1 PoliticalScience– V(Politics&amp;ForeignPolicyinIndia)5</p>	<p>CO1: Students would be able to learn the key drivers of Indian politics. The students will be able to explain how caste, religion, language have influenced the identity politics in India.  CO2: They will be able to explain the ideology, social base and function of key political parties such as Indian the National Congress and the BhartiyaJanata Party.  CO3: They will be able to critically examine and explain the development issues in India, especially in the farm and industrial sectors.  CO4: They will be able to know what ails our electoral democracy and what are the key issues related to expenditure in elections and their public funding  CO5: India’s world view, geopolitical vision, and key principles  CO6: New Frontiers of Indian Foreign Policy and Diplomacy  CO7: India’s Nuclear Policy and Strategy  CO8: India’s connectivity challenge both on land and at sea  CO9: India’s Look East and Act East Policy  CO10: India’s engagement with the Indian Ocean and Indo-Pacific</p>
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Paper-2 Law of Crimes	CO1: The students should be able to identify the concept of criminal liability as distinguished from the civil liability. CO2: Identify the elements of crime in given factual situations entailing culpability. CO3: Be familiar with the range of Specific Offences (Bodily offences and Property offences)
Paper-3 Jurisprudence	CO1: Students will be acquainted with the basic ideas and fundamental principles of Law in the given society. CO2: Knowledge of Law and Legal precepts will help the students to face exigencies of life boldly and courageously CO3: Students will be inculcated with standards of ideal for human conduct in terms of law for the maintenance of Public conscience. CO4: Students will be able to identify such pressing demand or problems which require solution within the parameters of the law, justice and other social norms.
Paper-4 Family Law – II (Matrimonial Property, Guardianship & Adoption)	CO1: Exhibit conceptual understanding of tackling family law problems. CO2: Have adequate knowledge of relevant issues addressed by family law such as Hindu joint family, coparcenership, partition, succession of Hindu law and gift, will and inheritance of Muslim law. CO3: Be equipped with tools to critically analyse family law and ascertain its social impact. CO4: Be able to break down complex family law problems and come up with workable and welfare-enhancing solutions.
Paper-5 Elective courses – I (i) Banking law including Negotiable Instrument Act	CO1: To make the students understand the various services offered and various risks faced by banks. CO2: To make them aware of various banking innovations after nationalization To give them an overview about insurance industry. CO3: To make the students understand various principles, provisions that govern the Life General Insurance Contracts
Paper-5 (ii) Media and Law	

B.A. LL.B.  
Course Outcome  
Semester-6

After completion of this Course, the student :

Paper-1 Political Science – VI (Public Administration)	CO1: The students will be able to make a difference between the public administration and private administration. CO2: They will be able to explain the journey of discourse in public administration in the sense that how the old public administration view was contested by the idea of new public administration and subsequently the discourse moved beyond that and started talking about New Public Management and New Public Service. CO3: What is the scientific management school by Taylor and Fayol and how it was contested by the Human Relation School?
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	<p>CO4: They will be able to explain what is the decision-making approach of Herbert Simon?</p> <p>CO5: They will be able to explain the concepts and theories on motivation, leadership and conflict management in the organization.</p>
Paper-2 CyberLaw(SkillEnhancementCourse)	<p>CO1:After completing the course, students will be familiar with Understanding concepts related to cyber world and cyber law in general Develop competitive edge on various facets of cyber crimes Problems arising out of online transactions and provoke them to find solutions Intellectual property issues in the cyber space and the growth and development of the law Regulation of cyber space at national and international level. Upholding ethical standards in cyber laws and intellectual property issues.</p>
Paper-3 SpecialContract	<p>CO1: Demonstrate an advanced understanding of the underlying legal principles, rules and institutions which regulate partnership/ contracts, agreement.</p> <p>CO2: Increase the intellectual understanding of students regarding seller and buyer rights and also duties and partnership rights and duties.</p> <p>CO3:Know the rationale behind the formation of partnership agreements, limited liability partnerships and appreciate their contribution to laws in organizations.</p>
Paper-4 PracticalPaper–I(ProfessionalEthics, AccountancyforLawyer sandBarBenchRelations)	<p>CO1: Identify situations of professional dilemmas and of contempt.</p> <p>CO2: Take appropriate decisions when faced with any professional dilemma.</p> <p>CO3: Recall and apply the principles of professional ethics in their professional life.</p> <p>CO4: Interview and counsel clients in a professional manner.</p> <p>CO5: Apply the basic principles of professional accountancy.</p>
Paper-5 InternationalDisputeResolutionBodies	<p>CO1: Describe, analyse and apply the substantive rules of ADR</p> <p>CO2: Choose appropriate ADR</p> <p>CO3: Communicate effectively</p> <p>CO4: Draw functional, legal settlement agreements</p> <p>CO5: Choose appropriate negotiation strategy</p> <p>CO6: Practice Mediator’s skills</p> <p>CO7: Solve the ethical dilemmas</p> <p>CO8: Identify the relationship between present justice delivery system and various ADR mechanism and the growing dependence on the ADR process</p> <p>CO9: Develop the understanding of the rules and principles operating the domestic arbitration, international arbitration in India and issues related thereto;</p> <p>CO10: Apply various alternative dispute resolving techniques and their application through negotiation, meditation, lok-adalats and other ADR forums. To give overview to the students and enhance their understanding that how ADR can be used in to the specific kinds of disputes i.e. Matrimonial Disputes, Intellectual Property Right, Business disputes etc .</p>
Paper-6 Electivecourses–II (i) InsuranceLaw	<p>CO1: Understand and explain the elements of BITs and the policy considerations underlying the formation of such treaties.</p> <p>CO2:Apply the knowledge of the issues arising out of international</p>

	<p>investment agreements in front of the municipal courts of law.</p> <p>CO3: Represent their clients – foreign investors/host States in international arbitrations involving issues of international investment law.</p> <p>CO4: Provide legal opinions on the issues involving international investment law either the private foreign investors or the host States.</p> <p>CO5: Demonstrate (both orally and in written) a detailed understanding of various aspects of investment treaties and their linkage with investor protection and the regulatory discretion of the sovereign countries.</p>
<p>Paper-6 ii)HealthLaw</p>	<p>CO1: explain key legal principles relevant to the fields of health law studied in this course, including principles of negligence, consent, privacy and confidentiality, and regulation.</p> <p>CO2: Understand the Constitutional Provisions related to health.</p> <p>CO3: Compare and contrast different legal and policy approaches to addressing health law problems</p> <p>CO4: Understand and describe areas of health law and related issues.</p> <p>CO5: Analyze lacuna within among the professional obligations of doctors and provides suitable remedies accordingly.</p>

B.A. LL.B.  
Course Outcome  
Semester-7

After completion of this Course, the student :

<p>Paper-1 Civil Procedure Code &amp;LimitationAct</p>	<p>CO1: The students will become well versed with the basic keywords used frequently in the civil courts such as plaint, written statement, summons, plaintiff, defendant, judgement, decree, and so on.</p> <p>CO2: The students would be able to locate the jurisdiction of the various civil courts after reading this subject by knowing the various jurisdictions that are there at every level as per the hierarchy of civil courts.</p> <p>CO3: Since this subject is taught to second year students, they would be better equipped to deal with the papers like Moot Court, ADR, Professional Ethics etc. which are being taught in the final year.</p>
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<p>Paper-2 Interpretation of Statutes</p>	<p>CO1: They should be able to identify the legislative intent and further it.  CO2: They should be able to understand and read any statute which they may not have studied in the LL.B course.  CO3: They should be in a position to apply various rules of interpretation to substantiate their argument and convince the judge in the court of law.  CO4: Apply the rules of interpretation in course of their profession as a lawyer or as a judge  CO5: Uncover the rule of interpretation on which the judgment of Judge on particular issue is based Criticize the judgments on the basis of rule of interpretation  CO6: Provide a new interpretation of law by using various rules of interpretation in various facts and circumstances.</p>
<p>Paper-3 .Company Law</p>	<p>CO1: To critically evaluate the existing legal framework relating to company and regulatory framework of companies in accordance with the Companies Act, 2013 including the Companies (Amendment) Act, 2017.  CO2: To demonstrate a detailed knowledge of specific areas of current importance and to appreciate the evolving nature of company law.  CO3: Enable the development of critical and analytical abilities in the area of Company Law, culminating into a presentation during the class sessions of the course.  CO4: Familiar with the current policy trends and developments in Company Law in India, UK and USA and of the likely impact of these trends and developments on the major topics in Company Law.  CO5: Describe the theoretical assumptions that underlie the way companies are regulated in India and the way changes to those assumptions might result in law reform.  CO6: Identify and articulate complex legal issues that arise in business practice and demonstrate advanced analysis of statutory provisions and case-law; sophisticated</p>
<p>Paper-4 Property Law Including Transfer of Property Act And Easement Act</p>	<p>CO1: Exhibit conceptual understanding of the doctrines stipulated under the Transfer of Property Act, 1882.  CO2: Have adequate knowledge regarding the modes of transfer of property including sale, mortgage, lease, gift etc.  CO3: Be equipped with tools to critically analyse property law and ascertain its social impact.  CO4: Be able to effectively apply the knowledge to build cohesive and logical arguments and solve practical problems.</p>
<p>Paper-5 Elective courses – III (i) Merger and Acquisition</p>	

Paper-5 (ii)RighttoInformation	
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B.A. LL.B.  
Course Outcome  
Semester-8

After completion of this Course, the student :

Paper-1 LabourLaws	<p>CO1: Demonstrate an advanced understanding of the underlying legal principles, rules and institutions which regulate employer employee relationship in Indian industrial law.</p> <p>CO2: Increase the intellectual understanding of students of labor law and individual employment rights, both in terms of black letter law and public policy as a labor lawyer.</p> <p>CO3: Develop the understanding of rationale behind the formation of Trade Unions and their working and appreciate their contribution to labour laws in organizations</p>
Paper-2 LawofEvidence	<p>CO1: To acquire the knowledge of the basics of Law of evidence and develop an understanding of the law of evidence and its operation.</p> <p>CO2: To discuss the overview about the courts and various principles and provisions that govern the Law of Evidence.</p> <p>CO3:To contradict and contrast between the English law and the Indian law and the Adversarial and the Inquisitorial system of law</p> <p>CO4:To demonstrate a detailed knowledge of specific areas of current importance and to analyze the evolving nature of law of evidence.</p> <p>CO5:To ascertain and discuss the facts of complex legal problems including implementation of the involving question of Law of Evidence.</p>

Paper-3 CriminalProcedureCode, JuvenileJusticeAct& ProbationofOffendersAct	<p>CO1: To appreciate the importance of criminal procedure and its indispensable attributes in a civilized society.</p> <p>CO2: To be familiar with the powers, functions, and duties of police as one of the primary functionary of the criminal justice.</p> <p>CO3: To be familiar with the stages of investigation and trial in criminal cases.</p>
Paper-4 PracticalPaper- II(Drafting,Pleading&Con veyancing)	<p>CO1: Apply fundamental/golden rules of Pleadings and Conveyancing while drafting.</p> <p>CO2: Recall and apply the provisions of specific statute while drafting any petition/application under the said statute.</p> <p>CO3: Draft civil pleadings, criminal pleadings, matrimonial pleadings and constitutional pleadings.</p> <p>CO4: Comprehend the pleadings and prepare written replies for the same.</p> <p>CO5: Draft notices for their clients under various statutes and replies to the notices.</p>

	CO6: Draft deeds and agreements.
Paper-5 Application of Computer in Law	
Paper-6 Elective courses –IV (i) Competition Law & Practice	CO1: To identify and explain the founding principles of Indian Competition Law. CO2: To understand the types of behavior and the market circumstances that invoke competition law and policy. CO3: To demonstrate a detailed knowledge of specific areas of current importance and to appreciate the evolving nature of competition law. CO4: To ascertain and evaluate the facts of complex legal problem involving question of competition law.
Paper-6 (ii) Gender Justice and Feminist Jurisprudence.	

B.A. LL.B.  
Course Outcome  
Semester-9

After completion of this Course, the student :

Paper-1 Administrative Law	CO1: Explain the foundational concepts and basic principles of administrative law. CO2: Apply their knowledge to solve factual situations relating to administrative law and support them with logical arguments. CO3: Write research papers/notes and case comments and work in research houses. CO4: Make appropriate administrative choices CO5: Practice in this area in the law courts/tribunals
Paper-2 Environmental Law	CO1: Acquire the ability to evaluate the role of law and policy in conservation and management of natural resources and prevention of pollution. CO2: Acquire an overview of the major environmental statutes as well as relevant common law doctrines. CO3: Develop understanding of the variety of regulatory techniques that have been applied to deal with environmental problems and the attributes, advantages and disadvantages of each.
Paper-3 Law on Infrastructure Development	
Paper-4 Practical Paper-III (Moot Court, Pre-trial Preparations and Participation in trial proceedings)	CO1: practice at all the stages of any case/matter and at all the fora with critical thinking CO2: do appellate advocacy by independent research, preparation of arguments and presenting arguments in a persuasive manner in appellate courts CO3: to do trial advocacy, i.e., case analysis, client interviewing and advise, how to conduct examination-in-chief and cross-examination of witnesses, preparation and presentation of arguments on facts and law in the trial

	<p>courts.</p> <p>CO4: Interview clients and advise them on procedural aspects of litigation, costs and possible legal and social consequences, etc.</p> <p>CO5: To work in teams and develop the cooperative nature essential for the legal practice.</p>
<p>Paper-5 Elective courses—V (i) Direct Tax</p>	<p>CO1: understand the basic concepts of taxation, the background, the general scheme of direct tax and interpretation of different provisions of the Income Tax Act;</p> <p>CO2: compute the tax liability of an individual;</p> <p>CO3: deal with court cases pertaining to tax;</p> <p>CO4: file income tax return;</p>
<p>Paper-5 (ii) Law on Education</p>	

B.A. LL.B.  
Course Outcome  
Semester-10

After completion of this Course, the student :

<p>Paper-1 Public International Law</p>	<p>CO1: Understand the meaning of Public International Law, its legal basis and its position vis-à-vis the Indian legal system;</p> <p>CO2: Distinguish between various sources of Public International Law and their respective use in any given dispute involving questions of law;</p> <p>CO3: Understand the relationship between Public International Law and the national legal system with special emphasis on India</p> <p>CO4: Understand and reflect upon the jurisprudential doctrines and law related to the principle of State Responsibility, Law of the Sea, State Jurisdiction, Diplomatic and Consular Immunities; and</p> <p>CO5: Appreciate the International Human Rights instruments and institutions laying down human rights standards and India's position on protection of human rights.</p>
<p>Paper-2 Intellectual Property Laws</p>	<p>CO1: the legal basis of the IPL and its impact in economic, social and technological context</p> <p>CO2: Synthesis of case laws, identification of issues, applicability of relevant provisions and critical analysis of the judicial decisions with reference to the Trade Marks Act, 1999, Geographical Indications Act, 1999 and Designs Act 2000</p> <p>CO3: Tracing the existing legal framework through latest Judgments and applicability of provisions in the evolving as well as technological driven society.</p>
<p>Paper-3 Court Management (Skill Enhancement Course)</p>	
<p>Paper-4 Practical Paper-</p>	

III(MootCourt,Pre-trialPreparations andParticipationintrialproceedings)	
Paper-5 InternationalEnvironmentalLaw	
Paper-6 Electivecourses–VI (i)IndirectTax	
Paper-6 (ii)Human Rights Law&Practice	

<b>LL.M.</b>	
<b>Programme Outcome (POs)</b>	
PO1	Familiarising students with laws and judicial interpretations at the national and international level and a comparative study of the same.
PO2	Apprising students of the legal system, rule of law, and administration of justice.
PO3	Imparting professionally and socially relevant legal education.
PO4	Sensitising students towards the issues of access to justice of the deprived, marginalised and weaker sections of society.
PO5	Producing internationally competent litigating lawyers, corporate lawyers, judges, judicial officers, legal officers, researchers, law reformers, law teachers, etc.
PO6	Imparting skills of legal reasoning, problem solving, research, legal writing, oral and written communication, persuasion, leadership and teamwork.
PO7	Promoting ethical practices in the profession of law.
PO8	Promoting inter-disciplinary approach to legal profession.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Do legal research. • Understand, interpret, and apply law. • Evaluate and compare domestic and international laws. • Design, and formulate case theory and strategy. • Analyze and differentiate facts and law. • Solve problems by employing legal reasoning, research. • Choose ethical practices in the profession of law and discharge their social responsibility.
PSO2	Interpret And Analyze the legal and social problems and work towards finding solutions to the problems by application of laws and regulations.
PSO3	Apply ethical principles and commit to legal professional ethics, responsibilities and norms of the established legal practices.
PSO4	Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broader context of legal change.
PSO5	Explore and explain the substantial & procedural laws in which they are made/ drafted and how students think and understand the legislative setup.
PSO6	Students are equipped with the knowledge of teaching methods through the subject on Teaching Pedagogy thereby enabling them to enter the teaching profession.
PSO7	Learn the art of doing doctrinal and empirical research which covers knowledge and implementation of various tools and techniques of research.

LL.M.  
Course Outcome  
Semester-I

After completion of this Course, the student :

<p>Paper-1 Jurisprudence</p>	<p>CO1:Students will be acquainted with the basic ideas and fundamental principles of Law in the given society. CO2: Knowledge of Law and Legal precepts will help the students to face exigencies of life boldly and courageously CO3: Students will be inculcated with standards of ideal for human conduct in terms of law for the maintenance of Public conscience. CO4:Students will be able to identify such pressing demand or problems which require solution within the parameters of the law, justice and other social norms.</p>
<p>Paper-2 Indian Constitutional Law: The New Challenges</p>	<p>CO1:Nature of the Indian Constitution, theory of Basic Structure of the Constitution and the Indian federalism; CO2:Power to cede Indian territory to a foreign State, power to create and extinguish a State, alteration of name, area and boundary of existing States; CO3:Working of the three organs of the State; CO4:The President/Governor and the Council of Ministers; CO5:Legislative procedures and Privileges; CO6:Judicial review of Ordinances; CO7:The independence of judiciary and the appointment and transfer of Judges of Constitutional Courts; Distribution of legislative powers between the Centre and the State;</p>
<p>Paper-3 Viva-Voce</p>	
<p>Paper-4(a) Criminal Law in India</p>	<p>CO1:To appreciate the importance of criminal procedure and its indispensable attributes in a civilized society. CO2:To be familiar with the powers, functions, and duties of police as one of the primary functionary of the criminal justice. CO3:To be familiar with the stages of investigation and trial in criminal cases.</p>
<p>Paper-4(b) General Principles of Law of Contract</p>	<p>CO1:The system of formation and discharge of contracts in India and the role of courts in enforcing them. CO2:The concept of voluntarily created civil obligations. CO3:Synthesis of case laws, identification of issues, applicability of relevant provisions and critical analysis of the judicial decisions with reference to the Indian Contract Act, 1872, the Specific Relief Act, 1963, the Indian Majority Act, 1875, and the Information Technology Act, 2000. CO4:Tracing the existing legal framework through latest Judgments and applicability of provisions in the evolving as well as technological driven society.</p>
<p>Paper-4(c) Public InternationalLaw</p>	<p>CO1:Understand the meaning of Public International Law, its legal basis and its position vis-à-vis the Indian legal</p>

	<p>system;</p> <p>CO2:Distinguish between various sources of Public International Law and their respective use in any given dispute involving questions of law;</p> <p>CO3:Understand the relationship between Public International Law and the national legal system with special emphasis on India</p> <p>CO4:Understand and reflect upon the jurisprudential doctrines and law related to the principle of State Responsibility, Law of the Sea, State Jurisdiction, Diplomatic and Consular Immunities; and</p> <p>CO5:Appreciate the International Human Rights instruments and institutions laying down human rights standards and India's position on protection of human rights.</p>
<p>Paper-5 Communication Skill and Personality Development (Skill Enhancement Course)</p>	<p>CO1: Personality Augmentation</p> <p>CO2: Classes on Soft Skills Development</p> <p>CO3:Overview on Communication Skills and Personality Development</p> <p>CO4: Workplace decorum</p> <p>CO5:Body Language and Presentation Skills</p> <p>CO6: Manners and Etiquettes</p> <p>CO7; Time-Management</p>
<p>Paper-6 Right to Information (Not for law students)</p>	<p>CO1: Students will have a comprehensive understanding about the existing law on consumer protection in India.</p> <p>CO2:Students will be conversant with major international instruments on consumer protection</p> <p>CO3: Students will be aware of the basic procedures for handling consumer dispute.</p> <p>CO4: Students will be able to appreciate the emerging questions and policy issue in consumer law and future research.</p> <p>RTI</p>

LL.M.

Course Outcome

Semester-2

After completion of this Course, the student :

<p>Paper-1 Interpretation of Statutes</p>	<p>CO1: Aware and able to interpret Constitutional and Statutes</p> <p>CO2:Aware of the concept of Justice Dharma in Indian Thought &amp; Legal ordering.</p> <p>CO3:Will have knowledge about the nature of judicial process confrontation with the Legislature &amp; executive.</p> <p>CO4:Aware of the Process of appointment &amp; transfer of judges and Role of Supreme Court of India.</p>
<p>Paper-2 Research Methodology</p>	<p>CO1:Recognize primary and secondary sources of legal research material.</p>

	<p>CO2: Use and apply secondary sources, case law and legislation using both paper based and online resources to a research problem.</p> <p>CO3: Develop corrects research strategies to critically evaluate the relevance, quality, authority and currency of the research materials.</p> <p>CO5: Demonstrate good legal writing skills, including an understanding of the use and preparation of legal research material in legal writing and the correct methods of legal referencing.</p>
Paper-3 Viva-Voce	

Paper-4(a) Criminology&Pe nology	<p>CO1:Will Be acquainted with the definition nature&amp; Importance,Schools &amp;Methods of Criminological studies.</p> <p>CO2:will be aware of various theories of Criminology.</p> <p>CO3:will have knowledge about VARIOUS THEORIES OF Punishment, Victimology &amp; Factors Responsible For causation of Crime.</p>
Paper-4(b) SpecificContract	<p>CO1:The system of formation and discharge of contracts in India and the role of courts in enforcing them.</p> <p>CO2:The concept of voluntarily created civil obligations.</p> <p>CO3:Synthesis of case laws, identification of issues, applicability of relevant provisions and critical analysis of the judicial decisions with reference to the Indian Contract Act, 1872, the Specific Relief Act, 1963, the Indian Majority Act, 1875, and the Information Technology Act, 2000.</p> <p>CO4:Tracing the existing legal framework through latest Judgments and applicability of provisions in the evolving as well as technological driven society.</p>
Paper-4(c) Internationallaw and HumanRights	<p>CO1:International Law of Human Rights (ILHR) has become major part of Public International Law (PIL) as well as increasingly permeates into states national laws. Since adoption of the United Nations Charter we witnessed proliferation of endless normativity of human rights (HRs) standards in the</p>

	<p>forms of both global as well as regional human rights treaties, conventions, and declarations.</p> <p>CO2:We have arrived at a kind of global consensus on certain human rights values like- equal dignity and respect for all human beings, or the right to life or prohibition of discrimination on the basis of race, caste, religion, sex etc. However still it is difficult to give simple answer to question what human rights should the human beings have?</p> <p>CO3;The dominant ideology of sovereign nation state and growing market centric economic globalisation with other various factors circumscribe the protection, promotion and enforcement of ILHR. This course aims to examine the histories, ideas and concepts that inform international human rights law and practice, and on the relationship between human rights and other contemporary social phenomena, discourses and processes.</p>
Paper-5 Yoga and Life Skill	<p>CO1:The Student Will BE aware of Fundamentally Asanas.</p> <p>CO2:The Student Will Acquire Practical yoga skills.</p>
Paper-6 Election Law	<p>CO1:Identify the laws relating to elections to the Parliament, State Legislatures and to the offices of the President and Vice President of India.</p> <p>CO2:Explain the qualifications and disqualifications for Members of Parliament and State Legislatures in India.</p> <p>CO3:Recognize the corrupt practices that candidates often resort to in order to win elections to the Legislatures in India.</p> <p>CO4: Know the ambit of the right of voters to know the antecedents of candidates at elections to Legislatures in India.</p>

LL.M.

Course Outcome

Semester-3

After completion of this Course, the student :

Paper-1 Research Methodology II	<p>CO1:Every researcher applies to clean methods like doctrinal, non doctrinal and data analysis in his /her research work.They put a conclusion in his research work. Total Finding only base on hypothesis and valuation.</p> <p>CO2:Each and every thesis title only basis of analysis. Researcher has responsible for his /her hard work plagrisam is important and useful in his future life for making and specific research &amp; researcher.</p> <p>CO3:Researcher should be able to design and execute small scale research problems.</p>
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	<p>CO4: Important case study and analysis is only basis of court judgment.</p> <p>CO5: The main objective of this course is to acquaint the student of law with the scientific method of social science research.</p> <p>CO6: This course is expected to provide the knowledge of the technique of selection, collection and interpretation of primary and secondary data in socio legal research.</p> <p>CO7: Emphasis would be laid on practical training in conducting research in this course.</p> <p>CO8: By the end of the course the students are expected to develop a scientific approach to socio legal problems.</p> <p>CO9: They should be able to design and execute small scale research problems.</p> <p>CO10: The practical skill in conducting research will be evaluated on their performance in field research and workshops/seminars.</p>
<p>Paper-2 Judicial Process</p>	<p>CO1: The main objective of the course is to enable students to understand and seek solutions to pressing problems in the domain of global justice. By the end of the term, students are expected to have become familiar with the multiple dimensions of the theoretical literature and be able to critically evaluate the liberal, republican, and discursive democratic attempts to make sense of, and to ameliorate, prevailing instances of injustice in the world. This will be imparted through theoretical and philosophical debates advanced by various scholars and the institutional mechanism that need to be accelerated to achieve the objectives of global justice.</p> <p>CO2: This paper deals with the interaction between law and society. This paper examines the major laws, regulations and court decisions affecting the media. It aims to familiarize the theoretical debates on legislation, law and ethics in the Indian context. It also attempts to evolve an understanding of the complexities of ethical and legal moral values in society, State and practice.</p> <p>CO3: As a part of its statutory duty to create awareness and to build strong competition culture in the country, the Competition Commission of India has already taken up the matter with over all universities to incorporate the Competition Act as a part of syllabus. This syllabus also aims to create awareness among the students and develop their abilities to deal with the issues on the expanding horizons of corporate law.</p>
<p>Paper-3</p>	

Viva-Voce	
<p>Paper-4(a) Socio-Economic Offences</p>	<p>CO1: This course will examine the prosecution and defense of federal white collar crimes, including mail and wire fraud, RICO, criminal tax violations, bank fraud, health care fraud, perjury, obstruction and false statements. CO2: Close examination will also be given to the law enforcement techniques used by federal prosecutors in white collar cases, including the grand jury, immunity, search warrants and subpoenas. CO3: The Fifth Amendment self-incrimination privilege and the attorney-client privilege will also be studied. Emphasis will be given to providing students with the background and tools to reason through practical problems faced by white collar practitioners.</p>
<p>Paper-4(b) Corporate Law</p>	<p><b>CO1:</b> Understand the basic principles of contracts applied on business agreements. <b>CO2:</b> Understand the various concepts related to a company and application of company law in the India.</p>
<p>Paper-4(c) Human Rights in India</p>	<p>CO1: Understand the historical growth of the idea of human rights CO2: Demonstrate an awareness of the international context of human rights CO3: Demonstrate an awareness of the position of human rights in the U.N. Charter CO4: Understand the importance of the Human Rights Act 1998 CO5: Analyze and evaluate concepts and ideas</p>
<p>Paper-5 Value Education and Human Rights (Skill Enhancement Course)</p>	<p>CO1: The goal of the HRE program is to develop professional practitioners with expertise in the following key areas: CO2: Analyze the gap between universal rights and grassroots realities in local, global, and transnational contexts, with attention to issues of power, privilege, and marginalization. Explore the conditions and dimensions of empowering and transformative learning processes. CO3: Describe and critique the</p>

	<p>differing approaches, perspectives, and models toward human rights education and how they impact the ways in which HRE is carried out in diverse settings.</p> <p>CO4: Drawing on critical pedagogies, produce advocacy tools and curricular resources to be used in formal or non-formal educational contexts to address human rights violations.</p> <p>CO5: Design, conduct, analyze and present findings from interviews, using diverse methods, such as oral history, in order to raise awareness about human rights issues.</p> <p>CO6: Identify diverse methodological tools and skills needed to conduct ethical research in a range of contexts such as classroom teaching, community organizing, and curriculum development, among others.</p> <p>CO7: Synthesize contextual understandings, reflective analysis, theoretical frameworks, and methodological training to inform either the production of a thesis or research-based field project.</p>
<p>Paper-6 Law and Developments (Not for law students)</p>	<p>CO1: be aware of the different perspectives of development and have fair knowledge about the theories of development;</p> <p>CO2: understand how law can be used as a tool to ensure that the fruits of development reach the poor and marginalized;</p> <p>CO3: be enabled to critique developmental policy or projects proposals; be able to advise and assist PSU s and private companies to see to it that the benefit of development reaches the socio-economically weaker sections;</p>

	CO4: be able to advocate for and advise the development affected people and file petitions before the court for the sake of socio-economic justice for them.
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LL.M.  
Course Outcome  
Semester-4

After completion of this Course, the student :

Paper-1 Law and Social Transformation	<p><b>CO1:</b> To enable the student to acquire comprehensive knowledge about Indian approaches to social and economic problems in the changing contemporary society</p> <p><b>CO2:</b> A spirit of inquiry to explore and exploit law and legal institutions as a means to achieve development within the framework of law</p> <p><b>CO3:</b> Endeavour is to make the students aware of the role the law has played and has to play in the contemporary Indian society</p>
Paper-2 Intellectual Property Rights	<p>CO1: To examine the definition and legal basis of IPRs in its broadest sense including patents, copyrights, trademarks, geographical indications, and designs;</p> <p>CO2: To study the evolution of IPRs as an international legal norm and its implications at the global level with specific focus on the concerns of developing countries, including India.</p> <p>CO3: To study the emerging new interpretations and consequent implementation issues relating to IPRs within multilateral and regional treaty framework and to examine and identify the conceptual and jurisprudential aspects with specific focus on cases and case studies at the national and international level.</p> <p>CO4: To understand the implications of emerging global IPR regime on frontier research areas such as traditional knowledge, biodiversity, biotechnology, digital/computer technology, internet and domain names.</p>
Paper-3 Viva-Voce	
Paper-4(a) Dissertation	<p>CO1: Identify key research questions within the field of Demography on which you will carry out independent research.</p> <p>CO2: Manage your time effectively whilst working on your independent research.</p> <p>CO3: Demonstrate appropriate referencing and develop skills in other aspects of academic writing.</p> <p>CO4: Demonstrate knowledge and understanding of report writing.</p> <p>CO5: Apply the demographic/statistical research training acquired in the taught element of the programme by designing an appropriate research strategy and research</p>

	methodology to carry out your research
Paper-4(b) Dissertation	CO1:will Acquire skills of academic writing report writing.
Paper-4(c) Dissertation	CO1:will Acquire skills of academic writing report writing.
Paper-5 Computer Application	CO1: Aware of elements of computer Processing System DBMS & RDBMS, and ERP Package. CO2: Aware of the concept of operating system and its types, DOS & UNIX Commands. CO3: Have Knowledge about the networking concept, Network Protocols LAN & MAN. CO4: Have Knowledge about the Internet and Web Related Services; Such as E-mail, Chatting, Conferencing & telephony. CO5: Aware and acquire practical skill For using Microsoft office-2010.
Paper-6 Consumer Law	CO1: On successful completion of this Course the students will be able to: 1. Read, interpret and apply the Law of Torts in Indian and international context. CO2: Apply their knowledge to solve factual situations under tort law and support them with logical arguments. CO3: Practice in this area in the law courts/consumer fora. CO5: Write research papers/notes, case comments and work in research houses

<b>Faculty of Management and Computer Application</b>	
<b>B.B.A.</b>	
<b>Programme Outcome (POs)</b>	
PO1	Apply knowledge of Management theories and practices to solve business problem.
PO2	Foster analytical and critical thinking abilities for data based decision making
PO3	Be abreast with the e-business solutions in the current environment led by technology disruptions.
PO4	Ability to develop ethical and value based leadership ability.
PO5	Ability to understand analyses and communicate regional, national, global economic, legal and ethical aspects of business.
PO6	Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment.
PO7	Students will be able to apply knowledge to real world.
PO8	Apply ethical principles and make ethical choice
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Students will be able to hold position in good management colleges
PSO2	Students hold passion for development
PSO3	Students have learning and problem solving ability
PSO4	Students will be able to tackle failures and challenges and will be able to

	emerge out of challenges
PSO5	Students will have integrity and ethical values

## Course Outcome

### COURSE OBJECTIVES AND OUTCOMES FOR BBA FIRST SEMESTER

#### Principles of Management

##### Course Objectives:

1. Discuss the various concepts of planning, Decision making and controlling to help solving managerial problems
2. Study and understand management concepts and styles in Global context.
3. Familiarizing the students with the contemporary issues in management.

**Course Outcomes:** After completing the course student will be able to understand and explain

**CO 1:** Developing understanding of managerial practices and their perspectives.

**CO2:** Applying planning and managerial decision making skills.

**CO 3:** Develop analytical and problem solving skills, based on understanding of management concepts and theories.

#### BUSINESS STATISTICS

##### COURSE OBJECTIVES

1. Understand the different basic concept / fundamentals of business statistics.
2. Understand the practical application of various concepts.
3. Understand the importance of measures of Descriptive statistics which includes measures of central tendency, Measures of Dispersion, Time Series Analysis, Index Number, Correlation and Regression analysis and their implication on Business performance.

**Course Outcomes:** After completing the course student will be able to understand and explain:

**CO1.** Gaining Knowledge of basic concept /fundamentals of business statistics.

**CO2.** To develop practical understanding of various statistics concepts.

**CO3.** To compute various measures of central tendency, Measures of Dispersion, Time Series Analysis, Index Number, Correlation and Regression analysis and their implication on Business performance.

#### Financial Accounting

**Course Objectives:** This course is intended to introduce the basic theory, concepts and practice of financial accounting and to enable students to understand information contained in the published financial statements of companies and other organizations. It includes the preparation of accounting statements, but their uses and limitations will also be emphasized.

**Course Outcomes:** After completing the course student will be able to understand and explain

**CO1.** Understand and apply accounting concepts, principles and conventions for their routine monetary transaction;

**CO2.** Recognize circumstances providing for increased exposure to fraud and define preventative

internal control measures.

**CO3.** Create and Prepare financial statements in accordance with Generally Accepted Accounting Principles

## **ORGANIZATIONAL BEHAVIOUR**

### **Course Objectives:**

1. To enhance the understanding of the dynamics of interactions between individual and the organization.
2. To facilitate a clear perspective to diagnose and effectively handle human behavior issues in Organizations.
3. To develop greater insight into their own behavior in interpersonal and group, team, situations.

**Course Outcomes:** After completing the course student will be able to understand and explain

**CO1:** Comprehending the nature, functioning and design of organizations and social collectives.

**CO2:** To evaluate the reciprocal relationship between the organizational characteristics and managerial behavior.

**CO3:** Develop practical insights and problem solving capabilities for effectively managing the Organizational processes.

## **Business Communication**

### **Course Objectives**

1. To understand business communication strategies and principles for effective communication in domestic and international business situations.
2. To understand and appropriately apply modes of expression, i.e., descriptive, expository, narrative, scientific, and self-expressive, in written, visual, and oral communication.
3. To develop the ability to research and write a documented paper and/or to give an oral presentation.

**Course Outcomes:** Upon successful completion of this course, the student should be able to:

**CO1.** Apply business communication strategies and principles to prepare effective communication for domestic and international business situations.

**CO2.** Analyze ethical, legal, cultural, and global issues affecting business Communication.

**CO3.** Develop an understanding of appropriate organizational formats and channels used in business communications.

## **COURSE OBJECTIVES AND OUTCOMES FOR BBA SECOND SEMESTER**

## **Financial Management**

### **Course Objective:**

1. To gain an understanding on the use of basic business financial management concepts and tools of analysis such as valuation.
2. To gain an insight into various types of financing available to a firm.
3. To have an understanding of various factors considered in designing the capital structure.
4. To acquaint the students about key areas related to investment and Working Capital Management.
5. To gain an insight into various techniques of dividend and retention ratio.

**Course Outcome:** After successful completion of this course students will be able to

**CO1** Understand the different basic concept /fundamentals of Corporate Finance

**CO2** Understand the practical application of time value of money and evaluating long term investment decisions

**CO3** Developing analytical skills to select the best source of capital ,its structure on the basis of cost of capital

**CO4** Understand the use and application of different models for firm's optimum dividend payout.

**CO5** Understand the recent trends of primary and secondary market and developing skills for application of various financial services.

## MARKETING MANAGEMENT

### COURSE OBJECTIVES

1. To facilitate understanding of the conceptual framework of marketing and its applications in decision making under various environmental constraints.
2. To develop understanding on Consumer and business buying behavior
3. Develop skill to understand Segmentation, Targeting and Positioning and develop strategy
4. Ability to Understand and implement the Marketing-Information Systems

**Course Outcomes:** Upon the successful completion of this course, the student will be able to:

**CO1.** Remember and Comprehend basic marketing concepts.

**CO2.** Understand marketing Insights on application of basic marketing concepts.

**CO3.** Able to Apply and develop Marketing Strategies and Plans.

**CO4.** Understand and Analyzing Business/Consumer Markets

**CO5.** Develop skills and ability Identify & evaluate Market Segments and Targeting.

## Computer Applications in Management

### COURSE OBJECTIVES:

1. The course aims to provide knowledge about basic components of a computer and their significance.
2. To provide hands on learning of applications of MS Office and Internet in businesses.
3. To provide an orientation about the increasing role of management information system in managerial decision making to gain Competitive edge in all aspects of Business.
4. To understand various MIS operating in functional areas of an organization.
5. To create awareness in upcoming managers, of different types of information systems in an organization so as to enable the use of computer resources efficiently, for effective decision making.

**Course Outcomes:** Upon successful completion of this course, the student should be able to:

**CO1.** Gain in depth knowledge of working of an IT enabled organization.

**CO2.** Learn to use various IT tools for solving Business Problems.

**CO3.** Develop and implement Information Systems for Business Applications.

**CO4.** Learn to increase efficiency of various management processes by using IT enabled technology.

**CO5.** Analyze various security and ethics related issues pertaining to the increasing use of

Information Technology.

## MANAGERIAL ECONOMICS

### Course Objectives:

1. Understand the relative importance of Managerial Economics
2. Know how the application of the principles of managerial economics can aid in achievement of business objectives
3. Understand the modern managerial decision rules and optimization techniques.
4. Be equipped with the tools necessary in analysis of consumer behavior as well as in forecasting product demand
5. Understand and be able to apply latest pricing strategies
6. Understand and analyse the macro environment affecting the business decision making

**Course Outcomes:** After completing the course student will be able to understand and explain

**CO1:** Students will be able to remember the concepts of micro economics and also able to understand the various micro economic principles to make effective economic decisions under conditions of risk and uncertainty.

**CO2:** The students would be able to understand the law of demand & supply & their elasticities, evaluate & analyse these concepts and apply them in various changing situations in industry. Students would be able to apply various techniques to forecast demand for better utilization of resources.

**CO3:** The students would be able to understand the production concept and how the production output changes with the change in inputs and able to analyse the effect of cost to business and their relation to analyze the volatility in the business world.

**CO4:** The students would be able to understand & evaluate the different market structure and their different equilibriums for industry as well as for consumers for the survival in the industry by the application of various pricing strategies.

**CO5:** The students would be able to analyse the macroeconomic concepts & their relation to micro economic concept & how they affect the business & economy.

## COURSE OBJECTIVES AND OUTCOMES FOR BBA THIRD SEMESTER BUSINESS ENVIRONMENT

### Course Objectives:

The basic objective of the course is to develop understanding and provide knowledge about business environment to the management students.

To promote basic understanding on the concepts of Business Environment and to enable them to realize the impact of environment on Business.

To provide knowledge about the Indian and international business environment.

**Course Outcomes:** Upon successful completion of this course, the student should be able to  
CO1. Comprehend the forces that shape business and economic structure and develop strategies to cope with the same.

CO2. Evaluate the economic & political environmental dynamics to cope with the changing regulations affecting business and its profitability.

CO3. Analyze the competitive forces in environment and accordingly devise business policies and strategies to stay in competitive position.

CO4. Analyze the desirability of technological advancement in the current set-up and how to gain technological advancement with least cost.

## Corporate Accounting

### COURSE OBJECTIVE:

- To provide a comprehensive treatment of accounting principles, technique and practices.
- To get the students acquainted with fundamental concepts and processes of accounting so that they are able to appreciate the nature of item presented in the annual accounts of an organization.
- To have a basic understanding of significant tools and techniques of financial analysis, which are useful in the interpretation of financial statements.
- To have a brief knowledge about international accounting standards as to have a global competence.

Course Outcome: After successful completion of this course students will be able to

C01 Understand the different basic concept /fundamentals of Corporate Finance

C02 Understand the practical application of time value of money and evaluating long term investment decisions

C03 Developing analytical skills to select the best source of capital ,its structure on the basis of cost of capital

Co4 Understand the use and application of different models for firm's optimum dividend payout.

Co5 Understand the recent trends of primary and secondary market and developing skills for application of various financial services.

## Insurance and Risk Management

### Course Objectives:

- To study the risk management of corporation and Insurance requirements.
- To use of risk management in regarding to insurance purchasing on behalf of corporation.
- To focus on risk management theories and models as a corporate and decision-making process.
- Being aware about the effect of getting involved in risky projects and what are the benefits and the profits for the companies and individuals.
- To provide students with the fundamental knowledge of insurance and their operation in the financial market.

Course Outcome: After successful completion of this course students will be able to

CO1. Understanding the nature of risk management and insurance importance for both individual's investors and companies.

CO2. Identifying risk keys and financial risks facing businesses and insurance requirement.

CO3 Mapping out various risks and deal with different risks using appropriate risk management techniques

CO4. Understanding the organization of risk management

CO5. Evaluating risks in terms of frequency and severity using various statistical and financial tools.

CO6. Learning the risk management process that can be applied to a variety of risks.

CO7. Analyzing the main factors effecting risks to companies through case studies.

## Public Finance

### Course Objectives:

To understand the framework and tools for preparing public financial plans that serve as road maps for goal achievement.

To analyze major financial planning issues and problems for effective money management.

To develop their own personal financial plans.

**Course Outcomes:** On completion of the course students would be able to:

CO1. Understand the sources of finance both public and private; demonstrate the role of government to correct market failures and possible advantage of public financing.

CO2. Attain the advantages and knowledge of public investments and other government expenditures. Understand the causes of growing public expenditures for various programmes and policies within and outside the country.

CO3. Understand the possible burden, benefits and distribution of various types of taxes among various classes of people, know the general trend and impact on general welfare and arouse them to suggest good and bad tax system.

CO4. Understand the needs of public borrowing from all possible sources to meet necessary public investment/expenditures. Also be alerted to find sources for repayment.

CO5. Deliver effectively the preparation of budget and how they are passed in the house.

Understand the changes in size and flexibility of state and central budget along with the role played by Finance

## Entrepreneurship and Small Scale Business Management

### COURSE OBJECTIVES

The purpose of this course is to expose the student to the basic concepts of entrepreneurship and Common myths to becoming an entrepreneur. Students will be exposed to the functions of entrepreneurs, and problems faced by them in the real world.

To impart understanding of Entrepreneurial Finance, Assistance and role of entrepreneurial development agencies

To provide insights to students in converting an Idea to an opportunity and develop understanding of various funding sources for a startup.

Familiarizing the students on Developing a Business Plan and to provide basic understanding of Launching a New Venture

Course Outcome: After successful completion of this course students will be able to-

CO 1: Developing understanding of basic concepts of entrepreneurship.

CO2: Develop knowledge on Entrepreneurial Finance, Assistance and role of Entrepreneurial Development Agencies

CO 3: Develop understanding of converting an Idea to an opportunity and develop understanding of various funding sources

CO 4: Comprehend and develop skills to develop a Business Plan.

CO 5: Students to have a basic understanding of Launching a New Venture

### COURSE OBJECTIVES AND OUTCOMES FOR BBA FOURTH SEMESTER

#### Production Management

##### COURSE OBJECTIVES:

To understand the role of Operations in overall Business Strategy of the firm.

To understand the application of operations management policies and techniques to the service sector as well as manufacturing firms.

To identify and evaluate the key factors and their interdependence of these factors in the design of effective operating systems.

To familiarize the students with the techniques for effective utilization of operational resources and managing the processes to produce good quality products and services at competitive prices.

Course Outcome: After successful completion of this course students will be able to

CO1: Understand the role of Operations in overall Business Strategy of the firm - the application of OM policies and techniques to the service sector as well as manufacturing firms.

CO2: Understand and apply the concepts of Material Management, Supply Chain Management and TQM perspectives.

CO3: Identify and evaluate the key factors and their interdependence of these factors in the design of effective operating systems.

CO4: Analyze / understand the trends and challenges of Operations Management in the current business environment.

CO5: Apply techniques for effective utilization of operational resources and managing the processes to produce good quality products and services at competitive prices.

## HUMAN RESOURCE MANAGEMENT

Course Objectives: In this course the students will learn the basic concepts and frameworks of Human Resource Management (HRM) and understand the role that HRM has to play in effective business administration. It will provide an insight as to how to use Human Resource as a tool to implement strategies.

Course Outcomes: After the successful completion of the course the students will be in a position to address the challenges of organizational management through and with human resources. In addition it will help in:

CO1. Synthesize the role of human resources management as it supports the success of the organization including the effective development of human capital as an agent for organizational change.

CO2. Demonstrate knowledge of laws that impact behaviour in relationships between employers and employees that ultimately impact the goals and strategies of the organization.

CO3. Understand the role of employee benefits and compensation as a critical component of employee performance, productivity and organizational effectiveness.

CO4. Show evidence of the ability to analyze, manage and problem solve to deal with the challenges and complexities of the practice of collective bargaining.

CO5. Demonstrate knowledge of practical application of training and employee development as it impacts organizational strategy and competitive advantage.

## Rural Marketing Research

Course Objectives:

To Understand the fundamental concepts of Rural marketing research methods

To lay foundation for various statistical tools and techniques used in rural marketing research.

To introduce various managerial decision making models.

able to present the report writing skills in research

Course Outcome: Upon successful completion of this course, the student should be able to:

CO1 Understand the fundamental concepts of rural marketing research methods i.e., formulation and designing the Problem and various sample selection techniques.

CO2 Understand the preliminaries of research problem in the context of data collection and

- processing.
- CO3 Tests the significance of various parameters of research problem through inferential statistical techniques and the forecasting analysis of the research problem.
- CO4 Comparison of more than two populations with respect to averages based on analysis of variance and experimental designs and also able to understand various research report skills.

## Management Information System

### COURSE OBJECTIVES:

The main objectives of this course are to make students

1. To understand and assess the importance of information and its role in business.
2. To develop data analyzing skills in students to evaluate information and the tools used for information processing.
3. To imbibe theoretical knowledge of MIS in the students and prepare the students technological Competitive and make them ready to self-upgrade with the higher technical skills, either in their post graduation program or in the work place.

Course Outcome: After successful completion of this course students will be able to

- CO1. Understand the information needs of an organization and a business function  
 CO2. Evaluate effectiveness of decision making process and identify its tools  
 CO3. Understand DSS techniques for making effective decisions  
 CO4. Design parameters for MIS application, for data analysis uses

### COURSE OBJECTIVES AND OUTCOMES FOR BBA FIFTH SEMESTER

#### COMMERCIAL LAW

##### Course Objectives

- To provide basic understanding of law of contract, Law of agency, Bailment & Pledge  
 To provide basic requirements of Negotiable Instruments Act, Law of Insurance and Law of Partnership for the purpose of conducting business  
 To impart basic provisions of Companies Act concerning incorporation and regulation of business organizations  
 To create an awareness about important legislations namely Sale of Goods Act, Consumer Protection Act, Factories Act having impact on business.  
 To appraise the students on the leading practical application oriented case studies – relevant and updated and analyzing case laws in arriving at conclusions facilitating business decisions.

Course Outcome: After successful completion of this course students will be able to

- CO1. Acquire a sound understanding of the legal aspects of the laws affecting businesses  
 CO2. Apply basic legal knowledge to business transactions.  
 CO3. Communicate effectively using standard business and legal terminology  
 CO4. Analyse a given business context using basic understanding of the applicable Acts and develop a suitable operational framework.  
 CO5. Describe current law, rules, and regulations related to settling business disputes

#### Management of financial Institutions

### Course Objective:

To gain an understanding on the use of basic business financial management concepts and tools of analysis such as valuation.

To gain an insight into various types of financing available to a firm.

To have an understanding of various factors considered in designing the capital structure.

To acquaint the students about key areas related to investment and Working Capital Management.

To gain an insight into various techniques of dividend and retention ratio.

Course Outcome: After successful completion of this course students will be able to

C01: Understand the different basic concept / fundamentals of Financial Management

C02: Understand the practical application of time value of money and evaluating long term investment decisions

C03: Developing analytical skills to select the best source of capital, its structure on the basis of cost of capital

C04: Understand the use and application of different models for firm's optimum dividend payout.

C05: Understand the recent trends of primary and secondary market and developing skills for application of various financial services.

### Foreign Exchange

#### Course Objectives:

The basic objective of this course is to provide to the country a steady stream of competent young men & women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Import & Export Management

To promote basic understanding on the concepts of export and import documentations to enable them to realize the impact of documentations.

Course Outcome: After successful completion of this course students will be able to

CO-1-Identify the process of Registration process, Payment terms, Export costing and pricing.

CO2: Interpret the process of Shipment procedures, & summarize the various documents used in Shipping,

CO3: Classify the concept of various incentives, benefits & risk involved in shipping process

CO4: Discuss the various business planning Import procedures & various export promotion schemes

CO5: Demonstrate the various export promotion schemes &Types of Export Houses.

### Accounting for Management

**Course Objectives:** This course is intended to introduce the basic theory, concepts and practice of financial accounting and to enable students to understand information contained in the published financial statements of companies and other organizations. It includes the preparation of accounting statements, but their uses and limitations will also be emphasized.

**Course Outcome:** After successful completion of this course students will be able to:

**CO1.** Understand and apply accounting concepts, principles and conventions for their routine monetary transaction;

**CO2.** Recognize circumstances providing for increased exposure to fraud and define preventative internal control measures.

**CO3.** Create and Prepare financial statements in accordance with Generally Accepted Accounting Principles

**CO4.** Utilize the technology (such as computers, information databases) in facilitating and enhancing accounting and financial reporting processes

**CO5.** Analyze, interpret and communicate the information contained in basic financial statements and explain the limitations of such statements.

**CO6** Understand the basic concepts and importance of working capital management

## **Operation Research**

### **COURSE OBJECTIVES:**

1. To understand the role of Operations in overall Business Strategy of the firm.
2. To understand the application of operations management policies and techniques to the service sector as well as manufacturing firms.
3. To identify and evaluate the key factors and their interdependence of these factors in the design of effective operating systems.
4. To understand the trends and challenges of Operations Management in the current business environment.
5. To familiarize the students with the techniques for effective utilization of operational resources and managing the processes to produce good quality products and services at competitive prices.

**Course Outcome:** After successful completion of this course students will be able to

**CO1:** Understand the role of Operations in overall Business Strategy of the firm - the application of OM policies and techniques to the service sector as well as manufacturing firms.

**CO2:** Understand and apply the concepts of Material Management, Supply Chain Management and TQM perspectives.

**CO3:** Identify and evaluate the key factors and their interdependence of these factors in the design of effective operating systems.

**CO4:** Analyze / understand the trends and challenges of Operations Management in the current business environment.

**CO5:** Apply techniques for effective utilization of operational resources and managing the processes to produce good quality products and services at competitive prices.

## **COURSE OBJECTIVES AND OUTCOMES FOR BBA FIFTH SEMESTER**

### **Advance Accountancy**

#### **COURSE OBJECTIVE:**

1. To provide a comprehensive treatment of accounting principles, technique and practices.
2. To get the students acquainted with fundamental concepts and processes of accounting so that they are able to appreciate the nature of item presented in the annual accounts of an organization.
3. To have a basic understanding of significant tools and techniques of financial analysis, which are useful in the interpretation of financial statements.
4. To have a brief knowledge about international accounting standards as to have a global competence.

**Course Outcome:** After successful completion of this course students will be able to

**CO1** Understand the different basic concept /fundamentals of Corporate Finance

**CO2** Understand the practical application of time value of money and evaluating long term investment decisions

**CO3** Developing analytical skills to select the best source of capital ,its structure on the basis of cost of capital

**CO4** Understand the use and application of different models for firm's optimum dividend payout.

**CO5** Understand the recent trends of primary and secondary market and developing skills for application of various financial services.

## **Income Tax Law and Practices**

### **COURSE OBJECTIVES:**

The present course aims at familiarizing the participants with the principles, problems and structure of different types of taxes in Indian economy.

A student of taxation will have to make a detailed study of tax policy and tax provisions in India.

A broad understanding or role of taxation in economic and industrial development of an economy.

Course Outcomes: **After successful completion of this course students will be able to**

CO1: Understand about various Tax provisions and Tax planning

CO 2: Understand the scope of tax planning concerning various business and managerial and strategic activities can be explored.

CO 3: Have knowledge about various Tax Dates, Rates and Forms

CO 4: Measure Corporate Tax and Taxation in case of business restructuring

CO 5: Understand how GST can be calculated & managed.

## **International Business Management**

### **Course Objectives**

1. To give the student an exposure to the dynamic environment of International Business

2. To understand the impact of environment on the International Business Operations of the firm

3. To explain the functions and form of the global monetary system

4. To explain the role of International organizations and Regional Trade

**Course Outcome:** After successful completion of this course students will be able to

CO 1: To get an overview of the key issues and concepts of International Business.

CO 2: Understand how and why the world's countries differ.

CO3: Understand the monetary framework in which international Business transactions are conducted.

CO4: Understand the role of International Organizations and Regional Trade blocks

CO 5: Implement the decisions for international operations in a superior manner

## **Strategic Management**

### **Course Objectives**

1. A clear understanding of the key concepts and principles of strategic management

2. A set of useful analytical skills, tools and techniques for analyzing a company strategically

3. To provide a basic understanding of the nature and dynamics of the strategy formulation and implementation processes.
4. To encourage students to think critically and strategically.
5. The ability to identify strategic issues and design appropriate courses of action.

**Course Outcome:** After successful completion of this course students will be able to

CO1. Formulate organizational vision, mission, goals, and values.

CO2. Develop strategies and action plans to achieve an organization's vision, mission, and goals.

CO3. Develop powers of managerial judgment, how to assess business risk, and improve ability to make sound decisions and achieve effective outcomes.

CO4. Evaluate and revise programs and procedures in order to achieve organizational goals;

CO5. Consider the ethical dimensions of the strategic management process;

## M.B.A.

### Programme Outcome (POs)

- |     |  |
|-----|--|
| PO1 | Demonstrate the knowledge of management science to solve complex corporate problems using limited resources  |
| PO2 | Research literature identify and analyse management research problems  |
| PO3 | Identify business opportunities, design and implement innovation in work space.  |
| PO4 | Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to management practice. |
| PO5 | Apply ethical principles and make ethical choices  |
| PO6 | Function effectively as an individual, and as member or leader in diverse teams and in multidisciplinary settings  |
| PO7 | Communicate effectively with all stakeholders of his role as a manager.  |
| PO8 | Engage in independent and life-long learning.  |

### Programme Specific Outcome (PSOs)

- |      |  |
|------|--|
| PSO1 | Students will be able to attain competitive advantage            |
| PSO2 | Students will be able to maintain time management                |
| PSO3 | Students will be able to distribute responsibilities as a leader |
| PSO4 | Students will be able to motivate employees                      |
| PSO5 | Students will be able to bird eye vision to grab opportunities   |

# Course Outcome

## COURSE OBJECTIVES AND OUTCOMES FOR MBA FIRST SEMESTER MANAGEMENT CONCEPTS

### Course Objectives:

The purpose of this course is to expose the student to the basic concepts of management in order to aid the student in understanding how an organization functions, and in understanding the complexity and wide variety of issues managers face in today's business firms.

Discuss the various concepts of planning, Decision making and controlling to help solving managerial problems

Study and understand management concepts and styles in Global context.

Familiarizing the students with the contemporary issues in management.

**Course Outcomes:** After completing the course student will be able to understand and explain

**CO 1:** Developing understanding of managerial practices and their perspectives.

**CO2:** Applying planning and managerial decision making skills.

**CO 3:** Develop analytical and problem solving skills, based on understanding of management concepts and theories.

**CO 4:** Comprehend and practice Indian Ethos and Value Systems.

**CO 5:** Applying value based management and ethical practices.

## **MANAGERIAL ECONOMICS**

### **Course Objectives:**

1. Understand the relative importance of Managerial Economics
2. Know how the application of the principles of managerial economics can aid in achievement of business objectives
3. Understand the modern managerial decision rules and optimization techniques.
4. Be equipped with the tools necessary in analysis of consumer behavior as well as in forecasting product demand
5. Understand and be able to apply latest pricing strategies
6. Understand and analyses the macro environment affecting the business decision making

**Course Outcomes:** After completing the course student will be able to understand and explain

**CO1:** Students will be able to remember the concepts of micro economics and also able to understand the various micro economic principles to make effective economic decisions under conditions of risk and uncertainty.

**CO2:** The students would be able to understand the law of demand & supply & their elasticities, evaluate & analyses these concepts and apply them in various changing situations in industry . Students would be able to apply various techniques to forecast demand for better utilization of resources.

**CO3:** The students would be able to understand the production concept and how the production output changes with the change in inputs and able to analyses the effect of cost to business and their relation to analyze the volatility in the business world.

**CO4:** The students would be able to understand & evaluate the different market structure and their different equilibriums for industry as well as for consumers for the survival in the industry by the application of various pricing strategic.

**CO5:** The students would be able to analyses the macroeconomic concepts & their relation to micro economic concept & how they affect the business & economy.

## **Financial Accounting for Managers**

**Course Objectives:** This course is intended to introduce the basic theory, concepts and practice of financial accounting and to enable students to understand information contained in the published financial statements of companies and other organizations. It includes the preparation of accounting statements, but their uses and limitations will also be emphasized.

**Course Outcomes:** After completing the course student will be able to understand and explain:

- CO1.** Understand and apply accounting concepts, principles and conventions for their routine monetary transaction;
- CO2.** Recognize circumstances providing for increased exposure to fraud and define preventative internal control measures.
- CO3.** Create and Prepare financial statements in accordance with Generally Accepted Accounting Principles.
- CO4.** Utilize the technology (such as computers, information databases) in facilitating and enhancing accounting and financial reporting processes.
- CO5.** Analyze, interpret and communicate the information contained in basic financial statements and explain the limitations of such statements.
- CO6.** Understand the basic concepts and importance of working capital management.

## **BUSINESS STATISTICS & ANALYTICS**

### **COURSE OBJECTIVES**

1. Understand the different basic concept / fundamentals of business statistics.
2. Understand the practical application of various concepts.
3. Understand the importance of measures of Descriptive statistics which includes measures of central tendency, Measures of Dispersion, Time Series Analysis, Index Number, Correlation and Regression analysis and their implication on Business performance.
4. Understand the concept of Probability and its usage in various business applications.
5. Understanding Decision making environment and applying the Concept of Business Analytics.

**Course Outcomes:** After completing the course student will be able to understand and explain:

- CO1.** Gaining Knowledge of basic concept / fundamentals of business statistics.
- CO2.** To develop practical understanding of various statistics concepts.
- CO3.** To compute various measures of central tendency, Measures of Dispersion, Time Series Analysis, Index Number, Correlation and Regression analysis and their implication on Business performance.
- CO4.** Evaluating basic concepts of probability and perform probability theoretical distributions.
- CO5.** Taking managerial decision and applying the Concept of Business Analytics.

## **ORGANIZATIONAL BEHAVIOUR**

### **Course Objectives:**

1. To enhance the understanding of the dynamics of interactions between individual and the organization.
2. To facilitate a clear perspective to diagnose and effectively handle human behavior issues in Organizations.
3. To develop greater insight into their own behavior in interpersonal and group, team, situations.

**Course Outcomes:** After completing the course student will be able to understand and explain:

- CO 1:** Comprehending the nature, functioning and design of organizations and social collectives.
- CO2:** To evaluate the reciprocal relationship between the organizational characteristics and managerial behavior.
- CO 3:** Develop practical insights and problem solving capabilities for effectively managing the Organizational processes.
- CO 4:** Analyzing the behavior of individuals and groups in organizations.
- CO 5:** Developing conceptual understanding of change and its implementation.

## **MARKETING MANAGEMENT**

### **COURSE OBJECTIVES**

1. To facilitate understanding of the conceptual framework of marketing and its applications in decision making under various environmental constraints.
2. To develop understanding on Consumer and business buying behavior
3. Develop skill to understand Segmentation, Targeting and Positioning and develop strategy
4. Ability to Understand and implement the Marketing-Information Systems

**Course Outcomes:** Upon the successful completion of this course, the student will be able to:

**CO1.** Remember and Comprehend basic marketing concepts.

**CO2.** Understand marketing Insights on application of basic marketing concepts.

**CO3.** Able to Apply and develop Marketing Strategies and Plans.

**CO4.** Understand and Analyzing Business/Consumer Markets

**CO5.** Develop skills and ability Identify & evaluate Market Segments and Targeting.

## **Business Communication**

### **Course Objectives**

1. To understand business communication strategies and principles for effective communication in domestic and international business situations.
2. To understand and appropriately apply modes of expression, i.e., descriptive, expositive, narrative, scientific, and self-expressive, in written, visual, and oral communication.
3. To develop the ability to research and write a documented paper and/or to give an oral presentation.
4. To develop the ability to communicate via electronic mail, Internet, and other technologies for presenting business messages.
5. To understand and apply basic principles of critical thinking, problem solving, and technical proficiency in the development of exposition and argument.

**Course Outcomes:** Upon successful completion of this course, the student should be able to:

**CO1.** Apply business communication strategies and principles to prepare effective communication for domestic and international business situations.

**CO2.** Analyze ethical, legal, cultural, and global issues affecting business Communication.

**CO3.** Develop an understanding of appropriate organizational formats and channels used in business communications.

**CO4.** Gaining an understanding of emerging electronic modes of communication.

**CO5.** Developing effective verbal and non verbal communication skills.

## **Computer Applications and Management Information System**

### **COURSE OBJECTIVES:**

The course aims to provide knowledge about basic components of a computer and their significance:

1. To provide hands on learning of applications of MS Office and Internet in businesses.
2. To provide an orientation about the increasing role of management information system in managerial decision making to gain Competitive edge in all aspects of Business.
3. To understand various MIS operating in functional areas of an organization.
4. To create awareness in upcoming managers, of different types of information systems in an organization so as to enable the use of computer resources efficiently, for effective decision making.

**Course Outcomes:** Upon successful completion of this course, the student should be able to:

**CO1.** Gain in depth knowledge of working of an IT enabled organization.

**CO2.** Learn to use various IT tools for solving Business Problems.

**CO3.** Develop and implement Information Systems for Business Applications.

**CO4.** Learn to increase efficiency of various management processes by using IT enabled technology.

**CO5.** Analyze various security and ethics related issues pertaining to the increasing use of Information Technology.

#### **COURSE OBJECTIVES AND OUTCOMES FOR MBA SECOND SEMESTER**

### **Business Environment**

#### **Course Objectives:**

1. The basic objective of the course is to develop understanding and provide knowledge about business environment to the management students.
2. To promote basic understanding on the concepts of Business Environment and to enable them to realize the impact of environment on Business.
3. To provide knowledge about the Indian and international business environment.

**Course Outcomes (CO) :** (Identify minimum skills/ knowledge necessary to be imbibed by students)

**CO1.** Comprehend the forces that shape business and economic structure and develop strategies to cope with the same.

**CO2.** Evaluate the economic & political environmental dynamics to cope with the changing regulations affecting business and its profitability.

**CO3.** Analyze the competitive forces in environment and accordingly devise business policies and strategies to stay in competitive position.

**CO4.** Analyze the desirability of technological advancement in the current set-up and how to gain technological advancement with least cost.

**CO5.** Understand the international influences on domestic business and measures to be taken for successful global business operations

### **HUMAN RESOURCE MANAGEMENT**

#### **COURSE CODE: 202**

**Course Objectives:** In this course the students will learn the basic concepts and frameworks of Human Resource Management (HRM) and understand the role that HRM has to play in effective business administration. It will provide an insight as to how to use Human Resource as a tool to implement strategies.

**Course Outcomes:** After the successful completion of the course the students will be in a position to address the challenges of organizational management through and with human resources. In addition it will help in:

**CO1.** Synthesize the role of human resources management as it supports the success of the organization including the effective development of human capital as an agent for organizational change.

**CO2.** Demonstrate knowledge of laws that impact behaviour in relationships between employers and employees that ultimately impact the goals and strategies of the organization.

**CO3.** Understand the role of employee benefits and compensation as a critical component of employee performance, productivity and organizational effectiveness.

**CO4.** Show evidence of the ability to analyze, manage and problem solve to deal with the challenges and complexities of the practice of collective bargaining.

**CO5.** Demonstrate knowledge of practical application of training and employee development as it impacts organizational strategy and competitive advantage.

### **Business Research Methods**

#### **Course Objectives:**

1. Understand the concept / fundamentals of research and their types.
2. Understand the practical application of various research techniques.

3. Understand the importance of scaling & measurement techniques and sampling techniques
4. Understand the importance of coding, editing, tabulation and analysis in doing research.
5. Understanding and applying the concept of statistical analysis which includes various parametric test and non parametric test and ANOVA technique and understand technique of report writing.

**Course Outcome:**

**CO1.** Knowledge of concept / fundamentals for different types of research.

**CO2.** Applying relevant research techniques.

**CO3.** Understanding relevant scaling & measurement techniques and should use appropriate sampling techniques.

**CO4.** Synthesizing different techniques of coding, editing, tabulation and analysis in doing research.

**CO5.** Evaluating statistical analysis which includes various parametric test and non parametric test and ANOVA technique and prepare report.

**Financial Management**

**Course Objective:**

1. To gain an understanding on the use of basic business financial management concepts and tools of analysis such as valuation.
2. To gain an insight into various types of financing available to a firm.
3. To have an understanding of various factors considered in designing the capital structure.
4. To acquaint the students about key areas related to investment and Working Capital Management.
5. To gain an insight into various techniques of dividend and retention ratio.

**Course Outcome:** After successful completion of this course students will be able to:

**CO1** Understand the different basic concept /fundamentals of Corporate Finance

**CO2** Understand the practical application of time value of money and evaluating long term investment decisions

**CO3** Developing analytical skills to select the best source of capital ,its structure on the basis of cost of capital

**CO4** Understand the use and application of different models for firm's optimum dividend payout.

**CO5** Understand the recent trends of primary and secondary market and developing skills for application of various financial services.

**Management Accounting and Control**

**Course Code:** 205

**Course Objectives:**

1. To have a basic understanding of various types of costs and their relevance in decision making.
2. To have an understanding of Marginal Costing Technique and its application in decision making.
3. To gain an insight into the concept of breakeven point and its applications. To understand the concept of Variance and calculate various types of variances.
4. To apply the technique of budgeting in preparation of various types of budgets

**Course outcome:**

**CO1:** Recognize the functioning and working of various financial institutions in India thus in turn connecting it to the working of Indian economy.

**CO2:** Interpret the knowledge about the working of various financial instruments in the primary and secondary market in India as well as foreign market.

**CO3:** Classify about the working of micro finance instruments in India as well as foreign market

**CO4:** Interpret the knowledge about the banking industry and demonstrate the various market demand analysis

# **Production Operations and Supply Chain Management**

COURSE CODE: 206

## **COURSE OBJECTIVES:**

1. To understand the role of Operations in overall Business Strategy of the firm.
2. To understand the application of operations management policies and techniques to the service sector as well as manufacturing firms.
3. To identify and evaluate the key factors and their interdependence of these factors in the design of effective operating systems.
4. To familiarize the students with the techniques for effective utilization of operational resources and managing the processes to produce good quality products and services at competitive prices.

## **Course Outcome:**

**CO1:** Understand the role of Operations in overall Business Strategy of the firm - the application of OM policies and techniques to the service sector as well as manufacturing firms.

**CO2:** Understand and apply the concepts of Material Management, Supply Chain Management and TQM perspectives.

**CO3:** Identify and evaluate the key factors and their interdependence of these factors in the design of effective operating systems.

**CO4:** Analyze / understand the trends and challenges of Operations Management in the current business environment.

**CO5:** Apply techniques for effective utilization of operational resources and managing the processes to produce good quality products and services at competitive prices.

# **Quantitative Techniques for Managers**

COURSE CODE: 207

## **COURSE OBJECTIVES:**

1. To Understand the importance of the use of OR application in decision Making environment.
2. To formulate LPP and Obtain Graphical Solutions & Acquire General idea of the Simplex method.
3. To understand and solve transportation & assignment models.
4. To know optimal sequence model and understand concepts of queuing theory.
5. To identify right time for replacement of equipment and understand project management techniques

**Course Outcome:** After successful completion of this course students will be able to

**CO1.** Understand the basic operations research concepts and terminology involved in optimization techniques

**CO2.** Understand how to interpret and solve business-related problems and

**CO3.** Apply certain mathematical techniques in getting the best possible solution to a problem involving limited resources

**CO4.** Apply the most widely used quantitative techniques in decision making

**CO5.** Identify project goals, constraints, deliverables, performance criteria, control needs, and resource requirements in order to achieve project success

# **Legal Aspects of Business**

Course Code: 208

## **Course Objectives:**

1. To provide basic understanding of law of contract, Law of agency, Bailment & Pledge.
2. To provide basic requirements of Negotiable Instruments Act, Law of Insurance and Law of Partnership for the purpose of conducting business.
3. To impart basic provisions of Companies Act concerning incorporation and regulation of business organizations.
4. To create an awareness about important legislations namely Sale of Goods Act, Consumer

- Protection Act, Factories Act having impact on business.
5. To appraise the students on the leading practical application oriented case studies – relevant and updated and analyzing case laws in arriving at conclusions facilitating business decisions.

**Course Outcome:** After successful completion of this course students will be able to

**CO1.** Acquire a sound understanding of the legal aspects of the laws affecting businesses

**CO2.** Apply basic legal knowledge to business transactions.

**CO3.** Communicate effectively using standard business and legal terminology

**CO4.** Analyse a given business context using basic understanding of the applicable Acts and develop a suitable operational framework.

**CO5.** Describe current law, rules, and regulations related to settling business disputes

### **COURSE OBJECTIVES AND OUTCOMES FOR MBA THIRD SEMESTER**

#### **Strategic Management**

##### **Course Objectives**

1. A clear understanding of the key concepts and principles of strategic management
2. A set of useful analytical skills, tools and techniques for analyzing a company strategically
3. To provide a basic understanding of the nature and dynamics of the strategy formulation and implementation processes.
4. To encourage students to think critically and strategically.
5. The ability to identify strategic issues and design appropriate courses of action.

**Course Outcomes:** After completing the course student will be able to understand and explain:

**CO1.** Formulate organizational vision, mission, goals, and values.

**CO2.** Develop strategies and action plans to achieve an organization's vision, mission, and goals.

**CO3.** Develop powers of managerial judgment, how to assess business risk, and improve ability to make sound decisions and achieve effective outcomes.

**CO4.** Evaluate and revise programs and procedures in order to achieve organizational goals;

**CO5.** Consider the ethical dimensions of the strategic management process

#### **INTERNATIONAL BUSINESS MANAGEMENT**

##### **Course Objectives**

1. To give the student an exposure to the dynamic environment of International Business
2. To understand the impact of environment on the International Business Operations of the firm
3. To explain the functions and form of the global monetary system
4. To explain the role of International organizations and Regional Trade

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO 1:** To get an overview of the key issues and concepts of International Business.

**CO 2:** Understand how and why the world's countries differ.

**CO3:** Understand the monetary framework in which international business transactions are conducted.

**CO4:** Understand the role of International Organizations and Regional Trade blocks.

**CO 5:** Implement the decisions for international operations in a superior manner.

## **Human Resource Management**

### **TALENT MANAGEMENT**

#### **Course objectives**

1. This course focuses on the attraction, acquisition, and retention of talent in organizations
2. A clear understanding of talent management and its linkage with organizational strategy and other HR practices.
3. To provide the understanding of acquiring and retaining the talent in the organization.
4. To provide them the process of identifying and developing the potential talent to fulfill the present and future need of the organization.
5. In addition, the course will cover the negotiation problems that managers may face in decision-making processes; for example, the hiring negotiation, the promotion negotiation, the firing decision, and HR-relevant cross-cultural negotiation issues.

**Course Outcomes:** After completing the course student will be able to understand and explain.

CO 1: Knowledge of Talent Management Processes.

CO 2: Understanding for analysis of the impacts of Talent management in the organization.

CO 3: Competency to implement TalentManagement practices.

CO 4: Competency to develop leadershipqualities among subordinate

CO 5: Knowledge about the reward system to support Talent management

## **Performance and Reward Management**

#### **Course Objectives:**

1. To create an understanding of the key concepts of performance management and contemporary methods for administering compensation and rewards in practices.
2. To articulate the benefits of using a performance development plan and the consequences of not having one in place.
3. To distinguish the elements of an effective, integrated performance development system.
4. To devise “SMART” annual performance objectives (e.g., objectives that are specific, measurable, attainable, relevant and track able).
5. To familiarize the students with the concept of competency mapping and understanding its role in career development.
6. To familiarize students with various aspects of compensation system in India and make them understand various issues linked with the process of fixing salary dearness allowance, bonus, incentive scheme and benefits.

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1:** Knowledge of Performance Management and Performance Appraisal

**CO2:** Competency to understand the importance of importance of Performance Management

**CO 3:** Knowledge about the Compensationand Reward Systems

**CO 4:** Competency to implement the effectivereward systems in the organization

**CO 5:** Ability to explain the relevance of competency mapping and understanding its linkage with career development

## **Employee Relations and Labour Laws**

#### **Course Objectives:**

1. To Provide conceptual framework of Industrial Relation
2. To make students aware with the Indian Labour legislation
3. To make students aware with the basic requirements and mandate of labour legislations
4. To help the students to understand the existing framework of Industrial Relation and Labour

legislation.

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO 1:** Knowledge of Industrial Relation framework.

**CO 2:** Competency to understand the importance of Employee Relation within the perspective of Industrial Relation.

**CO 3:** Knowledge about relevant Laws of HR management.

**CO 4:** Competency to interpreted and implement the Labour Laws within organization.

**CO 5:** Competency to use Collective Bargaining and Grievance redressal Mechanism

## **SALES AND RETAIL MANAGEMENT**

### **Course Objectives:**

1. To build knowledge, understanding, and skills in Sales and Retail Management.
2. Enable development and implementation of Sales and Retail Management strategies.
3. Help to analyze decision alternatives and criteria in the context of realistic problem situations in Sales and Retail Management.

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1:** Students will develop knowledge, understanding and skills in Sales force management.

**CO2:** Acquainted with better understanding of implementation of sales management strategies.

**CO3:** Develop analytical skills for effective decision alternatives in sales management problems

**CO4:** Develop the knowledge, understanding and skills in retail management.

**CO5:** Acquainted with better understanding of implementation of retail management strategies and develop analytical skills for effective decision alternatives in retail operations.

Consumer Behaviour & Marketing Communication

### **Course Objectives**

1. To understand consumer behavior and explain the consumer decision making process
2. To define external and internal influences on buying behavior
3. To provide an understanding of integrated marketing communications (IMC) and its influences on other marketing functions and other promotional activities.
4. Help to understand what advertising is and its role in advertising and brand promotion.
5. Understand the importance of message design and the creativity involved in message designing.

**Course Outcomes:** After completing the course student will be able to understand and explain.

### **Course Outcomes**

**CO1.** Understand the three major influences on customer choice: the process of human decision making in a marketing context; the individual customers make up; the environment in which the customer is embedded.

**CO2.** Develop the cognitive skills to enable the application of the above knowledge to marketing decision making and activities

**CO3.** Be able to demonstrate how concepts may be applied to marketing strategy.

**CO4.** Apply an IMC approach in the development of an overall advertising and promotional plan.

**CO5.** Enhance creativity, critical thinking and analytical ability through developing an integrated marketing communication campaign

## **DIGITAL MARKETING**

### **Course Objectives:**

1. To help students understand digital and social media marketing practices.

2. To provide understanding of the concept of social media platforms
3. To impart learning on various digital channels and how to acquire and engage consumers online.
4. To provide insights on building organizational competency by way of digital marketing practices and cost considerations.
5. To develop understanding of the latest digital practices for marketing and promotion.

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1.** Students will develop an understanding of digital and social media marketing practices.

**CO2.** Students will develop understanding of the social media platforms.

**CO3.** Students will acquire the skill to acquire and engage consumers online.

**CO4.** Students will develop understanding of building organizational competency by way of digital marketing practices and cost considerations.

**CO5.** Students will develop understanding of the latest digital practices for marketing and promotion.

## Specialization: Finance

### **Investment Analysis & Portfolio Management**

#### **COURSE OBJECTIVE:**

1. This course will emphasize an understanding of the economic forces that influence the pricing of financial assets.
2. Understanding of investment theory will be stressed and tied in with discussion of applicable techniques such as portfolio selection.
3. The course material will cover formulae that can be applied in different business situations regarding active portfolio management.
4. To expose the students to the concepts, tools and techniques applicable in the field of security analysis and portfolio management.
5. To provide a theoretical and practical background in the field of investments

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1:** Understand about various investment avenues.

**CO 2:** Understand the value of assets and manage investment portfolio.

**CO 3 :** Understand various Models of Investment and its applications.

**CO 4:** Understand and create various investment strategies on the basis of various market conditions.

**CO 5:** Measure riskiness of a stock or a portfolio position.

### **Tax Planning & Management**

#### **COURSE OBJECTIVES:**

1. The present course aims at familiarizing the participants with the principles, problems and structure of different types of taxes in Indian economy.
2. A student of taxation will have to make a detailed study of tax policy and tax provisions in India.
3. A broad understanding or role of taxation in economic and industrial development of an economy.
4. Acquaint about the relevance of direct and indirect taxes in taking corporate decisions.
5. Familiarize students about the relevance of GST in taxation policy of the economy.

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1:** Understand about various Tax provisions and Tax planning

**CO 2:** Understand the scope of tax planning concerning various business and managerial and

strategic activities can be explored.

**CO 3:** Have knowledge about various Tax Dates, Rates and Forms.

**CO 4:** Measure Corporate Tax and Taxation in case of business restructuring.

**CO 5:** Understand how GST can be calculated & managed.

## Financial Market and Services

### Course Objective:

1. To impart knowledge of the financial system of India, the role of important financial institutions, financial markets and financial instruments.
2. Familiarizing the students with the mechanism of commercial banking, its operations, instruments regulations etc.
3. Helping students in acquiring analytical skills in the money and capital market in the context of raising medium and long term funds
4. Familiarizing the students with the microfinance as a growing source of financial mechanism
5. Developing an appreciation among the students for the Banking services and products.

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1.** Recognize the functioning and working of various financial institutions in India thus in turn connecting it to the working of Indian economy.

**CO2.** Interpret the knowledge about the working of various financial instruments in the primary and secondary market in India as well as foreign market.

**CO3.** Classify about the working of micro finance instruments in India as well as foreign market

**CO4.** Interpret the knowledge about the banking industry and demonstrate the various market demand analysis

## Working Capital Management

### Course Objectives:

1. To have a basic understanding of the concept and importance of sound working capital strategies of a firm.
2. To have an understanding of the impact of working capital policies relating to Cash management, inventory and receivables management on firm's profitability.
3. To gain an insight into the sources of working capital financing

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1:** Understand the objectives and functioning of WTO

**CO2:** Investigate funds flow cycles and their impact on working capital management objectives.

**CO3:** Compare and contrast the relative merits of alternative working capital policies and the **CO4:** likely short-term and long-term impact on the firm.

**CO5:** Formulate appropriate working capital management policies to achieve corporate objectives.

**CO6:** Apply corporate cash management, accounts receivable management, bank relations, and inventory management techniques to maximize the share holders' value.

## Specialization Group: Information Technology

### ENTERPRISE RESOURCE PLANNING

#### Course Objectives:

1. Impart knowledge about Enterprise Resource Planning (ERP)
2. Impart knowledge of related technologies
3. Impart knowledge about implementation of ERP
4. Analyze the applications of ERP at operational levels
5. Analyze the applications of ERP at managerial practices.

**Course Outcomes:** After completing the course student will be able to understand and explain.

CO 1: Knowledge of ERP Technology and its importance

CO 2: Able to analyze the organizational readiness for ERP.

CO 3: Able to implement ERP in functional area of businesses and Management.

CO 4: Interpreting the impacts of ERP on business processes.

CO 5: Understanding the Market Trends in ERP applications

## **Web Technology and E-commerce**

### **Course Objectives**

1. To impart knowledge about basic concepts, significance, categories and implementation of e-business.
2. The course prepares students, as future managers, to critically assess the impact of information systems on the E-Business.
3. It also introduces those skills required in order to manage online environments and projects

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO 1:** Understanding technology the nature of Web

**CO 2:** Exploring the business potential of Web Technology

**CO 3:** Planning and executing the web based business application

**CO 4:** Knowledge about the Information and Web Security

**CO 5:** Knowledge about the functioning of online payment systems

## **CLOUD COMPUTING FOR BUSINESS**

### **Course Objective:**

To impart knowledge about cloud computing and its application in business and understanding the importance of information management for a business organization.

**Course Outcomes:** After completing the course student will be able to understand and explain.

**CO1:** Understanding the Technologies in Cloud Computing

**CO2:** Knowledge about the services of Cloud Computing

**CO3:** Interpreting the business values of Cloud Computing

**CO4:** Knowledge about the Security in Cloud Computing

**CO5:** Knowledge of Virtualization

## **CORPORATE GOVERNANCE, VALUES & ETHICS**

**Course Code: MBA-401**

### **Course Objectives:**

1. To introduce the concept and importance of corporate governance
2. To introduce the concept and importance of business ethics
3. To know the facets of ethics management
4. To know the ethical values and Indian ethos in Management.

### **Course outcome:**

**CO1:** After going through this course the student will be able to:

**CO2:** Have an insights into various concepts & cases related to Corporate Governance

**CO3:** Gain a deeper understanding of the various aspects, factors related to role of ethics in Business.

## **ENTREPRENEURSHIP DEVELOPMENT**

**Course Code:** MBA-402

### **Course Objectives:**

1. To provide basic understanding of entrepreneurship concept, functions of entrepreneurs, and problems faced by them in the real world.
2. To impart understanding of basic entrepreneurial skills and knowledge, and acquaint them with special forms of entrepreneurial trends.
3. To expose students to the entrepreneurial environment, creating awareness of business opportunities, and familiarizing them with formal practices in effective business plan formation. To provide insights to students on entrepreneurial opportunities, government support services and government policies.
4. To familiarize students with SME sector activities, venture capital financing and international entrepreneurial opportunities.

**Course outcome:** After successful completion of this course students will be able to-

**CO 1:** Developing understanding of basic concepts of entrepreneurship.

**CO2:** Develop knowledge on Entrepreneurial Finance, Assistance and role of Entrepreneurial Development Agencies

**CO 3:** Develop understanding of converting an Idea to an opportunity and develop understanding of various funding sources

**CO 4:** Comprehend and develop skills to Develop a Business Plan.

**CO 5:** Students to have a basic understanding of Launching a New Venture

## **Human Values and Professional Ethics**

**Course Code:** MBA-403

### **Objectives:**

1. To help students distinguish between values and skills, and understand the need, basic guidelines, content and process of value education.
2. To help students initiate a process of dialog within themselves to know what they 'really want to be' in their life and profession
3. To help students understand the meaning of happiness and prosperity for a human being.
4. To facilitate the students to understand harmony at all the levels of human living, and live accordingly.
5. To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life.

### **Course Outcome:**

On completion of this course, the students will be able to

**CO1:** Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society

**CO2:** Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.

**CO3:** Understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society

**CO4:** Understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.

**CO5:** Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

## **Training & Development**

**Code: MBA HR -4**

### **Course Objective:**

The 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 and recent experiences. The design of the course aims to provide an experimental, skill- based exposure to the process of planning, organizing and implementing a training system.

**Course Outcomes:** After successful completion of the course, the students must be in a position to address:

**CO1:** The field of Training and Development and its role in optimizing performance.

**CO2:** Applying theoretical concepts and models to training design.

**CO3:** Designing training interventions using a variety of methodologies.

**CO4:** Evaluating the effectiveness of training & development interventions.

**CO5:** Assessing whether training & development is a viable career option.

## **Negotiation & Conflict Management**

**Code: MBA HR -5**

### **Course Objective:**

To familiarize the learners with the dynamics of collective bargaining in the industrial relations environment in the country and to impart them relevant skills in effective negotiations so as to help in managing unions effectively. .

### **Course Outcome:**

**CO1:** Understanding the central concepts of negotiation and conflict.

**CO2:** Providing experience in the negotiation and conflict management process.

**CO3:** Effectively diagnosing and planning for different types of negotiation situations.

**CO4:** Developing negotiating skills and confidence in a variety of contexts.

## **MARKETING OF SERVICES**

### **COURSE OBJECTIVES**

1. To develop an understanding of the basic concepts and issues in service marketing.
2. To build a working service marketing vocabulary so as to understand and discuss marketing concepts in business settings.
3. To learn about key characteristics of service and service processes, customer service experiences, the role of internal stakeholders in service delivery, and organizational challenges of managing service.
4. To strengthen the ability to justify and support decisions through information acquisition and management.
5. To provide an understanding of how service customers determine value in a service exchange and how this translates into a satisfied customer base.

### **COURSE Outcome**

**CO1:** Understand and explain the nature and scope of services marketing;

**CO2:** Use critical analysis to perceive service shortcomings in reference to ingredients to create service excellence;

**CO3:** Be able to identify critical issues related to service design, such as identifying and managing customer service experience, expectations, perceptions and outcomes

**CO4:** Provide a theoretical and practical basis for assessing service performance using company examples;

**CO5:** Identify and discuss characteristics and challenges of managing service firms in the modern world

CO6: Discuss key linkages between marketing and other business functions in the context of designing and operating an effective service system.

## **Integrated Marketing Communication**

**COURSE OBJECTIVES :** The objectives of this course .

1. To provide an understanding of integrated marketing communications (IMC) and its influences on other marketing functions and other promotional activities.
2. Help to understand what advertising is and its role in advertising and brand promotion.
3. Understand the importance of message design and the creativity involved in message designing.
4. Understand the concept of international advertising and media planning and strategy.
5. Help in exploration of tools of promotion like sales promotion , publicity, public relation etc.

**COURSE OUTCOMES: Upon completion of the subject, students will be able to:**

**CO1:** Apply an IMC approach in the development of an overall advertising and promotional plan

**CO2:** Able to prepare marketing communication budget.

**CO3:** enhance creativity, critical thinking and analytical ability through developing an integrated marketing communication campaign

**CO4:** create an advertising strategy that employs appropriate message objectives.

**CO5:** develop insights into the characteristics of different forms of marketing communications such as advertising, sales promotions, public relations, point-of-purchase communications

## **Working Capital Management**

**Course Objectives:**

1. To have a basic understanding of the concept and importance of sound working capital strategies of a firm.
2. To have an understanding of the impact of working capital policies relating to Cash management, inventory and receivables management on firm's profitability.
3. To gain an insight into the sources of working capital financing.

**Course outcome:**

**CO1:** Evaluate comparative working capital management policies and their impact on the firm's profitability, liquidity, risk and operating flexibility.

**CO2:** Evaluate the importance of effective working capital management and its role in meeting the firm's strategic objectives and its impact in value creation.

**CO3:** Investigate funds flow cycles and their impact on working capital management objectives.

**CO4:** Compare and contrast the relative merits of alternative working capital policies and the likely short-term and long-term impact on the firm.

**CO5:** Formulate appropriate working capital management policies to achieve corporate objectives.

**CO6:** Apply corporate cash management, accounts receivable management, bank relations, and inventory management techniques to maximize the share holders' value.

**CO7:** Write a plan for a balanced integration of cash, credit and other short-term topics and policies.

**CO8:** Formulate and integrate an extended treatment on international working capital topics.

## **International Financial Management**

**Code: MBA FM -5**

**Course Objective:** To acquaint the participants with conceptual clarity in the area of international

financial management, and equip them with necessary skills in the applied and functional areas of International Financial Management.

Course outcome:

**CO1:** Apply corporate cash management, accounts receivable management, bank relations, and inventory management techniques to maximize the share holders' value.

**CO2:** Write a plan for a balanced integration of cash, credit and other short-term topics and policies.

**CO3:** Formulate and integrate an extended treatment on international working capital topics.

## **DATABASE MANAGEMENT SYSTEM**

**Code: MBA IT -4**

**Course Objective:**

1. The course has been designed to introduce the students
2. with the applications of systems designed to manage the data resources of organizations.
3. The course gives an insight to students about the concept of data mining and warehousing.
4. The course familiarizes the student with requirement and working of database administrator.

### **Course Outcomes**

**CO1:** The student will be able explain about the various types of database Models

**CO2:** The student gains knowledge about the working of relational model with the help of various SQL queries

**CO3:** The conceptual knowledge of remote data access, data warehousing and mining helps the student understand more about working pattern of Industries.

## **SYSTEM ANALYSIS & DESIGN**

Code: MBA IT -5

**Course Objective**

1. This course aims at acquainting these students with tools techniques of planning, analyzing, designing, implementing and maintaining Information system.
2. The students are able to gain insight into the various types of threat which an information system is exposed.

### **Course Outcomes**

**CO1:** The student will be able to know the various phases of making of information systems and to take various steps to protect the system from threats which can cause serious damage.

<b>B.C.A.</b>	
<b>Programme Outcome (POs)</b>	
PO1	Enable students to appreciate the importance of Cloud Computing and assess the need of resources for a given scenario
PO2	Implement a classroom + practical oriented curriculum that helps students understand the Security features which is required as part of Cloud offered by various providers.
PO3	Practically demonstrate various administrative features to be carried on Servers running on different platforms including Virtualization.
PO4	Equip students with learning on various Cloud Architectural Patterns which will help in providing solutions for various cloud platforms related scenarios
PO5	Imparting the required knowledge that ensures understanding of fundamental concepts, design and controls strategy, application security in web technology, tools and techniques to secure information
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	An ability to apply knowledge of mathematics, computer science and management in practice
PSO2	Implement a classroom + practical oriented curriculum that helps students understand the Security features which is required as part of Cloud offered by various providers
PSO3	The program prepares the young professional for fundamentals of cloud computing.
PSO4	In order to enhance programming skills of the young IT professionals, the program has introduced the concept of project development in each language/technology learnt during semester.

**Semester-I**

**SEMESTER -2**

<p><b>PAPER-1</b> <b>FUNNDAMENTAL OF</b> <b>COMPUTER&amp; OFFICE</b> <b>AUTOMATION</b></p>	<p><b>CO1:</b> Be able to identify computer hardware and peripheral devices. <b>CO2:</b> Be familiar with software applications. <b>CO3:</b> Understand file management. <b>CO4:</b> Accomplish creating basic documents, worksheets, presentations with their properties. <b>CO5:</b> Experience working with email and recognize email netiquette</p>
<p><b>PAPER-2</b> <b>FUNDAMENTAL OF</b> <b>PROGRAMMING</b> <b>‘C’</b></p>	<p><b>CO1:</b> Understand the basic terminology used in computer programming. <b>CO2:</b> Use different data types in a computer program. <b>CO3:</b> Design programs involving decision structures, loops and functions. <b>CO4:</b> Explain the difference between call by value and call by reference. <b>CO5:</b> Understand the dynamics of memory by the use of pointers.</p>
<p><b>PAPER-3 DISCRETE</b> <b>MATHMATICS</b></p>	<p><b>CO1.</b> Understand the theory of Sets, Relations and functions. <b>CO2.</b> Understand and implement the Permutation and Combination. <b>CO3.</b> Understand and implement the Algebra of Logic. <b>CO4.</b> Understand and implement Recursion &amp; Recurrence. <b>CO5.</b> Understand and implement Graph theory.</p>
<p><b>PAPER-4</b> Elective 1- PRINCIPLES OF MANAGEMANT</p>	<p><b>CO1.</b> Assume the roles and responsibilities associated with managerial functions. <b>CO2.</b> Identify the key contributors and their contributions in the development of management thought. <b>CO3.</b> Compare various approaches in management for problem solving.</p>
<p><b>PAPER-4</b> Elective 2- ORGANIZATIONAL BEHAVIOUR</p>	<p><b>CO1.</b> 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. <b>CO2.</b> Enables students to understand the applicability of the concept of organizational behavior to analyse the behavior of people in the organization. <b>CO3.</b> Helps them to analyse the complexities associated with management of the group behavior in the organization.</p>
<p><b>PAPER-5-</b> INTRDUCTION TO ICT RESOURCES</p>	<p><b>CO1:</b> Discovering the milestones of ICT history. <b>CO2:</b> Acknowledging the role of technologies in modern society and the potential of social web; <b>CO3:</b> Identifying IT uses in digital citizenship contexts.</p>
<p><b>PAPER 1-DATA</b> <b>STRUCTURE USING</b> <b>‘C’</b></p>	<p><b>CO1:</b> Learn about how data can be stored in memory. <b>CO2:</b> Learn and implement Arrays and various operations on array. <b>CO3:</b> Learn and implement Stacks and Queues and various operations on them. <b>CO4:</b> Learn and implement the concept of Linked List.</p>

	<b>CO5:</b> Learn and implement the concept of various types of Trees.
<b>PAPER 2-OBJECT ORIENTED PROGRAMMING USING C++</b>	<p><b>CO1:</b> Apply C++ features to program design and implementation.</p> <p><b>CO2:</b> Explain object-oriented concepts and describe how they are supported by C++ including identifying the features and peculiarities of the C++ programming language.</p> <p><b>CO3:</b> Use C++ to demonstrate practical experience in developing object oriented solutions.</p> <p><b>CO4:</b> Design and implement programs using C++.</p> <p><b>CO5:</b> Analyze a problem description, design and build object-oriented software using good coding practices and techniques.</p>
<b>PAPER 3- COMPUTER ORGANIZATION</b>	<p><b>CO1:</b> Describe the fundamental organization of a computer system.</p> <p><b>CO2:</b> Explain the functional of a processor.</p> <p><b>CO3:</b> Explain addressing modes, instruction formats and program control statements.</p>
<b>PAPER 4- Elective 1- SYSTEM ANALYSIS AND DESIGN</b>	<p><b>CO1:</b> Understand the major components of a computer including CPU, memory, I/O and storage.</p> <p><b>CO2:</b> Students will understand the uses for cache memory.</p> <p><b>CO3:</b> Understand a wide variety of memory technologies both internal and external.</p> <p><b>CO4:</b> Understand the role of the operating system in interfacing with the computer hardware. <b>CO5:</b> Students will understand the basic components of the CPU including the ALU and control unit.</p>
<b>PAPER 4- Elective 2- ENTERPRISE RESOURCE PLANNING</b>	<p><b>CO1:</b> Make basic use of Enterprise software and its role in integrating business functions.</p> <p><b>CO2:</b> Analyze the strategic options for ERP identification and adoption.</p> <p><b>CO3:</b> Design the ERP implementation strategies.</p>
<b>PAPER 5- COMMUNICATION AND SOFT SKILLS</b>	<p><b>CO1.</b> Understand how to apply technical information and knowledge in practical documents for a variety of a.) Professional audiences (including peers and colleagues or management) and b) public audiences.</p> <p><b>CO2.</b> Recognize, explain, and use the rhetorical strategies and the formal elements of these specific genres of technical communication: technical abstracts, data based research reports, instructional manuals, technical descriptions, web pages, wikis, and correspondence.</p> <p><b>CO3.</b> Participate actively in writing activities (individually and in collaboration) that model effective scientific and technical communication in the workplace.</p> <p><b>CO4.</b> Recognize, explain, and use the rhetorical strategies and the formal elements of these specific genres of technical communication: technical abstracts, data based research reports, instructional manuals, technical descriptions, web pages, wikis, and correspondence. Revise and edit effectively in all assignments, including informal media (such as email to the instructor).</p> <p><b>CO5.</b> Collect, analyze, document, and report research clearly, concisely, logically, and ethically; understand the standards for legitimate interpretations of research data within scientific and technical communities.</p>

### SEMESTER -3

<b>PAPER 1- INTERNET AND</b>	<p><b>CO1:</b> Understand the concept of Internet.</p> <p><b>CO2:</b> Learn about various protocols.</p>
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INTRODUCTION TO 'JAVA'	<p><b>CO3:</b> Learn about working on Internet.</p> <p><b>CO4:</b> Learn and work on various Internet Applications.</p> <p><b>CO5:</b> Learn about Java Basics.</p>
<b>PAPER 2-</b> FUNDAMENTAL OF DATABASE MANAGEMENT SYSTEMS	<p><b>CO1:</b> Understand, appreciate and effectively explain the underlying concepts of database Technologies.</p> <p><b>CO2:</b> Design and implement a database schema for a given problem-domain</p> <p><b>CO3:</b> Normalize a database and Populate and query a database using SQL DML/DDL commands.</p> <p><b>CO4:</b> Declare and enforce integrity constraints on a database.</p>
<b>PAPER 3-</b> SOFTWARE ENGINEERING	<p><b>CO1:</b> Understand the process of Software development.</p> <p><b>CO2:</b> Understand and plane the Software development.</p> <p><b>CO3:</b> Understand and implement the Coding.</p> <p><b>CO4:</b> Debug a software.</p> <p><b>CO5:</b> Test a software.</p>
<b>PAPER 4-</b> Elective 1- E-COMMERCE	<p><b>CO1:</b> Have knowledge of e-commerce, its components, structure of e-banking, rules and regulations on ecommerce.</p> <p><b>CO2:</b> Acquire a good knowledge of e-commerce, both the technical and business aspects;</p> <p><b>CO3:</b> Understand the principles and practices of e-commerce and its related technologies;</p> <p><b>CO4:</b> Discuss the trends in e-Commerce and the use of the Internet.</p> <p><b>CO5:</b> Explain the economic consequences of e-Commerce.</p>
<b>PAPER 4-</b> Elective 2- MANAGEMENT INFORMATION SYSTEM	<p><b>CO1:</b> Understand the importance of Database.</p> <p><b>CO2:</b> Understand the Architecture &amp; Modeling of Database.</p> <p><b>CO3:</b> Understand the concept of RDBMS.</p> <p><b>CO4:</b> Learn brief introduction to Structured Query Language.</p> <p><b>CO5:</b> Learn and implement Backup and Recovery of databases</p>
<b>PAPER 5-</b> FUNDAMENTAL OF ACCOUNTING WITH TALLY	<p><b>CO1:</b> After successfully qualifying practical examination, students will be awarded certificate to work with well-known accounting software i.e. Tally ERP.9</p> <p><b>CO2:</b> Student will do by their own create company. Enter accounting voucher entries including advance voucher entries. Do reconcile bank statement. Do accrual adjustments, and also print financial statements etc. in Tally ERP.9 software.</p> <p><b>CO3:</b> Students do possess required skill and can also be employed as Tally data entry operator.</p>

#### SEMESTER -4

<b>PAPER 1-</b> INTRODUCTION OF PYTHON PROGRAMING	<p><b>CO1:</b> Explain basic principles of Python programming language.</p> <p><b>CO2:</b> Implement object oriented concepts.</p> <p><b>CO3:</b> Implement database and GUI</p>
<b>PAPER 2-</b> WEB TECHNOLOGY	<p><b>CO 1:</b> Apply the knowledge of HTML and CSS to develop web application and analyze the insights of internet programming to implement complete application over the web.</p> <p><b>CO 2:</b> Understand, analyze and apply the role of JavaScript in the workings of the web and web applications.</p> <p><b>CO 3:</b> Understand, analyze and build dynamic web applications using servlet and JSP.</p>

	<p><b>CO 4:</b> Develop Spring-based Java applications using Java configuration, XML configuration, annotation-based configuration, beans and their scopes, and properties.</p> <p><b>CO 5:</b> Develop web application using Spring Boot and RESTful Web Services.</p>
<b>PAPER 3- OPERATING SYSTEM</b>	<p><b>CO1:</b> Understand the basic working process of an operating system.</p> <p><b>CO2:</b> Understand the importance of process and scheduling.</p> <p><b>CO3:</b> Understand the issues in synchronization and memory management.</p>
<b>PAPER 4- Elective 1- SOFTWARE PROJECT MANAGEMENT</b>	<p><b>CO1:</b> Identify the different project contexts and suggest an appropriate management strategy.</p> <p><b>CO2:</b> Practice the role of professional ethics in successful software development.</p> <p><b>CO3:</b> Identify and describe the key phases of project management.</p> <p><b>CO4:</b> Determine an appropriate project management approach through evaluation of the business context and scope of the project.</p>
<b>PAPER 4- Elective 2- SOFTWARE TESTING</b>	<p><b>CO 1:</b> Test the software by applying testing techniques to deliver a product free from bugs.</p> <p><b>CO 2:</b> Investigate the scenario and select the proper testing technique.</p> <p><b>CO 3:</b> Explore the test automation concepts and tools and estimation of cost, schedule based on standard metrics.</p> <p><b>CO 4:</b> Understand how to detect, classify, prevent and remove defects.</p> <p><b>CO 5:</b> Choose appropriate quality assurance models and develop quality. Ability to conduct formal inspections, record and evaluate results of inspections.</p>
<b>PAPER 5- MULTIMEDIA SYSTEM</b>	<p><b>CO1:</b> Learn and implement basics of Multimedia &amp; Animation.</p> <p><b>CO2:</b> Learn and implement Text editing, Image editing etc.</p> <p><b>CO3:</b> Learn basics of Computer Graphics.</p> <p><b>CO4:</b> Learn and understand Digital audio, Digital video, animation and Special Effects.</p>

#### SEMESTER -5

<b>PAPER 1-MICROSOFT VISUAL BASIC NET</b>	<p><b>CO1:</b> Analyze a web page and identify its elements and attributes.</p> <p><b>CO2:</b> Create web pages using HTML and Cascading Styles sheets.</p> <p><b>CO3:</b> Build dynamic web pages using JavaScript (client side programming).</p> <p><b>CO4:</b> Create XML documents used in Web Publishing.</p> <p><b>CO5:</b> Create XML Schema for data transfer in distributed environment.</p>
<b>PAPER 2- FUNDAMENTALS OF ALGORITHMS</b>	<p><b>CO1:</b> Define the basic concepts of algorithms and analyze the performance of algorithms.</p> <p><b>CO2:</b> Discuss various algorithm design techniques for developing algorithms.</p> <p><b>CO3:</b> Discuss various searching, sorting and graph traversal algorithms.</p>
<b>PAPER 3- INTRODUCTIONS TO COMPUTER NETWORKS</b>	<p><b>CO1:</b> Explain the importance of data communications and the Internet in supporting business Communications and daily activities.</p> <p><b>CO2:</b> Explain how communication works in data networks and the Internet.</p> <p><b>CO3:</b> Recognize the different internetworking devices and their functions.</p> <p><b>CO4:</b> Explain the role of protocols in networking.</p>

	<b>CO5:</b> Analyze the services and features of the various layers of data networks.
<b>PAPER 4-</b> Elective 1- ARTIFICIAL INTELLIGENCE	<b>CO1:</b> Demonstrate knowledge of the building blocks of AI as presented in terms of intelligent agents. <b>CO2:</b> Analyze and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them. <b>CO3:</b> Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing <b>CO4:</b> Attain the capability to represent various real life problem domains using logic based techniques and use this to perform inference or planning. <b>CO5:</b> Formulate and solve problems with uncertain information using Bayesian approaches.
<b>PAPER 4-</b> Elective 2- MACHINE LEARNING	<b>CO1:</b> Recognize the characteristics of machine learning that make it useful to real word problems. <b>CO2:</b> Be able to use support vector machines. <b>CO3:</b> Be able to use regularized regression.
<b>PAPER 5-</b> INTRODUCTION TO CLOUD COMPUTING	<b>CO1:</b> Explain the economics of outsourcing IT to the cloud. <b>CO2:</b> Explain how hypervisors solve the problems of distributing a CPU among virtual machines. <b>CO3:</b> Explain the structure of the Web as a client-server system.

#### SEMESTER -6

<b>PAPER-6</b> INDUSTRIAL PROJECT	

### M.C.A.

<b>Programme Outcome (POs)</b>	
PO1	Identify and analyze the computing requirements of a problem and to solve Them using computing principles.
PO2	Understand and Apply mathematical foundation, computing and domain knowledge for the Conceptualization of computing model of problems
PO3	Use suitable architecture or platform on design and implementation with respect to performance
PO4	Apply the management principles with computing knowledge to manage the projects in multi disciplinary environments.
PO5	Identify opportunities and use innovative ideas to create value and wealth for the betterment of the individual and society
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Understand the Opportunities and Challenges in Industry and to equip the students accordingly .
PSO2	Apply effectively the principles and methods of Computer Technology to a wide range of applications.
PSO3	Apply advanced algorithmic and mathematical concepts to the design and analysis of software.

PSO4	Get proficiency of computing ,and to prepare themselves for a Continued professional development.
PSO5	Expertise in developing application with required domain knowledge

### Course Outcome

#### SEMESTER- 1

<b>PAPER -1:</b> <b>Fundamental of Computers &amp; Emerging Technologies</b>	<b>CO 1:</b> Demonstrate the knowledge of the basic structure, components, features and generations of computers. <b>CO 2:</b> Describe the concept of computer languages, language translators and construct algorithms to solve problems using programming concepts. <b>CO 3:</b> Compare and contrast features, functioning & types of operating system and computer networks. <b>CO 4:</b> Demonstrate architecture, functioning & services of the Internet and basics of multimedia. <b>CO 5 :</b> Illustrate the emerging trends and technologies in the field of Information Technology.
<b>PAPER-2: Problem Solving using C</b>	<b>CO1:</b> Describe the functional components and fundamental concepts of a digital computer system including number systems. <b>CO 2 :</b> Construct flowchart and write algorithms for solving basic problems <b>CO 3:</b> Write 'C' programs that incorporate use of variables, operators and Expressions along with data types. <b>CO 4:</b> Write simple programs using the basic elements like control statements, Functions, arrays and strings. <b>CO 5:</b> Write advanced programs using the concepts of pointers, structures, unions and enumerated data types..
<b>PAPER- 3: Principles of Management &amp; Communication</b>	<b>CO 1:</b> Describe primary features, processes and principles of management. <b>CO 2 :</b> Explain functions of management in terms of planning, decision making and organizing. <b>CO 3:</b> Illustrate key factors of leadership skill in directing and controlling business resources and processes. <b>CO 4:</b> Exhibit adequate verbal and non-verbal communication skills . <b>CO 5:</b> Demonstrate effective discussion, presentation and writing skills.
<b>PAPER-4: Discrete Mathematics</b>	<b>CO 1:</b> Use mathematical and logical notation to define and formally reason about basic discrete structures such as Sets, Relations and Functions. <b>CO 2:</b> Apply mathematical arguments using logical connectives and quantifiers to check the validity of an argument through truth tables and propositional and predicate logic. <b>CO 3:</b> Identify and prove properties of Algebraic Structures like Groups, Rings and Fields . <b>CO 4:</b> Formulate and solve recurrences and recursive functions. <b>CO 5 :</b> Apply the concept of combinatory to solve basic problems in discrete

	mathematics.
<b>PAPER- 5: Computer Organization &amp; Architecture</b>	<p><b>CO 1:</b> Describe functional units of digital system and explain how arithmetic and logical operations are performed by computers.</p> <p><b>CO 2:</b> Describe the operations of control unit and write sequence of instructions for carrying out simple operation using various addressing modes.</p> <p><b>CO 3:</b> Design various types of memory and its organization.</p> <p><b>CO 4:</b> Describe the various modes in which IO devices communicate with CPU and memory.</p> <p><b>CO 5:</b> List the criteria for classification of parallel computer and describe various Architectural schemes.</p>
<b>PAPER -6: Problem Solving using C Lab</b>	<p><b>CO1:</b> Write, compile, debug and execute programs in a C programming environment.</p> <p><b>CO2 :</b> Write programs that incorporate use of variables, operators and Expressions along with data types.</p> <p><b>CO3 :</b> Write programs for solving problems involving use of decision control structures and loops.</p> <p><b>CO4:</b> Write programs that involve the use of arrays, structures and user defined functions.</p> <p><b>CO5 :</b>Write programs using graphics and file handling operations.</p>
<b>PAPER -7: Computer Organization &amp; Architecture Lab</b>	<p><b>CO1:</b> Design and verify combinational circuits (adder, code converter, Decoder, multiplexer) using basic gates.</p> <p><b>CO2 :</b> Design and verify various flip-flops.</p> <p><b>CO3 :</b> Design I/O system and ALU.</p> <p><b>CO4 :</b> Demonstrate combinational circuit using simulator.</p>
<b>PAPER-8: Professional Communication Lab</b>	<p><b>CO1:</b> Develop the ability to work as a team member as an integral activity in the workplace.</p> <p><b>CO2:</b> Increase confidence in their ability to read,comprehend,organize, and retain written information. Improve reading fluency.</p> <p><b>CO3:</b> Write coherent speech outlines that demonstrate their ability to use organizational formats with a specific purpose; Deliver effective speeches that are consistent with and appropriate for the audience and purpose.</p> <p><b>CO4:</b> Develop proper listening skills; articulate and enunciate words and sentences clearly and efficiently.</p> <p><b>CO5:</b> Show confidence and clarity in public speaking projects; be schooledin preparation and research skills for oral presentations.</p>

**SEMESTER- 2**

<b>PAPER- 1: Theory of Automata &amp; Formal Languages</b>	<b>CO1:</b> Define various types of automata for different classes of formal languages and explain their working. <b>CO2:</b> State and prove key properties of formal languages and automata. <b>CO3:</b> Construct appropriate formal notations (such as grammars, acceptors, transducers and regular expressions) for given formal languages. <b>CO 4:</b> Convert among equivalent notations for formal languages. <b>CO 5:</b> Explain the significance of the Universal Turing machine, Church-Turing thesis and concept of Undecidability.
<b>PAPER- 2: Object Oriented Programming</b>	<b>CO1 :</b> List the significance and key features of object oriented programming and modeling using UML. <b>CO 2:</b> Construct basic structural, behavioral and architectural models using object oriented software engineering approach. <b>CO3 :</b> Integrate object oriented modeling techniques for analysis and design of a system. <b>CO 4:</b> Use the basic features of data abstraction and encapsulation in C++ programs. <b>CO 5:</b> Use the advanced features such as Inheritance, polymorphism and virtual function in C++ programs.
<b>PAPER- 3: Operating Systems</b>	<b>CO 1:</b> Explain main components, services, types and structure of Operating Systems. <b>CO 2:</b> Apply the various algorithms and techniques to handle the various concurrency control issues. <b>CO 3:</b> Compare and apply various CPU scheduling algorithms for process execution. <b>CO 4:</b> Identify occurrence of deadlock and describe ways to handle it. <b>CO 5:</b> Explain and apply various memory, I/O and disk management techniques.
<b>PAPER- 4: Database Management Systems</b>	<b>CO 1:</b> Describe the features of a database system and its application and compare various types of data models. <b>CO 2:</b> Construct an ER Model for a given problem and transform it into a relation database schema. <b>CO 3:</b> Formulate solution to a query problem using SQL Commands, relational algebra, tuple calculus and domain calculus. <b>CO 4:</b> Explain the need of normalization and normalize a given relation to the desired normal form. <b>CO 5:</b> Explain different approaches of transaction processing and concurrency

	control.
<b>PAPER -5: Data Structures &amp; Analysis of Algorithms</b>	<p><b>CO 1:</b> Explain the concept of data structure, abstract data types, algorithms, analysis of algorithms and basic data organization schemes such as arrays and linked lists.</p> <p><b>CO 2:</b> Describe the applications of stacks and queues and implement various operations on them using arrays and linked lists.</p> <p><b>CO 3:</b> Describe the properties of graphs and trees and implement various operations such as searching and traversal on them.</p> <p><b>CO 4:</b> Compare incremental and divide-and-conquer approaches of designing algorithms for problems such as sorting and searching.</p> <p><b>CO 5:</b> Apply and analyze various design approaches such as Divide-and-Conquer, greedy and dynamic for problem solving .</p>
<b>PAPER -6: Cyber Security*</b>	<p><b>CO 1:</b> Identify and analyze nature &amp; inherent difficulties in the security of the Information System.</p> <p><b>CO 2:</b> Analyze various threats and attacks, corresponding counter measures and various vulnerability assessment and security techniques in an organization.</p> <p><b>CO 3:</b> Applications of cyber based policies and use of IPR and patent law for software-based design. Define E-commerce types and threats to E commerce.</p> <p><b>CO 4:</b> Explain concepts and theories of networking and apply them to various situations, classifying networks, analyzing performance.</p>
<b>PAPER- 7: Object Oriented Programming Lab</b>	<p><b>CO1:</b> Use the Concept of Data Abstraction and Encapsulation in C++ programs.</p> <p><b>CO2:</b> Design and Develop C++ program using the concept such as polymorphism, virtual function, exception handling and template.</p> <p><b>CO3:</b> Apply object oriented techniques to analyze, design and develop a complete solution for a given problem.</p>
<b>PAPER -8: DBMS Lab</b>	<p><b>CO1:</b> Use the Concept of Data Abstraction and Encapsulation in C++ programs.</p> <p><b>CO2:</b> Write SQL commands to query a database.</p> <p><b>CO3:</b> Write PL/SQL programs for implementing stored procedures, stored functions, cursors, trigger and packages.</p>
<b>PAPER- 9: Data Structures &amp; Analysis of Algorithms Lab</b>	<p><b>CO1:</b> Write and execute programs to implement various searching and sorting algorithms.</p> <p><b>CO2:</b> Write and execute programs to implement various operations on two-dimensional arrays.</p>

	<p><b>CO3:</b> Implement various operations of Stacks and Queues using both arrays and linked lists data structures.</p> <p><b>CO4:</b> Implement graph algorithm to solve the problem of minimum spanning tree.</p>
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### SEMESTER- 3

<b>PAPER -1: Artificial Intelligence</b>	<p><b>CO 1:</b> Define the meaning of intelligence and study various intelligent agents.</p> <p><b>CO 2:</b> Understand, analyze and apply AI searching algorithms in different problem domains.</p> <p><b>CO 3:</b> Study and analyze various models for knowledge representation.</p> <p><b>CO 4:</b> Understand the basic concepts of machine learning to analyze and implement widely used learning methods and algorithms.</p> <p><b>CO 5 :</b>Understand the concept of pattern recognition and evaluate various classification and clustering techniques.</p>
<b>PAPER- 2: Software Engineering</b>	<p><b>CO 1:</b> Explain various software characteristics and analyze different software Development Models.</p> <p><b>CO 2:</b> Demonstrate the contents of a SRS and apply basic software quality assurance practices to ensure that design, development meet or exceed applicable standards.</p> <p><b>CO 3:</b> Compare and contrast various methods for software design.</p> <p><b>CO 4:</b> Formulate testing strategy for software systems, employ techniques such as unit testing, Test driven development and functional testing.</p> <p><b>CO 5:</b> Manage software development process independently as well as in teams and make use of various software management tools for development, maintenance and analysis.</p>
<b>PAPER -3: Computer Network.</b>	<p><b>CO 1:</b> Describe communication models TCP/IP, ISO-OSI model, network topologies along with communicating devices and connecting media.</p> <p><b>CO 2:</b> Apply knowledge of error detection, correction and learn concepts of flow control along with error control.</p> <p><b>CO 3:</b> Classify various IP addressing techniques, subnetting along with network routing protocols and algorithms.</p> <p><b>CO 4:</b> Understand various transport layer protocols and their design considerations along with congestion control to maintain Quality of Service.</p> <p><b>CO 5:</b> Understand applications-layer protocols and elementary standards of cryptography and network security.</p>
<b>PAPER- 4: Elective 1 Cryptography &amp; Network Security</b>	<p><b>CO 1:</b> Understand various security attacks and their protection mechanism.</p> <p><b>CO 2:</b> Apply and analyze various encryption algorithms.</p> <p><b>CO 3:</b> Understand functions and algorithms to authenticate messages and study and apply different digital signature techniques.</p> <p><b>CO 4:</b> Analyze different types of key distributions.</p> <p><b>CO 5:</b> Study and appraise different IP and system security mechanism.</p>
<b>PAPER -4: Elective -1 Data Warehousing &amp; Data Mining</b>	<p><b>CO1:</b> Demonstrate knowledge of Data Warehouse and its components.</p> <p><b>CO2:</b> Discuss the process of Warehouse Planning and Implementation.</p> <p><b>CO3:</b> Discuss and implement various supervised and Non supervised learning algorithms on data.</p> <p><b>CO4:</b> Explain the various process of Data Mining and decide best according to type of data.</p> <p><b>CO5:</b> Explain process of knowledge discovery in database (KDD). Design Data Mining model.</p>
<b>PAPER- 4:</b>	<p><b>CO 1:</b> Identify project planning objectives, along with various cost/effort estimation</p>

<b>Elective-1 Software Project Management</b>	models. <b>CO 2:</b> Organize & schedule project activities to compute critical path for risk analysis <b>CO 3:</b> Monitor and control project activities. <b>CO 4:</b> Formulate testing objectives and test plan to ensure good software quality under SEICMM <b>CO 5:</b> Configure changes and manage risks using project management tools
<b>PAPER- 4: Elective-1 Cloud Computing</b>	<b>CO 1:</b> Understand the concepts of Cloud Computing, key technologies, strengths and limitations of cloud computing. <b>CO 2:</b> Develop the ability to understand and use the architecture to compute and storage cloud, service and models. <b>CO 3:</b> Understand the application in cloud computing. <b>CO 4:</b> Learn the key and enabling technologies that help in the development of cloud. <b>CO 5:</b> Explain the core issues of cloud computing such as resource management and security.
<b>PAPER- 4: Elective-1 Compiler Design</b>	<b>CO 1:</b> Acquire knowledge of different phases and passes of the compiler and also able to use the compiler tools like LEX, YACC, etc. Students will also be able to design different types of compiler tools to meet the requirements of the realistic constraints of compilers. <b>CO 2:</b> Understand the parser and its types i.e. Top-Down and Bottom-up parsers and construction of LL, SLR, CLR, and LALR parsing table. <b>CO 3:</b> Implement the compiler using syntax-directed translation method and get knowledge about the synthesized and inherited attributes. <b>CO 4:</b> Acquire knowledge about run time data structure like symbol table organization and different techniques used in that. <b>CO 5:</b> Understand the target machine's run time environment, its instruction set for code generation and techniques used for code optimization.
<b>PAPER -5: Elective – 2 Web Technology</b>	<b>CO 1:</b> Apply the knowledge of HTML and CSS to develop web application and analyze the insights of internet programming to implement complete application over the web. <b>CO 2:</b> Understand, analyze and apply the role of JavaScript in the workings of the web and web applications. <b>CO 3:</b> Understand, analyze and build dynamic web applications using servlet and JSP. <b>CO 4:</b> Develop Spring-based Java applications using Java configuration, XML configuration, annotation-based configuration, beans and their scopes, and properties. <b>CO 5:</b> Develop web application using Spring Boot and RESTFul Web Services.
<b>PAPER -5: Elective – 2 Big Data</b>	<b>CO1:</b> Demonstrate knowledge of Big Data Analytics concepts and its applications in business. <b>CO2:</b> Demonstrate functions and components of Map Reduce Framework and HDFS. <b>CO3:</b> Develop queries in NoSQL environment. <b>CO4:</b> Explain process of developing Map Reduce based distributed processing applications. <b>CO5:</b> Explain process of developing applications using HBASE, Hive, Pig etc.
<b>PAPER- 5: Elective – 2 Simulation and Modelling</b>	<b>CO 1:</b> Study the concept of system, its components and types. <b>CO 2:</b> Understand and analyze nature and techniques of major simulation models. <b>CO 3:</b> Study and analyze the idea of continuous and discrete system simulation. <b>CO 4:</b> Understand the notion of system dynamics and system dynamics diagrams. <b>CO 5:</b> Finding critical path computation and understanding PERT networks.

<b>PAPER -5: Elective – 2 Software Testing &amp; Quality Assurance</b>	<p><b>CO 1:</b> Test the software by applying testing techniques to deliver a product free from bugs.</p> <p><b>CO 2:</b> Investigate the scenario and select the proper testing technique.</p> <p><b>CO 3:</b> Explore the test automation concepts and tools and estimation of cost, schedule based on standard metrics.</p> <p><b>CO 4:</b> Understand how to detect, classify, prevent and remove defects.</p> <p><b>CO 5:</b> Choose appropriate quality assurance models and develop quality. Ability to conduct formal inspections, record and evaluate results of inspections.</p>
<b>PAPER- 5: Elective – 2 Digital Image Processing</b>	<p><b>CO 1:</b> Explain the basic concepts of two-dimensional signal acquisition, sampling, quantization and color model.</p> <p><b>CO 2:</b> Apply image processing techniques for image enhancement in both the spatial and frequency domains.</p> <p><b>CO 3:</b> Apply and compare image restoration techniques in both spatial and frequency domain.</p> <p><b>CO 4:</b> Compare edge based and region based segmentation algorithms for ROI extraction.</p> <p><b>CO 5:</b> Explain compression techniques and descriptors for image processing.</p>
<b>PAPER- 6: Artificial Intelligence Lab</b>	<p><b>CO 1:</b> Study and understand AI tools such as Python / MATLAB.</p> <p><b>CO 2:</b> Apply AI tools to analyze and solve common AI problems.</p> <p><b>CO 3 :</b> Implement and compare various AI searching algorithms.</p> <p><b>CO 4:</b> Implement various machine learning algorithms.</p> <p><b>CO 5:</b> Implement various classification and clustering techniques.</p>
<b>PAPER- 7: Software Engineering Lab</b>	<p><b>CO 1 :</b> Identify ambiguities, inconsistencies and incompleteness from a requirements specification and state functional and non-functional requirement.</p> <p><b>CO 2 :</b> Identify different actors and use cases from a given problem statement and draw use case diagram to associate use cases with different types of relationship.</p> <p><b>CO 3:</b> Draw a class diagram after identifying classes and association among them.</p> <p><b>CO 4:</b> Graphically represent various UML diagrams and associations among them and identify the logical sequence of activities undergoing in a system, and represent them pictorially.</p> <p><b>CO 5:</b> Able to use modern engineering tools for specification, design, implementation and testing.</p>
<b>PAPER- 8: Mini Project**</b>	

#### SEMESTER- 4

<b>Elective – 3 Privacy and Security in Online Social Media</b>	<p><b>CO 1:</b> Understand working of online social networks.</p> <p><b>CO 2:</b> Describe privacy policies of online social media.</p> <p><b>CO 3 :</b> Analyse countermeasures to control information sharing in Online social networks.</p> <p><b>CO 4:</b> Apply knowledge of identity management in Online social networks.</p> <p><b>CO 5:</b> Compare various privacy issues associated with popular social media.</p>
<b>Elective – 3 Soft Computing</b>	<p><b>CO 1:</b> Recognize the need of soft computing and study basic concepts and techniques of soft computing.</p> <p><b>CO 2:</b> Understand the basic concepts of artificial neural network to analyze widely used neural networks.</p> <p><b>CO 3:</b> Apply fuzzy logic to handle uncertainty in various real-world problems.</p> <p><b>CO 4 :</b> Study various paradigms of evolutionary computing and evaluate genetic algorithm in solving optimization problems.</p> <p><b>CO 5:</b> Apply hybrid techniques in applications of soft computing.</p>
<b>Elective – 3 Pattern Recognition</b>	<p><b>CO 1:</b> Study of basics of Pattern recognition. Understand the designing principles and Mathematical foundation used in pattern recognition.</p>

	<p><b>CO 2:</b> Analysis the Statistical Patten Recognition.</p> <p><b>CO 3 :</b>Understanding the different Parameter estimation methods.</p> <p><b>CO 4:</b> Understanding the different Nonparametric Techniques.</p> <p><b>CO 5:</b> Understand and Make use of unsupervised learning and Clustering in Pattern recognition.</p>
<b>Elective – 3 Data Analytics</b>	<p><b>CO1:</b> Describe the life cycle phases of Data Analytics through discovery, planning and building.</p> <p><b>CO2:</b>Understand and apply Data Analysis Techniques.</p> <p><b>CO3:</b> Implement various Data streams.</p> <p><b>CO4:</b> Understand item sets, Clustering, frame works &amp; Visualizations.</p> <p><b>CO5:</b> Apply R tool for developing and evaluating real time applications.</p>
<b>Elective – 3 Software Quality Engineering</b>	<p><b>CO 1:</b>Understand basic concepts of Software Quality along with its documents and process.</p> <p><b>CO 2:</b> Apply knowledge of Software Quality in various types of software.</p> <p><b>CO 3:</b> Compare the various reliability models for different scenarios.</p> <p><b>CO 4:</b> Illustrate the software Quality Planning and Assurance.</p> <p><b>CO 5:</b>Make use of various testing techniques in software implementation.</p>
<b>Elective – 4 Blockchain Architecture</b>	<p><b>CO1:</b> Study and understand basic concepts of blockchain architecture.</p> <p><b>CO2 :</b>Analyze various requirements for consensus protocols.</p> <p><b>CO3:</b> Apply and evaluate the consensus process.</p> <p><b>CO4 :</b>Understand the concepts of Hyperledger fabric.</p> <p><b>CO5 :</b>Analyze and evaluate various use cases in financial software and supply chain.</p>
<b>Elective – 4 Neural Networks</b>	<p><b>CO 1:</b> Study of basic concepts of Neuro Computing, Neuroscience and ANN. Understand the different supervised and unsupervised and neural networks performance.</p> <p><b>CO 2:</b> Study of basic Models of neural network. Understand the Perception network. and Compare neural networks and their algorithm.</p> <p><b>CO 3:</b> Study and Demonstrate different types of neural network. Make use of neural networks for specified problem domain.</p> <p><b>CO 4:</b> Understand and Identify basic design requirements of recurrent network and Selforganizing feature map.</p> <p><b>CO 5 :</b>Able to understand the some special network. Able to understand the concept of Soft computing.</p>
<b>Elective – 4 Internet of Things</b>	<p><b>CO 1:</b> Demonstrate basic concepts, principles and challenges in IoT.</p> <p><b>CO 2:</b> Illustrate functioning of hardware devices and sensors used for IoT.</p> <p><b>CO 3:</b> Analyze network communication aspects and protocols used in IoT.</p> <p><b>CO 4 :</b>Apply IoT for developing real life applications using Arduinio programming.</p>
<b>Elective – 4 Modern Application Development</b>	<p><b>CO 1 :</b>Understand the fundamental of Kotlin Programing for Android Application Development.</p> <p><b>CO 2:</b> Describe the UI Layout and architecture of Android Operating System.</p> <p><b>CO 3:</b> Designing android application using Jetpack Library based on MVVM Architecture.</p> <p><b>CO 4 ;</b>Developing android application based on REST API using Volley and Retrofit Library.</p> <p><b>CO 5:</b>Ability to debug the Performance and Security of Android Applications.</p>
<b>Elective – 4 Distributed Database Systems</b>	<p><b>CO 1 :</b>Understand theoretical and practical aspects of distributed database systems.</p> <p><b>CO 2:</b> Study and identify various issues related to the development of distributed database system.</p> <p><b>CO 3:</b> Understand the design aspects of object-oriented database system and related development.</p> <p><b>CO 4:</b> Equip students with principles and knowledge of distributed reliability.</p> <p><b>CO 5:</b> Equip students with principles and knowledge of parallel and object-oriented databases.</p>

<b>Elective – 5 Mobile Computing</b>	<p><b>CO 1:</b> Study and aware fundamentals of mobile computing.</p> <p><b>CO 2 :</b>Study and analyze wireless networking protocols, applications and environment.</p> <p><b>CO 3 :</b>Understand various data management issues in mobile computing.</p> <p><b>CO 4 :</b>Analyze different type of security issues in mobile computing environment.</p> <p><b>CO 5 :</b>Study, analyze, and evaluate various routing protocols used in mobile computing.</p>
<b>Elective – 5 Computer Graphics and Animation</b>	<p><b>CO 1:</b> Understand the graphics hardware used in field of computer graphics.</p> <p><b>CO 2:</b> Understand the concept of graphics primitives such as lines and circle based on different algorithms.</p> <p><b>CO 3:</b> Apply the 2D graphics transformations, composite transformation and Clipping concepts.</p> <p><b>CO 4 :</b>Apply the concepts and techniques used in 3D computer graphics, including viewing transformations, projections, curve and hidden surfaces.</p> <p><b>CO 5:</b> Perform the concept of multimedia and animation in real life.</p>
<b>Elective – 5 Natural Language Processing</b>	<p><b>CO 1:</b> Study and understand basic concepts, background and representations of natural language.</p> <p><b>CO 2:</b> Analyze various real-world applications of NLP.</p> <p><b>CO 3 :</b>Apply different parsing techniques in NLP.</p> <p><b>CO 4:</b> Understand grammatical concepts and apply them in NLP.</p> <p><b>CO 5:</b> Apply various statistical and probabilistic grammar methods to handle and evaluate ambiguity.</p>
<b>Elective – 5 Machine Learning Techniques</b>	<p><b>CO 1:</b> To understand the need for machine learning for various problem solving.</p> <p><b>CO 2 :</b>To understand a wide variety of learning algorithms and how to evaluate models generated from data.</p> <p><b>CO 3 :</b>To understand the latest trends in machine learning.</p> <p><b>CO 4 :</b>To design appropriate machine learning algorithms and apply the algorithms to a real-world problems.</p> <p><b>CO 5 :</b>To optimize the models learned and report on the expected accuracy that can be achieved by applying the models.</p>
<b>Elective – 5 Quantum Computing</b>	<p><b>CO1:</b> Distinguish problems of different computational complexity and explain why certain problems are rendered tractable by quantum computation with reference to the relevant concepts in quantum theory.</p> <p><b>CO 2 :</b>Demonstrate an understanding of a quantum computing algorithm by simulating it on a classical computer, and state some of the practical challenges in building a quantum computer.</p> <p><b>CO 3:</b> Contribute to a medium-scale application program as part of a co-operative team, making use of appropriate collaborative development tools (such as version control systems).</p> <p><b>CO 4 :</b>Produce code and documentation that is comprehensible to a group of different programmers and present the theoretical background and results of a project in written and verbal form.</p> <p><b>CO 5:</b> Apply knowledge, skills, and understanding in executing a defined project of research, development, or investigation and in identifying and implementing relevant outcomes.</p>

<b>Faculty of Education</b>	
<b>B.Ed.</b>	
<b>Programme Outcome (POs)</b>	
PO1	To develop proper altitudes towards teaching as a result of which he will be able to maximize the achievements from both the

	material and human resources.
PO2	To develop a good command of the subject matter of the assignment given to him in the colleges/universities.
PO3	To develop the capacity to extend the resources of the school by means of improvisation of instructional facilities.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Enable the prospective teachers to understand the nature, purpose and philosophy of secondary education.
PSO2	Enable them to acquire, competencies relevant to stage specific pedagogy, curriculum development, its transaction and evaluation.
PSO3	Enable them to make pedagogical analysis of the subjects they are to teach at the secondary stage; develop skills for guidance and counseling.
PSO4	Develop communication skills and use of modern information technology for school purpose.
PSO5	Acquaint them with research in education including action research.

<b>Program Course Outcomes</b>	
<b>Course 1 (Contemporary India and Education)</b>	
CO1	Gain a critical understanding of issues in historical Foundation of Indian Education.
CO2	Become cognizant of key concepts, such as Education Commissions and Committees, Policy on Education.
CO3	Become the use of a Educational provision in Indian constitution.
<b>Course 2 (Assessment for Learning)</b>	
CO1	Gain a critical understanding of issues in assessment and evaluation (from a constructivist paradigm).
CO2	Become cognizant of key concepts, such as formative and summative assessment, evaluation and Measurement, test, examination.
CO3	Evolve realistic, comprehensive and dynamic assessment procedures that are able to keep the whole student in view
CO4	Evolve realistic, comprehensive and dynamic assessment procedures that are able to keep the Whole student in view.
CO5	Engage with learners' minds in order to further learning in various dimensions.
<b>Course 3 A (हिंदी भाषा का शिक्षण)</b>	
CO1	प्रशिक्षुओं द्वारा विषय शिक्षण में की जाने वाली सामान्य त्रुटियों के निवारण हेतु उपचारात्मक शिक्षण उपलब्ध कराना।
CO2	प्रशिक्षुओं को विषय शिक्षण के विषिष्ट उद्देश्यों एवं विषय के पाठ्यक्रम में स्थान का बोध कराना।
CO3	प्रशिक्षुओं को हिन्दी शिक्षण की विभिन्न विधियों एवं तकनीकियों से अवगत कराना।
<b>Course 3 B (Pedagogy of Mathematics)</b>	
CO1	To acquaint pupil-teachers with the methods and techniques of teaching Mathematics.
CO2	To help pupil-teachers in the pedagogical analysis of various concepts in Mathematics.
CO3	To help pupil-teachers in instructional planning and development of relevant material for the teaching of Mathematics.

<b>Course 3 C Pedagogy of Language (English)</b>	
CO1	To familiar the student- teachers with elements of English language.
CO2	To enable the student-teacher to develop linguistic skills among their pupils.
CO3	To enable the student- teachers to make effective use of instructional aids in teaching of English.
<b>Course 3D Pedagogy of Language (Sanskrit)</b>	
CO1	प्रशिक्षुओं को सैद्धान्तिक संस्कृत व्याकरण का ज्ञान प्रदान करते हुए, सिद्धान्तों के प्रयोग करने का अवसर प्रदान करना।
CO2	प्रशिक्षुओं को संस्कृत भाषा के ध्वनि तत्व से परिचित कराना।
CO3	प्रशिक्षुओं को शब्दों के विभिन्न रूपों का ज्ञान प्रदान कराना।
<b>Course 3E (Pedagogy of Life Science)</b>	
CO1	To develop awareness about development in the area of teaching and learning of Life Science at the national and international level.
CO2	To develop competencies in the prospective teachers related of Life science at the lower secondary level with specific reference to Indian school conditions.
CO3	To orient prospective teachers in specific educational aspects of science and Technology Education e.g. general concept of Life Science, aims and objectives of Life science, pedagogical analysis of contents in life science at the lower secondary level, transaction of contents, methods of teaching, evaluation etc.
<b>Course 4A (Pedagogy of Social Sciences)</b>	
CO1	Appreciate the need for learning History, Geography, Civics, Sociology and Economics either as separate discipline or as any integrated discipline.
CO2	Develop knowledge about the basic principles governing the construction of a social science.
CO3	Develop the classroom skills needed for teaching of social science/ social studies either as a separate or as an interacted discipline using modern methodology.
CO4	Acquire the competence to plan for instruction.
CO5	Develop the ability to organize co-curricular activities and community resources for promoting social science / social studies learning.
<b>Course 4B (Pedagogy of Physical Science)</b>	
CO1	Develop a broad understanding of the principles and procedures used in modern science education.
CO2	Develop their skills necessary for preparing international accessories.
CO3	Develop their essential skills for practicing modern science education.
<b>Course 4C (Teaching of Commerce)</b>	
CO1	To develop understanding of principles of commerce.
CO2	To acquire knowledge of present commerce conditions in India.
CO3	To acquire desirable attitudes and to become effective instrument of economics change.
CO4	To acquire appropriate professional behaviour and to develop commitment to profession.
<b>Course 5A (Guidance And Counselling)</b>	
CO1	Understand the meaning, nature and scope of guidance.

CO2	Develop acquaintance with various techniques of group guidance.
CO3	Understand of various procedures of organizing various guidance services.
CO4	Understand the meaning, nature and scope of counselling.
CO5	Analyse the relationship between guidance and counselling.
<b>Course 5B (School Administration and Management)</b>	
CO1	Understand the nature of school as an organization, its components and dimensions.
CO2	Know teacher's roles and responsibilities with respect to academic and co-curricular activities and understand his place and position in the school.
CO3	Know that components of classroom climate and to help them to understand their effects on pupil's development.
CO4	To acquaint the student teachers with the concept of educational administration & Management.
CO5	To enable the students to understand the administration of education at different levels.
<b>Course 5C (Health and Physical Education)</b>	
CO1	Help them to understand the concept of holistic health, its various dimensions and determinants and the importance of sports and yoga for development of holistic health
CO2	Develop positive attitude towards health as individual and be collectively responsible to achieve it.
CO3	Equip them to know their health status, identify health problems and be informed for taking remedial measures;
CO4	Sensitise, motivate and help them to acquire the skills for physical fitness, learn correct postural habits and activities for its development;
CO5	Create interest for the practice of yogasanas and meditations through which they learn the skills/art of self-control, concentration, peace and relaxation to avoid ill effects of stress, strain and fatigue of routine life;
<b>Course 6 (Creating an Inclusive School)</b>	
CO1	Demonstrate knowledge of different perspectives in the area of education of children with disabilities.
CO2	Reformulate attitudes towards children with special needs.
CO3	Plan need-based programmes for all children with varied abilities in the classroom.
CO4	Use specific strategies involving skills in teaching special needs children in inclusive classrooms.
<b>Course 7 (Reading and Reflecting on Texts)</b>	
CO1	Read and respond to a verity of texts in different ways
CO2	Enhance their capacity as readers and writers.
CO3	Learn to think together.
<b>Course 8 (Understanding the Self and Yoga)</b>	
CO1	Develop a holistic and integrated understanding of the human self and personality.
CO2	Develop social relational sensitivity and effective communication skills.
CO3	Create interest for the practice of yogasanas and meditations through which they learn the skills/art of self-control, concentration, peace and relaxation to avoid ill effects of

	stress, strain and fatigue of routine life;
CO4	Develop positive attitude towards health as individual and be collectively responsible to achieve it.
<b>Course 9 Internship (Practice Teaching)</b>	
CO1	Equipping the prospective teachers with necessary pedagogic skills
CO2	Developing proper attitudes towards teaching:
CO3	Enabling the teacher to acquire understanding of child psychology:
CO4	Enabling teachers to make proper use of instructional facilities
CO5	Enabling teachers to understand the significance of individual differences of child and to take appropriate steps for their optimum development:

## B.El.Ed.

<b>Programme Outcome (POs)</b>	
PO1	To develop proper altitudes towards teaching as a result of which he will be able to maximize the achievements from both the material and human resources.
PO2	To develop a good command of the subject matter of the assignment given to him.
PO3	To develop the capacity to extend the resources of the school by means of improvisation of instructional facilities.
<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Enable the perspective teachers to understand the nature, purpose and philosophy of education.
PSO2	Develop among perspective teachers an understanding of psychology of their pupils.
PSO3	Enable to acquire, competencies relevant to stage specific pedagogy, curriculum development, its transaction and evaluation.
PSO4	Development aesthetic sensibilities.
PSO5	Acquaint them with factors and forces affecting educational system and classroom situation.

## Program Course Outcomes

### Course One (Curriculum Studies)

- CO1 The basic concepts and process of curriculum planning, preparation of syllabi and development of text books at different levels.
- CO2 Analyze text books and related educational material in the context of aims and objectives of education and learning outcome.
- CO3 Understand the gaps in the curriculum as enacted and curriculum as process and practiced and lo understand the role of ideology and power in influencing curriculum.

### Course Second (Gender And Schooling)

- CO1 To examine critically gender inequalities in societies by using feminist theoretical frameworks.
- CO2 To learn to observe and analyze manifestations of gender inequities in the process of schooling and to develop strategies for intervention.
- CO3 To develop basic understanding and familiarity with key concepts-gender, gender bias, gender stereotype, empowerment, gender parity, equity and

equality, patriarchy and feminism and transgender.

### **Course Third A (Language)**

- CO1 Study of language learning as a process determined not only by an awareness of language structure but one that is critically influenced by the socio-cultural aspects of child's milieu.
- CO2 Equips students with skills of designing activities and developing techniques to transact the language curriculum.

### **Course Third B (Natural Science)**

- CO1 Understand the principles, process relationships to design appropriate strategies for teaching of natural science.
- CO2 Identify and use various web- based resources for teaching and learning of natural sciences.
- CO3 Use various methods and approaches of teaching of natural science.

### **Course Third C (Social Science)**

- CO1 Develop an understanding of the nature of social sciences, both of individual disciplines comprising Social Sciences, and also of social sciences as an integrated/interdisciplinary area of study.
- CO2 Acquire a conceptual understanding of the processes of teaching and learning social sciences.
- CO3 Enable student-teachers to examine the prevailing pedagogical practices in classrooms critically and to reflect on the desired changes;
- CO4 acquire basic knowledge and skills to analyze and transact the social sciences curriculum effectively following wide-ranging teaching learning strategies in order to make it enjoyable and relevant for life;

### **Course Third D (Computer Education and understanding ICT)**

- CO1 Appreciate the historical development of various educational media.
- CO2 Demonstrate understanding of the main components of the computer hardware in use.
- CO3 Use various digital technologies (hardware and software) for creating resources and providing learning experiences for all types of learners (including differently abled).
- CO4 Explain the role of ICT in authentic and alternative assessment.
- CO5 Understand the social, economic, and ethical issues associated with the use of ICT.

### **Course Third E (Special Education)**

- CO1 To know and understand the concept and principles of “special education” in India.
- CO2 To Aware with classification of special children.
- CO3 To Understand educational needs and problems of special education.
- CO4 Acquaint them with various methodologies of dealing with children with special needs.

### Course Fourth (School Internship)

- CO1 Prepare lesson plans in two school subjects and deliver lesson plans .
- CO2 Integral student assessment acclivities with teaching learning process.
- CO3 Conducting action research and case study.

### Course Fourth (Project Work)

- CO1 Every student is required to take up project work in specific areas of interest.
- CO2 Project work is designed to initiate students into a process of scientific enquiry, through classroom based research.
- CO3 Small projects on specific themes such as miscue analysis, gender stereotypes error analysis, children's understanding of specific concepts and so on can be taken up.

### Course Fourth (Innovative Teaching Aids)

- CO1 Student should be able to understand Teaching Materials & Teaching Aids.
- CO2 Student should be able to understand types of teaching aids
- CO3 Student should be able to understand importance of teaching aids
- CO4 Student should be able to understand the effect of using teaching aids in language teaching.
- CO5 Student should be able to understand how to select effective teaching aids

### Course Fourth (Practical)

- CO1 Preparation of learning resources
  - CO2 preparing portfolios
  - CO3 Preparation of time table
  - CO4 Organize and participate in morning assembly, literary and cultural activities, Club activities, Exhibitions, Games and sports, Excursions and field trip, maintenance of school library and laboratory.
- 

M.Ed.	
Programme Outcome (POs)	
PO1	To develop proper attitudes towards teaching as a result of which he will be able to maximize the achievements from both the material and human resources.
PO2	To develop a good command of the subject matter of the assignment given to him in the colleges/universities.
PO3	To develop the capacity to extend the resources of the school by means of improvisation of instructional facilities.

<b>Programme Specific Outcome (PSOs)</b>	
PSO1	Understand the nature of education as discipline /area of study.
PSO2	To encourage understanding of the basic concepts/ issues of education especially with reference to the kind of concerns that NCF 2005, NCFTE 2010 and NCTE regulation 2014 has raised in the context of understanding oriented teaching.
PSO3	Understand how concepts theories/issues drawn from disciplines cognate to education i.e. Psychology, Sociology, Philosophy, Economics and Management etc. could be used/practiced suitably in the perspectives of teaching learning in school.
PSO4	To prepare professional personnel who could be required to staff college of Education at Pre-Primary, Primary and Secondary levels.
PSO5	To prepare students who would be administrators and supervisors for the educational institutions, Department of Education and in other fields.
PSO6	

## B.Ed.Spl.Ed.[HI]

### **B.Ed Special Education (Hearing Impairment)**

B.Ed. Special Education (Hearing Impairment), graduated special educators will be able to ;

### **PROGRAMME OUTCOMES**

<b>PO1:</b>	Develop competencies and skills to impart education & training effectively to all children including children with disabilities in all educational settings (special schools, Inclusive schools and open /Home settings)
<b>PO2:</b>	Equip with competencies and knowledge related to curriculum planning and be aware of best practices in the field of pedagogical interventions and adaptations for children with disabilities in all educational settings.
<b>PO3:</b>	Impart with the core competencies and knowledge about change in the prevailing and emerging Indian society in view of recent trends in education and national development.
<b>PO4:</b>	Build theoretical knowledge, competencies and skills to assess and identify the special needs of children in all educational settings and develop confidence in them to realize their potentials and abilities
<b>PO5:</b>	Exert cross disability approach to meet the needs of children with disability other than hearing Impairment in Inclusive set up with enhancement of professional capacities in yoga, dance, drama and gender studies.

### **PROGRAMME SPECIFIC OUTCOMES**

PSO1:	Acquire knowledge & skills about the nature and educational needs of children with hearing Disability as well as other specific disabilities.
PSO2:	Develop lesson plans and teach children with hearing disability in special schools, children with other disability in special schools and promote technology enabled teaching learning process.

PSO3:	Analyze, interpret, understand and apply the complex interrelationships between theoretical knowledge and practical aspects through field placement and internship in Special School- Hearing disability and other disabilities inclusive schools and Home/Open schooling.
PSO4:	Develop the ability, as a member of the educational team to develop the Individualized Education Plan/Individualized Family Support Plan and to identify, design and promote individualized supports, strategies, accommodations and modifications that meet children's educational needs.
PSO5:	Develop the ability, in collaboration within a team, including parents to facilitate the development of social, behavioral and academic skills in students and work in partnerships with families to promote their full participation in the educational process.
PSO6:	Develop knowledge of differential characteristics of individuals with various types and natures of disabilities, as well as the implications for the development and implementation of programs and services.
PSO7:	Expand their knowledge and competency to clear competitive examinations like TET, CTET etc.
PSO8 :	Acquire knowledge & skills about human development, contemporary Indian education, and pedagogy of various school subjects and assessment for learning.
PSO9 :	Acquire knowledge & skills about nature and educational needs of children with disabilities as well as of few select specific disabilities.
PSO10 :	Develop conceptual understanding of education provisions and skills for working with children with various disabilities in Special and inclusive settings.
PSO 11 :	Enhance knowledge and skills for professional development.
<b>COURSE OUTCOMES (of the Course - Human Growth &amp; Development)</b>	
CO1:	Explain the process of development with special focus on infancy, childhood and adolescence.
CO2:	Critically analyze developmental variations among children.
CO3:	Comprehend adolescence as a period of transition and threshold of adulthood.
CO4:	Analyze different factors influencing child development.
<b>COURSE OUTCOMES (of the Course - Contemporary India &amp; Education )</b>	
CO1:	Explain the history, nature and process and Philosophy of education.
CO2:	Analyze the role of educational system in the context of Modern Ethos.
CO3:	Understand the concept of diversity.
CO4:	Develop an understanding of the trends, issues, and challenges faced by the contemporary Indian Education in global context.
<b>COURSE OUTCOMES (of the Course - Learning, Teaching &amp;</b>	

<b>Assessment)</b>	
CO1:	Comprehend the theories of learning and intelligence and their applications for teaching children
CO2:	Analyze the learning process, nature and theory of motivation
CO3:	Describe the stages of teaching and learning and the role of teacher
CO4:	Situate self in the teaching learning process
CO5	Analyze the scope and role of assessment in teaching learning process in order to introduce dynamic assessment scheme for educational set up towards enhanced learning.
<b>COURSE OUTCOMES (of the Course - Pedagogy of Teaching Science)</b>	
CO1:	Explain the role of science in day to day life and its relevance to modern society.
CO2:	Describe the aims and objectives of teaching science at school level.
CO3:	Demonstrate and apply skills to select and use different methods of teaching the content of sciences.
CO4 :	Demonstrate competencies of planning for teaching sciences, organizing laboratory facilities and equipment designing pupil centered teaching learning experiences.
CO5 :	Demonstrate skills to design and use various evaluation tools to measure learner achievement in sciences.
<b>COURSE OUTCOMES (of the Course - Pedagogy of Teaching Mathematics)</b>	
CO1:	Explain the nature of Mathematics and its historical development with contribution of Mathematicians.
CO2:	Describe the aims and objectives of teaching Mathematics at school level.
CO3:	Demonstrate and apply skills to select and use different methods of teaching Mathematics.
CO4:	Demonstrate competencies of planning for teaching Mathematics, organizing laboratory facilities and equipment designing pupil centered teaching learning experiences.
CO5:	Demonstrate skills to design and use various evaluation tools to measure learner achievement in Mathematics.
<b>COURSE OUTCOMES (of the Course - Pedagogy of Teaching Social Studies)</b>	
CO1:	Explain the concept, nature and scope of social science.
CO2:	Develop competencies for designing unit and lesson plans, as well as tools of evaluation for social science teaching.
CO3:	Develop skills in preparation and use of support materials for effective social science teaching.
CO4	Develop the ability to organize co-curricular activities and community resources for promoting social science learning.
<b>COURSE OUTCOMES (of the Course - Pedagogy of Teaching English)</b>	
CO1:	Explain the principles of language teaching, and evolution and trends in English literature.
CO2:	Prepare an instructional plan in English.
CO3:	Adapt various approaches and methods to teach English

	language.
CO4	Use various techniques to evaluate the achievement of the learner in English.
<b>COURSE OUTCOMES (of the Course - Inclusive Education)</b>	
CO1:	Explain the construct of inclusive education & the progression from segregation towards valuing & appreciating diversity in inclusive education.
CO2:	Explicate the national & key international policies & frameworks facilitating inclusive education.
CO3:	Enumerate the skills in adapting instructional strategies for teaching in mainstream classrooms
CO4	Describe the inclusive pedagogical practices & its relation to good teaching.
CO5	Expound strategies for collaborative working and stakeholders support in implementing inclusive education.
<b>COURSE OUTCOMES (of the Course - Introduction to Sensory Disabilities)</b>	
CO1:	Name the different types of sensory impairments and its prevalence and describe the process of hearing & implications of various types of hearing loss.
CO2:	Explain the issues & ways to address challenges in educating students with hearing loss.
CO3:	Describe nature, characteristics & assessment of students with low vision & visual impairment.
CO4	Suggest educational placement and curricular strategies for students with low vision & visual impairment.
CO5	Explicate the impact of deaf-blindness & practices for functional development.
<b>COURSE OUTCOMES (of the Course - Introduction to Neuro Developmental Disabilities)</b>	
CO1:	Discuss the characteristics and types of learning disability.
CO2:	Describe the tools, areas of assessment and apply intervention strategies to enhance learning.
CO3:	Explain the characteristics and types of Intellectual disability.
CO4 :	Describe the tools, areas of assessment and prepare and apply intervention strategies for independent living.
CO5 :	Explain the characteristics and types of Autism Spectrum Disorder.
CO6 :	Describe the tools, areas of assessment and apply intervention strategies.
<b>COURSE OUTCOMES (of the Course - Introduction to Locomotor &amp; Multiple Disabilities)</b>	
CO1:	Identify the persons with Locomotor disabilities such as Cerebral Palsy, Amputees, Polio, Leprosy cured, Muscular dystrophies, Neural and spinal defects and Multiple disabilities.
CO2:	Plan an effective programme for creating awareness about the persons with Locomotor disabilities and Multiple disabilities.
CO3:	Plan an effective therapeutic and programme for the persons

	with Locomotor disabilities and Multiple disabilities and to refer for medical intervention if necessary.
CO4	Plan an effective educational programme and functional activities for the persons with Locomotor disabilities and Multiple disabilities.
<b>COURSE OUTCOMES (of the Course - Community Based Rehabilitation)</b>	
CO1:	Explain the concept, principles and scope of community based rehabilitation
CO2:	Learn the strategies for promoting public participation in CBR
CO3:	Apply suitable methods for preparing persons with disability for rehabilitation within the community.
CO4	Provide need-based training to persons with disabilities.
CO5	Develop an understanding of the role of government and global agencies in CBR.
<b>COURSE OUTCOMES (of the Course - Communication Options - Oralism)</b>	
CO1:	Discuss the Aural Oral Options with reference to persons with hearing impairment in the context of India.
CO2:	Discuss the relevant issues like literacy, inclusion and training with reference to Oralism /Oral Rehabilitation.
CO3:	Exhibit beginner level hands on skills in using these options
CO4	Motivate self to learn and practice more skills leading to linguistic adequacy and fluency to be used while developing spoken language in children with hearing losses.
<b>COURSE OUTCOMES (of the Course - Assessment &amp; Identification of Needs)</b>	
CO1:	Explain the need and techniques for early identification of hearing loss in children.
CO2:	Acquire knowledge in the area of Audiological assessment and its relevance in education.
CO3:	To discuss communicative and language related needs with the understanding of its development and assessment.
CO4	Understand the need for assessment of various processes involved in production of speech.
CO5	Describe and identify different components of educational assessment and analyze various educational needs of individuals with hearing impairment.
<b>COURSE OUTCOMES (of the Course - Curriculum Designing, Adaptation &amp; Evaluation)</b>	
CO1:	Familiar with concept of curriculum and explain the importance of designing it for children with hearing impairment in the context of 21st Century learning skills.
CO2:	Develop capacity of developing literacy skills of reading and writing in children with hearing impairment.
CO3:	Describe the need for curricular adaptation and decide suitable adaptation and undertake it.
CO4	Appreciate the need for curricular evaluation and describe the tools and methods for evaluating it.

<b>COURSE OUTCOMES (of the Course - Intervention &amp; Teaching Strategies)</b>	
CO1:	To understand about programmes for early intervention of infants and children with Hearing Impairment.
CO2:	Describe the need, stages and importance of auditory listening & Speech reading for facilitating development of spoken language of children with hearing impairment.
CO3:	Explain various approaches to teaching, strategies for speech intervention.
CO4	Describe methods, techniques and options to facilitate language and communication.
CO5	Explain the concept, principles and practices, linkages and outcomes of educational intervention.
<b>COURSE OUTCOMES (of the Course - Technology &amp; Disability)</b>	
CO1:	Enumerate various listening devices and describe ways of effective usage and maintenance.
CO2:	Create awareness and basic exposure to state-of-the-art technology for management of various aspects of speech.
CO3:	Narrate the range of technological applications that can be used for facilitating communication and language.
CO4	Explain the present and future technologies facilitating the education of children with hearing impairment.
CO5	Identify different resources (financial & human) to obtain technology.
<b>COURSE OUTCOMES (of the Course - Psycho Social &amp; Family Issues)</b>	
CO1:	Explain psycho social development of early childhood and role of family.
CO2:	To understand the family needs and find self-ready to support families for empowering the child with disability.
CO3:	Ensure family involvement in educational programs
<b>COURSE OUTCOMES (of the Course - Reading &amp; Reflecting on Texts)</b>	
CO1:	Reflect upon current level of literacy skills of the self.
CO2:	Show interest and begin working upon basic skills required to be active readers in control of own comprehension.
CO3:	Show interest and begin working upon basic skills required to be independent writers understanding adequate intent, audience and organization of the content.
CO4	Prepare self to facilitate good reading writing in students across the ages.
CO5	Find reading writing as learning and recreational tools rather than a course task.
<b>COURSE OUTCOMES (of the Course - Performing &amp; Visual Arts)</b>	
CO1:	Exhibit Basic understanding in art appreciation, art expression and art education.
CO2:	Plan and implement facilitating strategies for students with and without special needs.
CO3:	Discuss the adaptive strategies of artistic expression.
CO4	Discuss how art can enhance learning.
<b>COURSE OUTCOMES (of the Course basic Research &amp; Statistics)</b>	

CO1:	Describe the concept and relevance of research in education and special education.
CO2:	Develop an understanding of the research process and acquire competencies for conducting a research.
CO3:	Apply suitable measures for data organization and analysis.

M.Ed.Spl.Ed.[HI]

**M.Ed Special Education (Hearing Impairment)**

M.Ed. Special Education (Hearing Impairment), graduated special educators will be able to ;

**PROGRAMME OUTCOMES**

<b>PO1:</b>	Acquire advanced pedagogical skills, reflective practice and ability to adapt instruction to the needs of each individual as well as group as curriculum and Instructional designer.
<b>PO2:</b>	Acquire knowledge and skills in research methodologies to be reflective practitioners throughout their careers and to assess and improve their teaching and cooperate with research institutions on research projects as part of their Teaching career.
<b>PO3:</b>	Apply tools and techniques to assess and plan for education of Children with Hearing Disability in special, general and inclusive settings.
<b>PO4:</b>	promote technology enabled teaching learning process with working knowledge of information and communication technology
<b>PO5:</b>	Work professionally as teacher educator in all educational setting with life long Learning adhering to ethical standards of teaching

**PROGRAMME SPECIFIC OUTCOMES**

PSO1:	Develop professional competency as teacher educators equipped with the knowledge and skill to facilitate and conduct initial preparation and continuing Professional development of teachers in special education and inclusive education
PSO2:	Endow with the core competencies and knowledge related to teacher education and its philosophical underpinnings related to special education and inclusive education
PSO3:	build theoretical knowledge and skills in research methodologies and conduct research in order to enhance education of children with disabilities in all educational settings (Special Schools, Inclusive Schools and Open/Home settings)
PSO4:	Equip with competencies and knowledge related to curriculum planning and be aware of best practices in the field of pedagogical interventions and adaptations for Children with disabilities in all educational settings
PSO5:	exert leadership skills in advocating and meeting educational needs of children with disabilities including counseling in all educational settings (Special Schools, Inclusive Schools and Open/Home settings) including higher education

PSO6:	Widen their perspective to incorporate ICT skills as teacher educators in higher education settings and in teaching learning process of educating Children with Disabilities in all educational settings embedded with Universal Design for Learning.
PSO7:	Expand their knowledge and competency to clear competitive examinations like NET, SET, TRB, TET, CTET etc.
PSO8 :	Assist potential teacher educators to exert leadership in advocating and meeting educational needs of children with disabilities in various settings
PSO9 :	Offer special teacher educators the opportunity to develop specialized capacity for leadership in curriculum, pedagogy and universal design
PSO10 :	Build theoretical knowledge and skills in research methodologies and conducting research in order to enhance education of children with disabilities in all settings.
<b>COURSE OUTCOMES (of the Course - Developments in Education &amp; Special Education)</b>	
CO1:	Trace development of general and special education system (PwDs) in India.
CO2:	Appreciate implications of recommendations made by the various Committees and Commissions for educational (General and Special) developments in India.
CO3:	Develop insight into the issues and challenges of present day education system.
CO4:	Understand important quality related issues which need to be taken into account for revision/ development of new education policy.
<b>COURSE OUTCOMES (of the Course - Psychology of Development &amp; learning)</b>	
CO1:	Explain the psychological principles and their application in specific context of education and special education.
CO2:	Explain the principles and their implication for growth and development.
CO3:	Explain the implications of various disabilities on teaching of learning situations and personality development.
CO4:	Explain critically various teaching - learning processes.
CO5:	Apply the psychological aspects on teaching - learning situations.
<b>COURSE OUTCOMES (of the Course - Research Methodology &amp; Statistics)</b>	
CO1:	Develop a conceptual understanding of research, its need and ethical research practices.
CO2:	Describe the types, methods and process of research.
CO3:	Apply statistical techniques for analysis of data.
CO4:	Explain the methods and techniques of qualitative research.
CO5	Prepare research proposal and report.
<b>COURSE OUTCOMES (of the Course - Curriculum Design &amp; Development)</b>	

CO1:	Define and identify different components of curriculum.	
CO2:	Understand and analyze various approaches to curriculum development.	
CO3:	Explain and demonstrate curriculum differentiation.	
<b>COURSE OUTCOMES (of the Course - Inclusive Education)</b>		
CO1:	Explain the philosophical, sociological and rights perspective of inclusive education.	
CO2:	Develop skills in using a wide range of tools, instructional strategies, and social supports to assist students with disabilities learn effectively.	
CO3:	Develop the skills associated with inter-personal relationships, managing relations in educational settings, problem-solving in educational settings, leadership and working in teams to promote inclusion.	
<b>COURSE OUTCOMES (of the Course - Perspectives in Teacher Education, In -Service &amp; Pre- Service)</b>		
CO1:	Gain insight and understand development of Teacher Education with reference to education of children with disabilities.	
CO2:	Reflect on issues and problems related with teacher preparation for education of children with disabilities.	
CO3:	Familiar with responsibilities of different organizations in preparation of competent teachers and critically examine it.	
CO4	Appreciate importance of in-service programmes and develop capacity to plan and execute it as per specific need and purpose.	
CO5	Appraise the existing teacher education curriculum and its relevance, issues and challenges.	
<b>COURSE OUTCOMES (of the Course - Educational Evaluation)</b>		
CO1:	Explain the key concepts of evaluation and describe the developments in evaluation.	
CO2:	Describe the scope of evaluation in education.	
CO3:	Describe the use of evaluation as an effective tool in teaching-learning process.	
CO4	Describe the ways & means of evaluation of programmes.	
CO5	Explain the current trends in evaluation.	
<b>COURSE OUTCOMES (of the Course - Identification, Assessment &amp; Needs of Individuals with Hearing Impairment)</b>		
CO1:	Explain Audiological evaluation and reflect its application in education of CWHI.	
CO2:	Describe speech of children and reflect its use in evaluation of CWHI.	
CO3:	Explain various issues related to assessment of language and communication of CWHI.	
CO4	Explain the practices in educational assessment including the setting up of an educational assessment centre.	
CO5	Describe the importance of team approach and reflect on their role in assessment and identification of needs.	
<b>COURSE OUTCOMES (of the Course - Curriculum &amp; Teaching strategies for children with Hearing Impairment)</b>		

CO1:	Describe the curricular needs, framework and practices emerged out of the paradigm shift in education.
CO2:	Explain the bases, types and strategies of curricular adaptations
CO3:	Understand the concept and strategies in differentiated instructions
CO4	Explain the processes and theories of literacy development.
CO5	Explain the multiple literacy and their applications in curriculum.
<b>COURSE OUTCOMES (of the Course - Adulthood &amp; Family Issues)</b>	
CO1:	Appreciate the importance of planning and implementing transition services for preparing adolescents towards adulthood.
CO2:	Explain strategies of developing independent living skills and preparing them for gainful employment.
CO3:	Describe communication, cultural and family issues to reflect in planning of services.
<b>COURSE OUTCOMES (of the Course - Assistive Devices &amp; Services for Individuals with Hearing Impairment)</b>	
CO1:	Describe the available schemes and reflect on status of services for individuals with hearing impairment and suggest ways to improve.
CO2:	Understanding about individual and group listening devices used by CWHI in schools.
CO3:	Discuss role of technology in facilitating communicative educational and social functioning of language.
CO4	Understanding about use of assistive devices & methods in the management of CWHI in schools/ clinics.
CO5	Explain the present and future technologies, research developments and evidence based practices facilitating the education of CWHI.
<b>COURSE OUTCOMES (of the Course - Educational Technology)</b>	
CO1:	Discuss roles of Educational Technologists in various contexts.
CO2:	Apply appropriate instructional strategies
CO3:	Develop appropriate instructional media.
CO4	Integrate suitable ICT effectively in teaching-learning-evaluation.
CO5	Suggest suitable modality of instruction (Online, Blended, etc.).
<b>COURSE OUTCOMES (of the Course - Guidance &amp; Counselling)</b>	
CO1:	State the basic concepts in Guidance & Counselling.
CO2:	Discuss Educational, Vocational and Personal Guidance.
CO3:	Describe testing devices and non-testing techniques of guidance.
CO4	Analyze the problems faced by students in the contemporary world.
CO5	Discuss the problems faced by children with disabilities.