

**B.A.**

S.no.	Course	Year/Semester	Subject/Paper	Course Outcome
1	B.A.	I	History paper-1 History of India from earliest time to 1200 AD	<ol style="list-style-type: none"><li>1. The students will be able to learn and analyse the various stages of evolution and development of man in the prehistoric, protohistoric and historic age.</li><li>2. They will develop understanding of the terms, facts, principal events, trends etc.</li><li>3. It will enable the students to develop critical thinking to have an in-depth knowledge about the ancient civilization, Vedic civilization, later Vedic civilization etc.</li><li>4. To explain in detail about the golden past of India during the Mauryan and Gupta periods, their conquest, arts, architecture and literature etc.</li><li>5. They will also be able to know about the brave and courageous Rajput clans and the South Indian dynasty of India.</li></ol>
2	B.A.	I	History paper-2 Western world (mid 15th century to 1870)	<ol style="list-style-type: none"><li>1. The students will be able to compose an effective narrative that analyses the history of the Western world in response to analytical questions.</li><li>2. It will help students to evaluate conflicting historical interpretations within the context of that particular time period.</li><li>3. They will be able to evaluate the causes for the glorious revolution, American revolution and the French revolution and their significance in the shift in the European culture from enlightenment to romanticism.</li><li>4. They will understand the changes that occur in the world by the intellectual ideology.</li></ol>
3	B.A.	II	History paper-1 History of India (1200 to 1739 AD)	<ol style="list-style-type: none"><li>1. Student will be able to learn the foreign invasions on India and their consequences.</li><li>2. They will be able to understand the social, economic and cultural conditions of mediaeval India and also be able to describe the advent of Islam in India and study the traces of political and cultural expansion of Turks and Afghans.</li><li>3. They will be able to explain the administration, art and architecture of Vijayanagar rulers, Mughals and also analyse the rise of the Marathas and contribution of Shivaji.</li><li>4. They will evaluate the establishment of the British rule in India and understand the dangerous consequences of disunity at all levels. They will be able to analyse the emergence of composite culture in India.</li></ol>

4	B.A.	II	<p>History paper-2 Main currents of world history from (1871 to 2001 AD)</p>	<ol style="list-style-type: none"> <li>1. By studying this paper students will know the immediate reasons for two major world war and the destruction is caused, thus one can understand the necessity and measures to be taken to avoid the third world war.</li> <li>2. The vital role of UNO in the world peace.</li> <li>3. The student will analyse how Russia traditional monarchy was replaced with the world's first communist state.</li> <li>4. The students will develop the intellectual curiosity and habit of thought that will lead to lifelong learning and continued engagement with European history, literature, culture, languages and current affairs.</li> <li>5. The students will acknowledge the distinction caused by nationalism. This extreme nationalism originated through the unification of Italy and Germany and thus led to two world war. The students will perceive that.</li> </ol>
5	B.A.	III	<p>History Paper-1 History of India from (1740 to 1857 AD)</p>	<ol style="list-style-type: none"> <li>1. The students after studying this paper they will identify Europeans arrivals, the disintegration among the kings and the weakness of fleet etc. that led the British invasions on India and finally occupying political power in this country.</li> <li>2. They will be able to understand the socio, economic and cultural conditions of later mediaeval India.</li> <li>3. The students can identify the advent of the European to India can analyse reasons for the Karnatic wars and after effects of it.</li> <li>4. The students can perceive how India lost its freedom stage by stage deterioration of freedom.</li> <li>5. They will be able to understand how the British administered the country for their material and commercial interest which led to revolt of 1857, the social evils and the efforts made by the social reformers to eradicate them.</li> </ol>
6	B.A.	III	<p>History Paper-2 History of India from (1858 AD to 1950AD)</p>	<ol style="list-style-type: none"> <li>1. The student will come to know the chronology of India's independence struggle and dedication and sacrifices.</li> <li>2. They will learn about the Swadeshi movement, moderate and extremist revolutionary movement in India and abroad, Birth of Indian National Congress &amp; partition of Bengal.</li> <li>3. They can acquire knowledge how to rise of Gandhi power in India politics and his activities towards freedom like khilafat, non cooperation movement, the Swaraj party, Poona pact, civil disobedience movement, quit India movement.</li> <li>4. They also learn how to raise communal politics and opposition politics of on the eve of the freedom movement in India and aftermath of partition in India.</li> <li>5. They will also be able to know British famine policy, socio religious movement, Indian agricultural, upliftment of women, development of education, beginning of economic development and scientific revolution in independent India.</li> </ol>

<b>B.Sc Biotechnology</b>				
<b>S.no.</b>	<b>Course</b>	<b>Year/Semester</b>	<b>Subject/Paper</b>	<b>Course Outcome</b>
1	B.Sc. Biotech.	I	paper-1 Cell structure & theory	<p>1. At the end of the paper the student should be able to understand basic of the cell biology appreciate the importance of bonding and special arrangement of molecules for proper functioning and stability</p> <p>2. students understand bacterial cell and function of bacterial cell</p> <p>3. The main objective of the course student will be able to understand the cell cycle &amp; cell division</p> <p>4. Student able to understand transportation system of the cell membrane and also understand models of membrane structure</p> <p>5. Students can also understand the program cell death process and mechanism of apoptosis</p>
			paper-2 Microbiology	<p>To create general understanding about micro biology at the end of the course student will familiar with</p> <p>1. Microbial diversity and nutrition.</p> <p>2. applications of microbiology.</p> <p>3. microbial nutrition and growth.</p> <p>4. control of micro organism.</p> <p>5. microbial metabolism and microbial product.</p>
2	B.Sc. Biotech.	II	Paper-1 Bio Physics & Bio Chemistry	<p>To understand concept of biophysical methods &amp; biochemical reactions.</p> <p>At the end of the paper student will be able to understand</p> <p>1. Thermodynamics process and their applications</p> <p>2. General biophysical method</p> <p>3. Fundamentals of biochemistry bond between the biomolecules and atoms</p> <p>4. Different biomolecules in biological body</p> <p>5. Structure of Enzymes and enzymes catalyze reaction</p>

2	B.Sc. BIOTECH.	II	<b>Paper-2 Bio instrumentation biostatistics and bioinformatics</b>	<p>The main objective of the paper to understand about different instrumentation techniques and bio statistical analysis. At the end of this paper students will familiar about</p> <ol style="list-style-type: none"> <li>1. principle of microscopy and and different types of microscopes</li> <li>2. different cromatographic methods and their applications</li> <li>3. Autoradiography and spectrophotometer method</li> <li>4. General concept about bio statistics and data analysis</li> <li>5. General concept about computers and biological data base software</li> </ol>
3	B.Sc. Biotech.	III	<b>Paper-1 Molecular Biology and Genetic Engineering</b>	<p>To understand about different biomolecules and their interaction and genetic engineering. At the end of this paper student will able to understand about</p> <ol style="list-style-type: none"> <li>1. detail knowledge about DNA and RNA</li> <li>2. chromosomal organization</li> <li>3. origin of life and molecular evolution of early forms</li> <li>4. Introduction of recombinant DNA technology and cloning</li> <li>5. mutation protin synthesis and plasmid</li> </ol>
			<b>Paper-2 Applied Biotechnology</b>	<p>At the end of this paper student will able to understand about microbial product and plant tissue culture</p> <ol style="list-style-type: none"> <li>1. micro organism involved in food industry</li> <li>2. introduction to plant tissue culture</li> <li>3. immunology and types of immunity in bertibrate</li> <li>4.Types of different fermenter and different fermentation product</li> <li>5. Environment biotechnology and their managment</li> </ol>

## BOTANY

s.	Course	Subject	Paper	Course Outcome
1	B.Sc. 1st year	Botany	1st - Applied Botany	<p>Students will be able to know about importance &amp; role of botany</p> <p>Students will be able to understand about basic aspects of applied botany</p> <p>Students will be able to know about various disciplines of botany</p> <p>Students will be able to know about modern agriculture practices like hydroponics, polyhouse and drip irrigation</p> <p>Students will be able to know about Ethnobotany and ethnomedicine.</p>
	B.Sc. 1st year	Botany	2nd - Basic Botany	<p>Students will be able to know history of Botany and Indian contributions</p> <p>Students will be able to understand about Algae &amp; its general characters</p> <p>Students will be able to know about Bryophytes &amp; Pteridophytes general characters.</p>
	B.Sc. 2nd year	Botany	1st - Taxonomy and embryology of angiosperms	<p>Students will be able to know about evolution of angiosperm.</p> <p>Students will be able to know about principles and rules of Botanical nomenclature</p> <p>Students will be able to know about various dicotyledonous families.</p> <p>Students will be able to know Double fertilization and its importance.</p>
	B.Sc. 2nd year	Botany	2nd - Plant ecology, biodiversity and phytogeography	<p>Students will be able to know about ecosystem and its types.</p> <p>Students will be able to understand about photoperiodism, plant succession and its types.</p> <p>Students will be able to know about physical and chemical properties of soil.</p>

B.Sc. 3rd year	Botany	1st - Plant physiology and biochemistry	Students will be able to know about plant water relationship. Students will be able to know about Osmosis. Students will be able to know about fats, lipids & carbohydrates. Students will be able to know about enzyme.
B.Sc. 3rd year	Botany	2nd - Cell biology, Genetics and Biotechnology	Students will be able to know about cell. Students will be able to know about cell membrane & their role. Students will be able to know about cell organelles. Students will be able to know about chromosome and its function.
M.sc. 1st sem	Botany	1st - Biology & Diversity of Virus, Bacteria & Fungi	Students will be able to know about diversity of virus, algae and fungi. Students will be able to know about general characteristics of algae. Students will be able to know about Archaeobacteria, Cyanobacteria and its importance. Students will be able to understand about general characteristics of mastigomycotina.
M.sc. 1st sem	Botany	2nd - Biology & Diversity of Algae	Students will be able to know about general characteristics of Algae. Students will be able to know about pigment of algae and its importance. Students will be able to know about Ulothrix, Chlorella, Zygnema & Nitella.
M.sc. 1st sem	Botany	3rd - Biology & Diversity of Bryophyta and Pteridophyta	Students will be able to know about Diversity of Bryophyta. Students will be able to know about diversity of Pteridophyta. Students will be able to know about general characters of Bryophyta. Students will be able to know about telome theory. Students will be able to know about seed habit of Sileginella.
M.sc. 1st sem	Botany	4th - Biology & Diversity of Gymnosperms	Students will be able to know about general characters of gymnosperms. Students will be able to know about fossil gymnosperms. Students will be able to know about Cycas, Pinus and Gnetum. Students will be able to know about economic importance of gymnosperms.

M.sc. 2nd sem	Botany	1st - Cell Biology and Genetics	<p>Students will be able to know about structure and organization of plant cell.</p> <p>Students will be able to know about cell wall, plasma membrane and its importance.</p> <p>Students will be able to know about structure and functions of cell organelles.</p> <p>Students will be able to know about chromosome structure and packaging of DNA.</p> <p>Students will be able to know about cell division, cell cycle and programmed cell death.</p> <p>Students will be able to know about Mendel's law, genetics of mitochondria and chloroplast.</p>
M.sc. 2nd sem	Botany	2nd - Plant development and reproduction	<p>Students will be able to know about organization of the higher plant body.</p> <p>Students will be able to know about shoot apical meristem.</p> <p>Students will be able to know about floral organ differentiation and Homeotic mutant in Arabidopsis.</p> <p>Students will be able to know about Gynoecium structure of megasporangium and ovule structure.</p> <p>Students will be able to know about Double fertilization and Embryogenesis.</p>
M.sc. 2nd sem	Botany	3rd - Plant physiology	<p>Students will be able to know about Principle of thermodynamics.</p> <p>Students will be able to know about phloem transport.</p> <p>Students will be able to know about plant growth regulators.</p> <p>Students will be able to know about floral induction and development.</p> <p>Students will be able to know about signal transduction.</p>
M.sc. 2nd sem	Botany	4th - Plant Ecology	<p>Students will be able to know about division of plant ecology and ecosystem components.</p> <p>Students will be able to know about community organization.</p> <p>Students will be able to know about Ecosystem development.</p> <p>Students will be able to know about fate of energy and matters in ecosystem.</p> <p>Students will be able to know about trophic organization and structure.</p>

M.sc. 3rd sem	Botany	1st - Systematic of Angiosperms	<p>Students will be able to know about Taxonomic evidences.</p> <p>Students will be able to know about Taxonomic tools (Herbarium, Botanical garden).</p> <p>Students will be able to know about origin of angiosperms.</p> <p>Students will be able to know about families of Dicotyledons:Rosaceae.</p>
M.sc. 3rd sem	Botany	2nd - Molecular Biology and plant breeding	<p>Students will be able to know about Nuclear DNA content DNA structure and forms.</p> <p>Students will be able to know about recombination of genetic mapping .</p> <p>Students will be able to know about RNA transport .</p> <p>Students will be able to know about protein sorting .</p> <p>Students will be able to know about immune innate and adaptive immune system</p>
M.sc. 3rd sem	Botany	3rd - Plant physiology, biochemistry and metabolism.	<p>Students will be able to know about kinetics of enzymatic.</p> <p>Students will be able to know about Photo oxidation of water .</p> <p>Students will be able to know about structure function and synthesis of ATP .</p> <p>Students will be able to know about fatty acid bio - synthesis.</p>
M.sc. 3rd sem	Botany	4th - Ecology-II (Conservation & utilization of plant Resources	<p>Students will be able to know about world center of primary diversity of domesticated plants.</p> <p>Students will be able to know about Aquatic habitats.</p> <p>Students will be able to know about Botanical garden.</p> <p>Students will be able to know about Ex situ conservation.</p> <p>Students will be able to know about Green house gases.</p> <p>Students will be able to know about EMR bands and their applications.</p>



M.sc. 4th sem	Botany	1st - Biotechnology and Tissue Culture	<p>Students will be able to know about Embryo culture.</p> <p>Students will be able to know about somatic hybridization.</p> <p>Students will be able to know about Protoplast isolation.</p> <p>Students will be able to know about Biotechnology principles and application of Biotechnology.</p> <p>Students will be able to know about recombination DNA technology, gene cloning principle and technique.</p>
M.sc. 4th sem	Botany	2nd - Applied Botany	<p>Students will be able to know about Plants used in Cosmetics herbal cosmetics products and application.</p> <p>Students will be able to know about Aroma technology.</p> <p>Students will be able to know about Organic farming.</p> <p>Students will be able to know about Microscopy principle and its application.</p> <p>Students will be able to know about Computer, MS office and its application.</p>
M.sc. 4th sem	Botany	3rd - Elective (IV) Applied Mycology	<p>Students will be able to know about general characters of fungi.</p> <p>Students will be able to know about Taxonomic status and classification of fungi.</p> <p>Students will be able to know about Mushroom &amp; their Cultivation.</p> <p>Students will be able to know about Enzyme such as Invertase, zymase etc.</p> <p>Students will be able to know about fungal disease.</p>
M.sc. 4th sem	Botany	4th - Elective (IV) Ethnobotany	<p>Students will be able to know about ethnobotany and its importance.</p> <p>Students will be able to know about Genetic diversity.</p> <p>Students will be able to know about ethnobotanical importance of various plants.</p> <p>Students will be able to know about plants in mythology, taboos and totum in relations to plants.</p>

**UG & PG Physics**

<b>S.no.</b>	<b>Course</b>	<b>Year/Semester</b>	<b>Subject/Paper</b>	<b>Course Outcome</b>
1	B.Sc.	II Year	Paper-I Optics	At the end of the course Students will be able to: <ul style="list-style-type: none"> <li>• Learn basic concept of Geometrical Optics &amp; Wave Optics.</li> <li>• Understand the concept of Interference, Diffraction &amp; Polarisation.</li> <li>• Learn about Principle of Fiber Optics.</li> <li>• Understand the concept of Laser.</li> </ul>
			Paper-II Electrostatics, Magneto and Electrodynamics	At the end of the course Students will be able to: <ul style="list-style-type: none"> <li>• Learn basic concept of Electrostatics &amp; Magneto statics.</li> <li>• Understand the concept of Current &amp; Bio Electricity.</li> <li>• Understand the concept of Propagation of Wave through ionosphere.</li> </ul>
2	M.Sc.	I Semester	Paper-II CLASSICAL MECHANICS	At the end of the course Students will be able to:- <ul style="list-style-type: none"> <li>• Understand the theory of Newtonian mechanics, D'Almbert's principle, Lagrangian mechanics, Hamiltonian mechanics &amp; Hamilton- Jacobi theory.</li> <li>• Understand the concept of Covariant four dimensional formulation.</li> </ul>
3	M.Sc.	II Semester	Paper-III Electrodynamics & Plasma Physics	At the end of the course Students will be able to:- <ul style="list-style-type: none"> <li>• Understand the theory of Maxwell equations.</li> <li>• Understand the concept of occurrence of plasma.</li> <li>• Analyse various types of plasmas.</li> </ul>
4	M.Sc.	III Semester	Paper-II Nuclear & Particle Physics	At the end of the course Students will be able to: <ul style="list-style-type: none"> <li>• Understand the concept of Nuclear force &amp; interaction.</li> <li>• Describe the design of different charged particles Accelerators.</li> <li>• Analyse various types of Elementry particles.</li> </ul>
5	M.Sc.	IV Semester	Paper-III Computer Programming & Informatics	At the end of the course Students will be able to: <ul style="list-style-type: none"> <li>• Understand the conceptual framework of Computer languages.</li> <li>• Understand the Networking process.</li> <li>• Understand the concept of Web enable technology (Email &amp; HTML)</li> </ul>

## CHEMISTRY

Course	Subject	paper	Course Outcome
M.sc. 1st sem	Chemistry	Paper 1st Inorganic chemistry	To learn understand stereo chemistry reaction mechanism of transition metal complex metal - ligand bonding and HSAB theory.
M.sc. 1st sem	Chemistry	2nd - Organic Chemistry	<p>Able to identify and understand the nature of bonding in organic molecules. Concept of aromaticity in the benzenoid and non-benzenoid compound. Huckel rule and PMO approach for aromaticity Role of crown ethers inclusion compound cryptands etc. The basic concept of stereochemistry ,</p> <p>Importance of stereoselective and stereospecific synthesis in organic chemistry . Importance of stereochemistry in compounds other than carbon like nitrogen sulphur and phosphorous . Optical activity in the absence of chiral carbon .</p> <p>Conformational analysis of cycloalkanes and its derivatives on reactivity of molecule . Able to distinguish various reaction intermediates. Linear free energy relationship</p> <p>Able to recognise and write various kind of reaction mechanism their determination. Thermodynamical and kinetic requirement of reactions.</p> <p>To gain knowledge of aliphatic nucleophilic substitution reaction at allylic vinylic and aliphatic carbon . various factor (</p>

M.sc. 1st sem	Chemistry	3rd - Physical chemistry	<p>1- Perceives the postulates of quantum chemistry.</p> <p>2- Learns the classical status of thermodynamics . Appreciates the fundamentals of molecular thermodynamics.</p> <p>3- Understand of the laws of thermodynamics and their applications .</p> <p>4- Know the phase diagram of single component systems and binary mixtures.</p>
M. sc. 1st	Chemistry	4th - Grouptheory and spectroscopy	<p>1To understand the interactions of radiation with matter and various spectroscopy method u v, Raman, nmr, esr in structure determination.</p>
M.sc. 1st	Chemistry	4th - Maths for chemis	<p>1. Student will demonstrate the ability to analysis data and draw appropriate with statical calculation</p> <p>2. To understand the application of diffrentail calculus including maxima and minima</p>
M.sc. 1st	Chemistry	5th - Biology For chemists	<p>1. To understand structure and functions of fundamental biomolecules</p> <p>2. To understand the structure lipid protein and classifications</p>
M.sc. 2nd sem	Chemistry	1st - Inorganic chemistry	<p>To learn - Electronic spectral Studies of transsition metal complex Metal clusters, optical Rotatary Dispersion.</p>

M.sc. 2nd sem	Chemistry	2nd - Organic chemistry	<p>Able to understand Aromatic electrophilic and nucleophilic substitution reaction.</p> <p>Knowledge of types of free radical substitution and rearrangement reaction. Reactivity of aliphatic and aromatic substrates of a bridgehead and attacking radicals. The phenomenon of autooxidation.</p> <p>Importance of addition reaction involving electrophile nucleophile and free radical. Hydrogenation reaction in a double and triple bond.</p> <p>Able to distinguish various types of products formed by the addition reaction of carbon-hetero multiple bonds and their</p>
M.sc. 2nd sem	Chemistry	3rd - Physical chemistry	<ol style="list-style-type: none"> <li>1. Explain the concept of activation energy and its effects on the rates of chemical reactions.</li> <li>2. Apply the tools to derive the rate law and its mechanism</li> <li>3. To explain the influence of different parameters on rate of reactions</li> <li>4. Describe Maxwell's distribution of molecular velocities.</li> <li>5. Describe various solids, its classification, Determination unit cell parameters.</li> </ol>
M. sc. 2nd	Chemistry	4th - Spectroscopy	<ol style="list-style-type: none"> <li>1. Understand the concept of nuclear magnetic resonance And shielding dshielding effect</li> <li>2 make student aware of the fine structure of ESR absorption techniques of ESR spectrum</li> </ol>

M.sc 2nd sem	Chemistry	5th - Computer for chemists	<p>1. Student will Able to read standard trace the execution of program written in c&amp; c ++ language</p> <p>2. To Learn basic structure and functioning of computer principles of programming a logrithms and flow - chart</p> <p>3. Understand computer program in forttan and different formulae in chemistry such as vonder wall equations pH titration determination normality molarity lattice energy</p> <p>4. To learn use of computer programme MS word MS Excel</p>
M.sc. 3rd	Chemistry	1st - Application of spectroscopy	<p>1. Understand principles and applications of mossbauer spectroscopy</p> <p>2. Study of correlation different types of compound with NMR spectrum</p>
M.sc. 3rd sem	Chemistry	3rd - Environmental chemistry	To Undarstand Atmospheric layers Air Pollution water pollution acidrain Envivornmental toxicology and soil & Environmental Disasters.

M.sc. 3rd sem	Chemistry	4th - Industrial	<p>Acquire knowledge of various causes of water pollution. Classical and modern methods used for water purification ,reverse osmosis etc.</p> <p>Large scale production, storage hazards and uses of industrial gases like acetylene, sulphur dioxide , fluorine, chlorine ,helium, argon etc</p> <p>Manufacturing process of heavy chemicals HCl , NaOH, NaCl, HNO<sub>3</sub> Bleaching powder Bromine etc.</p> <p>Acquire knowledge of origin and importance of coal, role of carcinogens, production of water gas, producer gas etc</p> <p>Able to know origin and composition of petroleum product</p>
M.sc. 4th sem	Chemistry	1st - Applications of Spectroscopy	<p>Learn the basics of spectroscopy, knowledge about the interactions of electromagnetic radiation with matter and their applications in spectroscopy.</p> <p>be able to analyse and interpret spectroscopic data collected by the methods discussed in the course.</p> <p>be able to solve problems related to the structure, purity, and concentration of chemicals and to study molecular interactions by choosing suitable spectroscopic methods and interpreting corresponding data.</p> <p>Apply UV-Visible spectroscopy technique to identify the conjugation and inter as well as intramolecular hydrogen</p>

M.sc. 4th	Chemistry	2nd - solid state chemistry	<p>Applied the basic concept of structural chemistry such as unit cell lattice parameters crystal system</p> <p>Understand bonding in solid state chemistry and electronegativity radii and packing of atom, ligand theory ,band theories</p> <p>Explain basic structure properties correlation of various</p>
M.sc. 4th sem	Chemistry	3rd - Biochemisrty	<p>To learn &amp; undarstand Bioogical system nitrogen fixation ,</p> <p>Enzymes Biotechnology and Biopolymer</p>
B.sc 1st	Chemistry	1st - physical chemistrty	<p>State and apply the laws of thermodynamics; perform calculations with ideal and real gases; design practical engines by using thermodynamic cycles; predict chemical equilibrium and spontaneity of reactions by using thermodynamic principles.</p> <p>To apply the concepts of colloids and gels</p> <p>To learn depth knowledge about liquid states</p>
B.sc 1st	Inorganic	2nd - Inorganic	<ol style="list-style-type: none"> <li>1. To understand the s&amp;p block elements comparative study of chemical reactivity and properties</li> <li>2. To understand the basic concept of atom with various theories principle</li> <li>3 .To make a molecular orbital diagram and different types of chemical bonding covalent bond, coordination bond ionic bond hydrogen bond Vsenr theories and its limitation</li> </ol>



B.sc 1st	Chemistry	3rd - Organic	<p>Apply the fundamental rules of hybridization in carboncontainingcompounds .</p> <p>Basic principles of electronic displacementsplay a significant role in deciding reactivity inertness and stability of the various organic molecule</p> <p>Knowledge and ability to use IUPAC nomenclatureand classification of organic compounds. Bayer strain theory for cycloalkanes.</p> <p>Understand the importance of reaction mechanisms in alkene, alkynes, alkyl halide, cycloalkenes dienes.</p>
B.sc 2nd year	Chemistry	1st physical chemist	<p>Abstracts and the use of the thermodynamic data of</p> <ol style="list-style-type: none"> <li>1. The application of mathematical tools to calculate thermodynamics.</li> <li>2. the relationship between microscopic properties of molecules with macroscopic thermodynamic observables</li> <li>3. the derivation of rate equations from mechanistic data</li> <li>4. the use of simple models for predictive understanding of physical phenomena associated to chemical thermodynamics and kinetics</li> </ol>
B.sc 2nd year	Chemistry	2nd - Inorganic chemistry	

B.sc 2nd year	Chemistry	3rd - Organic chemistry	<p>Able to acquire knowledge of the interactions of electromagnetic radiation with matter and their applications in UV and IR spectroscopy.</p> <p>Knowledge to classify phenols, their nomenclature named reaction is given by phenolic compounds and its importance.</p> <p>Have a concept about the difference between aldehyde and ketonic. compounds and reactivity. The various named reactions of carbonyl and aldehydic compounds having synthetic applications in industry.</p> <p>Understand the reaction shown by carboxylic acid and its derivatives</p> <p><del>Able to distinguish different product formation during</del></p>
B.sc. 3rd year	Chemistry	1st physical chemistry	<p>The photoredox processes at the surface of solids. An introduction to the current theoretical models of electron transfer dynamics is provided.</p> <p>Current technological applications, as well as the most recent advances in the field are then detailed.</p> <p>Defines the importance of Phase Diagrams in the field of materials science and engineering</p> <p>Explains the basic definitions and terms in a phase diagram</p> <p>Defines phase, equilibrium, component, degree of freedom and phase rule concepts</p>
B.sc. 3rd year	Chemistry	2nd - Inorganic	<p>To learn introduction and classification lewis acid</p> <p>To understand the chemical bonding</p> <p>To understand thermodynamic and chemical kinetic aspects of metal complex</p> <p>To understand transition metal complex and learn Bio -</p>

B.sc 3rd year	Organic	3rd Paper	<p>To understand the interactions radiations with matter and principles of various spectroscopy</p> <p>To learn different types of carbohydrates and chemical reactions with other organic compounds structure determination</p> <p>To determine the organometallic compounds ,organosulphur compound chemical properties and structure</p> <p>To understand the amino acids ,protein and its classification, structure and stereochemistry</p>
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## B.Sc. (Computer Science)

S.no.	Course	Year/Semester	Subject/Paper	Course Outcome
1	B.Sc. Computer Science	I Year	Paper-1 Fundamental of computer	<p><b>Object :- To understand about fundamental of computer and their application</b></p> <p><b>Learning outcomes :-At the end of this paper student will able to understand about</b></p> <ol style="list-style-type: none"> <li>1. Fundamental parts of computer</li> <li>2. Word processing</li> <li>3. Number system and algorithm</li> <li>4. Memory Cell and types of memory</li> <li>5. General architecture CPU and its type</li> </ol>
			Paper -2 Programming in C	<p><b>Object :- To understand about programming language</b></p> <p><b>Learning outcomes :-At the end of this paper student will able to understand about</b></p> <ol style="list-style-type: none"> <li>1. Programming language</li> <li>2. Introduction to C language and programming in C</li> <li>3. Functions and its types</li> <li>4. Graphics programming introduction</li> <li>5. Input and output operators.</li> </ol>
3	B.Sc. Computer	"	Paper -1 Object oriented programming concept using C++	<p><b>Object :- To understand about programming concepts.</b></p> <p><b>Learning outcomes :-At the end of this paper student will able to understand about</b></p> <ol style="list-style-type: none"> <li>1. Introductory part C++ and key Concept for programming.</li> <li>2. Parts of a C++ program and data types.</li> <li>3. Functions and their parts.</li> <li>4. About constructors and destructors.</li> <li>5. Pointers and Arrays</li> </ol>

4	Computer Science	II	Paper-2 Data Structure	<p><b>Object :- To understand about Basic concept of data and their structure</b></p> <p><b>Learning outcomes :-At the end of this paper student will able to understand about</b></p> <ol style="list-style-type: none"> <li>1. Concept of data structure and analysis.</li> <li>2. About tree basic terminology.</li> <li>3. About sequential search and binary search.</li> <li>4. Introduction to the graph and terminology.</li> <li>5. Applications of linked list.</li> </ol>
5	B.Sc. Computer Science	III	Paper-1 Database management system	<p><b>Object :- To understand about data and database</b></p> <p><b>Learning outcomes :-At the end of this paper student will able to understand about</b></p> <ol style="list-style-type: none"> <li>1. Types of data and database</li> <li>2.Entity relationship model and its design</li> <li>3. Fundamentals of set theoretical notations</li> <li>4. Functional dependency</li> <li>5. Basic concepts of indexing and hashing</li> </ol>
6			Paper-2 Operating system concept	<p><b>Object :- To understand about operating system</b></p> <p><b>Learning outcomes :-At the end of this paper student will able to understand about</b></p> <ol style="list-style-type: none"> <li>1. Operating system and its components</li> <li>2. Concept of process and process life cycle</li> <li>3. Memory management</li> <li>4. Enter process communication for synchronisation</li> <li>5. History and features of Linux and its architecture</li> </ol>

## Economics

Course	Subject	Paper	Course Out Come
B.A. 1st	Economics	1st - Micro Economics	after completing this course student will be able to understand rational behaviour and fundamentals of micro Economics . They will be able to explain consumers and producers behaviour and their optimum decisions Students will be able to know about the firms and industry , Markets and their decisions about optimum production the theory distribution and concept of economic welfare they also understand of many factors that affect us in the real world such as methods of buying goods product pricing and input pricing ultimately learning micro economic is key in learning about the principal of economics
B.A. 1st	Economics	2nd - Indian economy	after completing this course student will be able to sharpen the analytical skill by highlighting on broad overview of the Indian economy they will be familiar with the issues related to agriculture industry foreign trade economic planning and various economic problems of India Students will be familiar with broad overview of M.P. Economy they will be able to develop , analyse and interpret events and issues related to Indian Economy .
B.A. 2nd	Economics	1st - Macro economics	after completing this course Students will be able to understand macro economic variables and fundamentals of macro economics they will be able to explain national income savings investment employment and interest . Money inflation deflation and banking system they will be able to explain monetary policy stock and flow

B.A. 2nd	Economics	2nd - Public finance international economics	after completing this course Students will be able to understand public finance and international economics taxes and non taxes revenue budget fiscal deficit fiscal policy and deficit finance trade terms of trade and balance of payments they will be able to explain the concept of foreign exchange india's foreign trade and working of world trade organisation
B.A. Final	Economics	1st - Development and Environmental Economics	After completing this course students will be able to understand the concept of Economic growth and development the theory of Economic problems for developing countries it will be helpful in women empowerment HDI, environment economy interrelation sustainable development pollution prevention control and awareness of pollution.
B.A. Final	Economics	2nd - Statistics	After completing this course students will be able to understand statistical approach central tendency dispersion correlation Regression probability and time series analysis they will be able to explain and index numbers construction of index number and will be able to use statistical methods in social research.
M.A. 1st sem	Economics	1st - Advance Economic analysis 1	After completing this course students will be able to understand rational behaviour and fundamental of micro economics they will be able to explain consumers and producers behaviour and their optimum decisions firms and industry markets and their decisions about optimum production they will be also able to explain the law of demand and supply it is helpful in learning about the principles of economics
M.A. 1st sem	Economics	2nd - Macro Economics	After completing this course students will be able to understand macro economic variables and fundamentals of macro economics national income savings investment employment and interest students will be able to know about the theory of employment consumption multiplier and accelerator monetary policy stock and flow macro economics is key in learning about the macro variable and principles of macro economics.

M.A. 1st sem	Economics	3rd - Public Economics	After completing this course students will be able to understand public choice role of govt. In planning and development and fundamentals of public economics concept of public, private and merit goods public expenditure taxation public debt fiscal policy and role of Govt. in organized society they will be also able to explain the theory of maximum social advantage canon of taxation effects of taxation and deficit financing public economics is key in learning about the Govt. role in organized society and effects of Govt. policies.
M.A. 1st sem	Economics	4th - Quantitative techniques	After completing this course students will be able to understand statistical and mathematical approach to understand economic principles and policies they will be able to explain measures of central tendency dispersion correlation regression interpolation and extrapolation they will be able to explain index number linear and simultaneous equations and its application in economics quantitative techniques is key in learning about mathematical and statistical approach to understand calculation of micro and macro economic variables
M.A. 2nd sem	Economics	1st - Advanced Economics analysis 2	After completing this paper students will be able to understand rational behaviour and fundamentals of micro economics price and output determination in different markets conditions students will be able to know about theories of distribution and modern theories of determination of rent wages interest profit and welfare economics.
M.A. 2nd sem	Economics	2nd - Monetary economics	After completing this course students will be able to understand monetary economics and banking system they will be able to explain many stock determinations of value of money inflation deflation and trade cycles they will be able to know about banking system



M.A. 2nd	Economics	3rd - Research methods and statistical inference	After completing the this course students students will be e able to understand concept of research research design and research report writings they will be e able to explain the analysis of time series its theories students will be status will be able about the test of hypothesis Chi square test and goodness of fit and analysis of variance research methods and statistical and statistical inference is able in learning about about scientific research in economics.
M.A. 2nd	Economics	4th - International economics	After completing this course students will be able to understand interregional and international trade terms of trade international division of labour and specialisation.Theywill be able to explain theories of tarriffs and effects of tarriff on income distribution They will be able to know about the dumping and effects on Indian economy. They will be also able to explain internatioal trade and factor prices.International economics is key in learing about the importance and scope pf
M.A. 3rd	Economics	1st - History of economic thought	After completing this course students will be able to to understand history of economic thought they will be e able to to explain thoughts of mercantilism cats physiocrats classical School Cambridge School and India economic thinkers history of economic thought is compulsory in learning about thoughts of main economist.
M.A. 3rd	Economics	2nd - Indias foreign trade and internation institutions	After completing this course students will be able to understand India's foreign trade and role of International institutions in world trade they will be they will be able to explain concept of foreign trade balance of payment gold standard foreign trade multiplier students students will be able students will be able exchange rate and and exchange control students will know about free free trade and protection policy and India foreign tread and balance of payment they will be Rebel 2 to understand role of International institutions in foreign trade

M.A. 3rd s	Economics	3rd - Labour economics	After completing the this course students will be e able to understand role of labour in economic development development of a a developed country e like India they will be e unable to explain concept of labour wedges bonus social security e labour welfare students will be e able to you know about wages policy Trade union movement trade union movement child and women labour in India.
M.A. 3rd s	Economics	4th - Industrial economics	After completing this course students will be able to you understand meaning pattern pattern and impact of industrialization and new industrial policy in India they will be able to explain concept of aap organisation theories of industrial location and industrial sickness students will be able to small scale industries large scale industries in India they will be also able to understand sources of Industrial finance and industrial finance
M.A. 4th s	Economics	1st - Economics of growth and developmen	After completing this course students will be able to understand the concept of economic growth and development and problems of underdeveloped countries they will be able to to explain theories and methods of economic growth given by Main economist students will be able to you know about theories of balance and unbalanced growth and factors affecting growth and development.
M.A. 4th s	Economics	2nd - Indian economic policy and issues	After completing this course Rebel 2 students will be able to able to understand Indian economic policy and issues they will be able to to explain framework of Indian economy development strategies and economic reforms in India students will be e able to know about sectoral performance in agriculture industries infraestructura foreign trade capital market and balance of payment in India they will be able to to understand problems of poverty inequality and unemployment in India and policy implements.

M.A. 4th s	Economics	3rd - Agricultural economics	After completing this course students will be able to understand Nature and scope of agriculture in Indian economy they will be able to to explain agriculture system land reforms form management agricultural taxation in India students will be able to understand agricultural agricultural agricultural agriculture related problems and suggestions in Madhya Pradesh and India.
M.A. 4th s	Economics	4th - Demography	After completing the the course students will be able to understand concept and significance of demography oee and techniques of demographic analysis they will be e able to explain theories of population different demographic measurement and reference to India students will be e able to understand Indian census size growth and composition UP population UP population of population in India they will be e able to explain population policies and population control measures in India.

## ENGLISH

s.	Course	Subject	Paper	Course Outcome
1	M.A. 1st sem & 2 sem	English	1st - Poetry	<p>The aim of this course is to introduce students to the diverse and rich world of English literature from the fourteenth century to the present century. The chief objective of this course is to enable the students recognize and appreciate poetry from a variety of cultures and historical periods, tracing its evolution to the present form. After a study of this paper, the students will be able to analyze the varied elements of poetry- diction/ theme/ tone rhythm, meter, imagery and the figures of speech. The purpose is also to enhance their vocabulary and language ability, improving their writing skills thereof. It shall enable students to identify the various genres of poetry from the age of Chaucer to the modern lost modern age. Various sub types of poetry- sonnets, ballads, elegy, dramatic monologues, odes are covered in the syllabus so as to acquaint the students with the diversified realm of poetry. It shall also kindle an application of the principles of literary criticism to the study of poetic texts.</p>

		2nd - Drama	<p>It shall conceptualize the varied types of drame tragedy, comedy, farce, melodrama, historical plays and closet drama. It shall help the students understand the structure of a play and appreciate it's stylistic elements and dramatic devices.</p> <p>The paper sheds light on the art of dramaturgy and encompasses a study of the dramatists from the classical age to the present world. The chief highlight of this course is the detailed study of Shakespearean tragedies and comedies. The trends of the twentieth century British and non- British drama also constitute an important element of the paper. It shall enable them discern the moral and ethical principles/ teachings inherent in the plays and encourage them to imbibe those values in their lives.</p>
		3rd - Fiction	<p>It shall conceptualize the genre of novel and it's types viz. allegorical, historical, epistolary, picaresque, and psychological. It shall help the students gain a knowledge of the development of the English fiction and trace it's growth and evolution to it's present form - the journey of a man's physical adventures evolving into social and psychological sojourns of a character. It shall familiarize the students with the social, political, and economic milieu of the age of the writers concerned. The paper shall help students interpret texts critically and create an awareness of multiple view points. It will develop the critical faculty of students and make them appreciate literature's emotion stimulating ability. The paper shall also introduce the students to the multicultural world that we cohabit. As far as the language aspect is concerned, it shall enable students to formulate a knowledge of the stylistic strategies employed by different writers.</p>

			4th - Prose	The paper shall enable the students evaluate and analyze the growth of the prose in the English language from the classical to the present time. It shall acquaint them with the nuances of the language. Upon completion of the study of this course, the students shall be able to differentiate the diction used in various ages. To help them identify the writing styles of different essayists and locate them culturally is another objective of the course.
M.A. 3rd & 4th se	English		1st - Critical Theory	The course shall focus on the chief/ key critics, ideas and the schools of criticism in literature. The students shall read, discuss, and analyze the historical and contemporary criticism- its theories and principles, taking into account a wide range of critical viewpoints, voices and the canonical works of literary criticism. The course shall offer a comprehensive survey of the major trends of critical theory and literary terms from Plato down to the modern times. It shall encompass the major ideas, movements and concepts viz. structuralism, post structuralism, deconstructionism, symbolism, feminism, psychoanalytic and cultural criticism. It shall also enable the students explore the possible applications of critical theory to various literary texts and familiarize them with the literary premises corresponding to important eras of critical theory.
			2nd - English language	The course shall help the students know, understand, and use a wide range of specialized linguistic and literary terms. It aims at acquainting students with linguistics as the science of language study, its characteristics, components, and functions. It provides an introduction to the scientific study of language. It shall help the students know the sounds of English language and the patterns- phonetics and phonology, words- morphology, syntax and semantics. After the completion of this course, it will be possible for the students to analyze sentences, their structure, the constituents and the semantic role played by respective constituents.

			3rd - Indian Writings on English	The paper aims to introduce students to the wide corpus of Indian writings in the English language. It covers different genres of literature viz. Poetry, drama, fiction and prose written by the Indian litterateurs in the English language. It shall make the students aware of social, political, psychological, and cultural issues reflected in the Indian writings- the Indian National Movement, caste/class conflict, feministic musings, etc. It shall facilitate an understanding of literature with respect to nation and tradition and foster a critical insight.
			4th - American Literature	The course shall presents a survey of American Literature from the periods of exploitation and the settlement to the present . Students shall study works of poetry drama and fiction in relation to their historical and cultural contexts . The evolving American character and experience as reflected in the texts shall be studied. Upon completion of their course the students shall be able to identify key ideas.. representative authors and books,significant historical / cultural events and characteristics , various perspectives or attitudes expressed in the American Literature They shall analyse how race ,class, gender, citizenship and sexuality intersect in Literature across time periods.
B.A. 1st year	English Literature	1st - Poetry 2nd - Prose		It shall help students read diverse literary texts and comprehend the historical and cultural contexts of a literary composition. It shall make them explore a variety of reading strategies to foster comprehension and enable them construct relevant connections to the text. It shall help them to identify the defining characteristics of poetry and prose and appreciate their ideas and stylistic elements.

	B.A. 2nd year	English Literature	1st - Drama 2nd - fiction	It shall help students to develop familiarity with the major literary works by British /non-British men of letters in the field of drama and fiction .It shall encourage them to critically analyse the elements and key concepts of drama and fiction written in the English Language. They shall be able to explore and understand the social, cultural and historical contexts as well as the theatrical conventions of the time in which they were composed. It shall advance their acquaintance with writers from the Jacobean to the present century and trace the growth of fiction as a genre.
	B.A. 3rd year	English Literature	1st - Contemporary Literature 2nd - Indian Writing in English	The students shall be able to recognise, comprehend & analyse a variety of styles & themes implying in the 20 th century with an emphasis on the writings of T.S. Eliot & W.B. Yeats . Selected poems from Sylvia Plath shall voice the feministic urges and expression in poetry . In addition , the writings of R.N. Tagore and A.P.J. Abdul Kalam present a glimpse of the Indian contributions to the wide arena of contemporary literature. The biographical , historical , stylistic aspects of a poet /writer shall be studied.
	B.A. 1st year / B.com 1st year/ B.sc. 1st year	Foundation Course	2nd - F.C. English	Through this course the students will be able to : <ol style="list-style-type: none"> <li>1. Prepare for various competitive exams by developing their English Language Competence .</li> <li>2. Promote their comprehension skills by being exposed to a variety of texts and their interpretations .</li> <li>3. Build and enhance their Vocabulary .</li> <li>4. Develop their communication skills by strengthening grammer and usages.</li> <li>5. Inculcate values which make them aware of national heritage and environmental issues, making them responsible citizens.</li> </ol>



	B.A. 2nd year / B.com 2nd year/ B.sc. 2nd year	Founda tion Course	2nd -  F.C. English	<p>Through this course the students will be able to :</p> <p>Comprehend English Language as their native language.</p> <p>essays on various social and national issues.</p> <p>correspondence skills of formal and informal letters and Applications.</p> <p>English to Hindi and Hindi to English.</p> <p>5. Do Resume Writing.</p>	<p>1.</p> <p>2. Write</p> <p>3. Have a healthy</p> <p>4. Do translation of sentences/ passages of</p>
	B.A. 3rd year / B.com 3rd year/ B.sc. 3rd year	Founda tion Course	2nd -  F.C. English	<p>Through this course the students will be able to :</p> <p>Transformation of sentences , Direct - indirect speech , Active - Passive voice , Confusing words .</p> <p>Narration of events and situations .</p> <p>Precis writing .</p> <p>enhance their Personality Development in getting job after graduation .</p>	<p>1. Learn</p> <p>2. Learn Report writing</p> <p>3. Students will be able to do</p> <p>4. Do Drafting C.V. , which will</p>

## Geography

S.	Course	Subject	Paper	Course outcome
1	M.A. 1st sem	Geography	Paper 1st, Geomorphology,	Students will be able to understand the origin of landforms and the factors and processes behind it.
2	M.A. 1st sem	Geography	Paper 2nd Economic geography	After studying economic geography, students will understand the the economic activities and the factor which play a decisive role in the development of different economic sectors.
3	M.A. 1st sem	Geography	Paper 3rd, Geography of India	After studying this paper it leads to a comprehensive understanding among students about different dimensions of India, like - relief features, soil, climate, vegetation, minerals, water resource, population, literacy and urbanization.
4	M.A. 1st sem	Geography	Paper 4th, History of geographical thought	students will be able to understand the history of the development of Geographical thought, contribution of various schools in modern geography, dichotomy and the myth and reality about it.
5	M.A. 1st sem	Geography	Practical 1st	students will be able to prepare different types of projections and diagrams and will be able to study toposheets and understand GIS and GPS in geography.

6	M.A. 1st sem	Geography	Practical 2nd	Students will be able to collect data from the field , preparation of questionnaire and it`s and analysis and students will be able to prepare field survey report.
7	M.A. 2nd sem	Geography	Paper 1st climatology	By studying this chapter students will be able to know about insolation, heat balance of the earth, vertical and horizontal distribution of temperature, different atmospheric motion, atmospheric moisture, humidity, evaporation, climatic classification of Koppen, Thornwaite and major climates of the world.
8	M.A. 2nd sem	Geography	Paper 2nd Resource management	After studying this paper students will know how to evaluate land resource allocation, perspective of resource development, conservation of resources, concept of resource management, decision making in Resource Management, use and misuse of resources, resource development policies in India, natural hazards and risk management and sustainable Resource Management.
9	M.A. 2nd sem	Geography	Paper 3rd, Geography of India: Economy and regions	After studying this paper students will be able to know about economy, major crops and problems of agriculture, technological development in agriculture, productivity of agriculture, about industrial locational factors and spatial pattern of major industries in India, trade and transport, different mode of transport and their significance, basic of regional division - macro and meso regional division of India, about Narmada basin, Malwa plateau, Bundelkhand, upland Chhattisgarh basin etc.

10	M.A. 2nd sem	Geography	Paper 4th Geography of environment	After studying this paper students will be able to know about environment, components of environment, development of environmentalism in geography, environment and development, ecological concepts, environmental hazard and environmental pollution like air, water, noise and others.
11	M.A. 2nd sem	Geography	Practical 1st	students will be able to prepare tour report
12	M.A. 2nd sem	Geography	Practical 2nd	after studying this paper students will be able to prepare relief profile, block diagrams, hypsographic curve, computer cartography, survey by Indian tangent clinometer and by abney level and sextant.
13	M.A. 3rd sem	Geography	Paper 1st oceanograph y	students will be able to know submarine relief of the oceans, composition of oceanic water, distribution of temperature and salinity in the ocean, circulation of oceanic water waves ,oceanic deposits, coral reefs, ocean as a source of food and minerals, and impact of human on marine environment.
14	M.A. 3rd sem	Geography	paper 2nd urban geography	students will be able to know the origin and growth of urban and rural settlements, urban growth and its theories, urban hierarchy, basic and non basic function of a urban centre,urban morphology, landuse models, urban policies and planning and contemporary urban issues.

15	M.A. 3rd sem	Geography	Paper 3rd Geography of Tourism	by learning this paper students will be able to know about basics of tourism, motivating factor for tourist, geography of tourism, Eco - ethno coastal and adventure tourism, Indian tourism, infrastructure and support system, tourism circuit, Indian hotel industry and impact of tourism.
16	M.A. 3rd sem	Geography	Paper 4th Agricultural Geography	learning this paper student develops deep understanding about origin and dispersal of agriculture, determinants of agricultural land use, theories of Agricultural location based on several multidimensional factors, land use and land capability, agricultural efficiency, crop combination, diversification and specialisation, agricultural typology and regions, Whittlesey classification of Agricultural regions, agriculture in India, agricultural policies in India.
	M.A. 3rd sem	Geography	Practical 1st	this paper develops skill to prepare base map with the use of Survey instrument, resection by plane table, Prismatic compass survey, field mapping of the features of land use and interpretation of geological maps.
	M.A. 3rd sem	Geography	Practical 2nd socio economic survey	after studying this paper student will develop skill how to analysis a topographical map, preparation of settlement sitemap through Rapid survey, conduct a socio economic survey of the area personally with structural questionnaire, prepare a critical field survey report with photographs and sketch in addition to maps and diagrams.

	M.A.4th sem	Geography	1st - Research methodology in geography	After studying this paper students will be able to know about concept of research in Social Sciences, nature of geographical Research and Research approaches in geography, identification of research problems, making of hypothesis, survey of literature and preparation of bibliography and reference materials, methods to review literature, nature of geographical data and information, topographical sheets, questionnaire, schedule and interview, rearrangement of Central tendencies and dispersion, variance, correlation and regression, sampling design, Sampling and types of procedure, tabulation of data, interpretation of data.
	M.A.4th sem	Geography	2nd - Geography of Population	After studying this paper students will be able to know about Nature and scope of Population Geography, sources of population data, population distribution and density, growth of population, theoretical issues, population composition, literacy and education, population regions of the world, population dynamics, world pattern of fertility and mortality, demographic transition theory, International migration of population and resource development theories of population, limits to growth, population resource regions of the world.

	M.A.4th sem	Geography	3rd - Geography of manufacturing	After studying this paper students will be able to know about localisation factor of manufacturing industries, centralisation and decentralization, theories and models of industrial location, modern refinements to least cost theory, distribution and spatial pattern of manufacturing industries, major industrial regions of USA, Asia, Europe. methods of delineation of manufacturing regions, environmental degradation caused by manufactured industries, impact of manufacturing industries and economic development, impact of globalisation and manufacturing sector, changing industrial policy.
	M.A.4th sem	Geography	4th - Political geography	by studying this chapter paper students will be able to know and analyse the nature scope subject matter and recent development in political Geography approaches to study a political geography Geographic elements to the state physical elements human elements economic elements relation to political geography and environment themes in political geography federalism and other forms of governance geopolitical significance of Indian Ocean s a a r c foreign policy of India changing political map of India inter state water disputes and reparian claims new new emerging issues and conflicts of Indian politics
	B.A.1st year	Geography	1st Physical geography (Lithosphere)	After completing this paper the student will develop the ability to understand the internal structure of the earth, rocks that compose it and forces within the earth, learn about the contribution of ancient Indian scholars in the development of Physical Geography, analyse how the natural and anthropogenic factors affect the development of landforms, understand about the degradation process that unceasingly Act at the Earth surface.

	B.A.1st year	Geography	2nd - Introduction to geography and Human geography	After completion of this course the students will develop the ability to understand about major concepts and key principles of human Geography including place, space, scale and landscape; appreciate the diversity of the cultural backgrounds and places, approach problem solving from a Geographic perspective by understanding the role location plays.
	B.A.2nd year	Geography	1st - Physical geography (atmosphere & Hydrosphere )	After studying this paper students will know about weather and climate, elements of weather, composition of atmosphere, layers of atmosphere, about insolation, heat budget, horizontal and vertical distribution of temperature, inversion of temperature, atmospheric pressure belts and circulation planetary winds, monsoon, rain, local winds and jet stream, rain and its type, air masses, fronts, cyclones and anticyclones, classification of world climate, urban climate, hypsometric curve, oceanic deposits, coral reefs and Coral bleaching, temperature of ocean, salinity, circulation in ocean, theories related to tides and ocean Laws and pollution.
	B.A.2nd year	Geography	2nd - Economic geography	After studying this paper students will be able to know about sectors of economy, agricultural production and trade - like wheat, rice, sugarcane, coffee, cotton, jute, etc. world economic development, major Minerals and power resources - its production and distribution, regional development and planning, five year planning, integrated rural development programme, manufacturing industry - iron and steel industry, its production and distribution in the world, petrochemical industry and Fertilizer industry, transport - land, water and air transport, world oceanic waterways, changes in the world economy in respect to globalisation.



	B.A.3rd year	Geography	1st - Indian geography	by studying this paper students will able to know about physical features - structure, relief, physiography, climate of India, natural resources, water resources, mineral resources, power resources, wildlife resources and their conservation, cultural landscape of India, Indian economy - agriculture characteristics, major crops, Industrial Development, iron and steel, textile and international trade, Madhya Pradesh - physical and cultural aspects; political aspect of India, geographical basis of Indian federalism, state reorganisation, cross border terrorism, geopolitics of South Asia and Indian ocean realm.
	B.A.3rd year	Geography	2nd - Environment and resource management	Studying this paper students will able to know about environment, interrelation of natural and human environment, environmental degradation, disaster management, biodiversity and sustainable development, environmental policy, Environmental education and legislation, sustainable development, quality of human life and environment, environmental laws and policy, contemporary environmental issues, urbanization, mining and industrialization, soil Genesis, classification, distribution soil profile, deforestation, social forestry, environmental conservation and management, Resource Management and planning with special reference to environment.

## HINDI

Course	Subject	Pepar	Course out come
B.A. 1st Year	prachin evam madhyakalin Kavya	Paper 1st	इस पाठ्यक्रम के अध्ययन से विद्यार्थी हिंदी साहित्य की प्राचीन काव्य परंपरा से परिचित होंगे
B.A. 1st year	Katha sahitya	Paper 2nd	कथा साहित्य के माध्यम से विद्यार्थी कथा साहित्य के बारे में उसके महत्व और उपयोगिता को जानेंगे
B.A. 2nd year	arvachin Hindi Kavya	Paper 1st	अर्वाचीन काव्य प्रश्न पत्र के माध्यम से विद्यार्थी आधुनिक काव्य प्रवृत्तियों को समझेंगे
B.A. 2nd year	Hindi bhasha evam sahitya ka itihās aur Kavyang Vevechan	Paper 2nd	हिंदी भाषा एवं साहित्य के इतिहास और का व्यंग विवेचन की प्रवृत्तियों के अंतर्गत काव्य और साहित्य से परिचित होंगे
B.A. 3rd year	prayojanmulak Hindi	Paper 1st	हिंदी की प्रयोजनीयता का व्यवहारिक जीवन में महत्व समझेंगे साथ ही निबंध नाटक एवं स्फुट गद्य विधाओं से परिचित होंगे
B.A. 3rd year	natak nibandh tatha sput gadya vidha mein malvi bhasha	Paper 2nd	हिंदी नाटक निबंध तथा स्फुट गद्य विधाओं से विद्यार्थी परिचित होंगे और उनका विश्लेषणात्मक अध्ययन करेंगे
M.A. 1st sem	prachin evam madhyakalin Kavya aur uska itihaas	Paper 1st	प्राचीन एवं मध्यकालीन साहित्य को विद्यार्थी समझ सकेंगे और उस पर अपने विचार व्यक्त करेंगे

M.A. 1st sem	Aadhunik Hindi gadya aur uska itihaas	Paper 2nd	आधुनिक हिंदी गद्य के इतिहास को विद्यार्थी समझेंगे
M.A. 1st sem	artiya evam paschatya Kavya Sha	Paper 3rd	भारतीय पाश्चात्य काव्य और काव्य प्रवृत्तियों से विद्यार्थियों को लाभ होगा जिसमें भारतीय और पाश्चात्य काव्य दोनों के विस्तृत वर्णन को समझेंगे
M.A. 1st sem	Prayojanmulak Hindi	Paper 4th	विद्यार्थी प्रयोजनमूलक हिंदी के अंतर्गत प्रयोजनमूलक हिंदी की विभिन्न विधाओं से परिचित होंगे
M.A. 2nd sem	prachin evam madhyakalin Kavya aur uska itihaas	Paper 1st	इस पाठ्यक्रम के अध्ययन से विद्यार्थी हिंदी साहित्य की प्राचीन काव्य परंपरा से परिचित होंगे और उस पर अपने विचार व्यक्त करेंगे
M.A. 2nd sem	adhunik Hindi gadya aur uska itiha	Paper 2nd	आधुनिक हिंदी गद्य और उसके इतिहास से परिचित हों
M.A. 2nd sem	artiya evam Paschatya Kavya Shas	Paper 3rd	विद्यार्थी भारतीय काव्यशास्त्र के साथ-साथ प्राचीन काव्य प्रवृत्तियों से परिचित होंगे
M.A. 2nd sem	prayojanmulak Hindi	Paper 4th	प्रयोजनमूलक हिंदी के अंतर्गत प्रयोजनमूलक हिंदी के अंतर्गत आने वाली विधाओं पर परिचय होगा
M.A. 3rd sem	adhunik Hindi Kavya aur uska itiha	Paper 1st	आधुनिक काव्य को पढ़कर विद्यार्थी आधुनिक काव्य पर अपने विचार व्यक्त करेंगे और उससे परिचित होंगे
M.A. 3rd sem	Bhasha vigyan evam Hindi bhasha	Paper 2nd	विद्यार्थी भाषा विज्ञान के साथ-साथ हिंदी भाषा से भी परिचित होंगे

M.A. 3rd sem	Hindi sahitya ka itihās	Paper 3rd	हिंदी साहित्य के अंतर्गत आदिकाल भक्तिकाल रीतिकाल को भी विद्यार्थी जानेंगे
M.A. 3rd sem	Munshi Premchand /Surdas	Paper 4th	मुंशी प्रेमचंद और सूरदास की विभिन्न रचनाओं का विद्यार्थियों को ज्ञान होगा
M.A. 4th sem	धुनिक Hindi Kavya aur uska itihās	Paper 1st	आधुनिक हिंदी के साथ-साथ काव्य के इतिहास से भी विद्यार्थी का परिचय होगा जिससे उनके ज्ञान की वृद्धि होगी
M.A. 4th sem	भाषा विज्ञान evam Hindi bhasha	Paper 2nd	भाषा विज्ञान के साथ-साथ हिंदी भाषा से ही विद्यार्थियों का परिचय होगा
M.A. 4th sem	Hindi sahitya ka itihās	Paper 3rd	हिंदी साहित्य की विभिन्न विधाओं को विद्यार्थी पढ़ेंगे समझेंगे जिससे हिंदी साहित्य के महत्व को विद्यार्थी जान सकेंगे
M.A. 4th sem	Kathakaar Munshi Premchand aur Surdas	Paper 4th	कथाकार मुंशी प्रेमचंद की रचनाओं का परिचय और साथ ही सूरदास की विभिन्न कृतियों के अध्ययन से विद्यार्थियों को लाभ होगा
B.A. 1st Year	F C Hindi - Hindi language and moral value	Paper 1st	bl l s fo/kkFkhz, ks dks ufrd eV; dh f' k{kk i klr gkxh A
B.A. 2nd year	F C Hindi - Hindi language and moral value	Paper 1st	bl l s fo/kkFkhz, ka ea ufrdrk , d ekuoh; eV; ka dh l e> fodfl r gkxh
B.A. 3rd year	F C Hindi - Moral value and language	Paper 1st	bl l s fo/kkFkhz ufrd eV; ka ds l kFk i =dkfjrk ] fgUnh 0; kdj .k ] fofHkuu /kek dks cgrj l e> l dxa A

## MATHS

s.	Course	Year / semester	Subject	Paper	Course Outcomes
1	B.sc. 1st	year	Maths	1st - (Major) (Algebra Vector Analysis & Geometry)	<p>The Course will enable the students to:</p> <ol style="list-style-type: none"> <li>1. Recognize consistent and inconsistent systems of linear equations by the row Echelon form of the Augmented matrix, Using the rank of matrix.</li> <li>2. To find the linear values and corresponding eigen vectors for a square matrix.</li> <li>3. Using the knowledge of vector calculus in geometry</li> <li>4- Enhance the knowledge of three dimensional geometrical figures (eg. cone &amp; cylinder)</li> </ol>
	B.sc. 1st	year	Maths	2nd - Calculus & Differential Equations	<p>The course will be enable the students to :</p> <ol style="list-style-type: none"> <li>1. Sketch curves in a plane using its Mathematical properties in the different coordinate systems of reference.</li> <li>2. Using the derivatives in Optimization Social Sciences Physics and life science etc.</li> <li>3. Formulate the Differential equations for various Mathematical models.</li> <li>4. Using techniques to solve and analyze various Mathematical models</li> </ol>

	B.sc. 2nd	year	Maths	1st - Abstract Algebra	<p>(1).Define the algebraic structures.  (2) Able to construct substructures.  (3) Analyze a given structure in detail.  (4) Able to develop new structures based on given structures  (5) Able to compare the structures.</p>
	B.sc. 2nd	year	Maths	2nd - Advanced Calculus	<p>Students will be able to do:</p> <ol style="list-style-type: none"> <li>1.Double and Triple integrals by applying appropriate methods and rules.</li> <li>2. Vector calculus operations by partial derivatives and matrix partial derivatives.</li> <li>3. Comparison test, Cauchy's integral test, Cauchy's root test , ratio test , Raabe' s test , logarithmic test and test Leibnitz's test.</li> <li>4. Maxima &amp; Minima of functions of two variables</li> </ol>
	B.sc. 2nd	year	Maths	3rd - Differential Equations	<p>(1) Students will be able to use the Laplace. transform in finding the solution of linear differential equations.  (2) Students will be able to explain basic. properties of Laplace Transform &amp; Inverse Laplace Transform.  (3) Students will be able to get series solution of differential equations.  (4) Students will be able to solve partial differential equations of first order.</p>

	B.sc.3rd	year	Maths	1st - Linear Algebra & Numerical Analysis	<p>(1) explain the concepts of base and dimension of Vector space.</p> <p>(2) explain the concept of dimension of a vector space.</p> <p>(3) express Vector spaces in different dimensions.</p> <p>(4) explain base concept of a vector space and properties of vectors on the base.</p> <p>(5) solve linear equations and Ordinary differential equations by various numerical methods.</p>
	B.sc.3rd	year	Maths	2nd - Real and Complex Analysis	<p>(1) explain concept of Riemann integral</p> <p>(2) Check integrability of continuous and monotonic functions.</p> <p>(3) find differentiability of real valued functions of two variables</p> <p>(4) find convergence of improper integrals by Comparison, Abel's and Dirichlet's test.</p> <p>(v) explain the concept of Neighbourhoods, Limit points, Interior points Closures &amp; interior etc.</p>
	B.sc.3rd	year	Maths	3rd - Discrete mathematics	<p>Students will be able to:</p> <ol style="list-style-type: none"> <li>1. Define the basic concept of graphs, directed graphs and weighted graphs.</li> <li>2. Define the properties and bipartite graphs and particularly in trees.</li> <li>3. Understand Eulerian and Hamiltonian graphs.</li> <li>4. Explain partial order relation, partially ordered sets, Hasse diagram and lattice.</li> <li>5. find disjunctive and conjunctive normal forms of Boolean functions</li> <li>6. find shortest path in a weighted graphs</li> </ol>

**PGDCA 2nd SEM**

S.no.	Course	Year/Semester	Subject/Paper	Course Outcome
1	PGDCA	I Semester	<p align="center"><b>Paper -1</b> Introduction to information Technology</p>	<ol style="list-style-type: none"> <li>1. Student will be able to get Introduce about multimedia and its elements</li> <li>2. Student will be able to know about pheripheral devices like I/O device, storage unit, operating system etc.</li> <li>3. Student will be able to know about word processing software and network connections.</li> <li>4. Student will be able to know about production, manufacturing business on internet.</li> <li>5. Student will be able to know about programming language like C, C++ .</li> </ol>
			<p align="center"><b>Paper -2</b> Operating system</p>	<ol style="list-style-type: none"> <li>1. Student will be able to get introduction of operating system like windows,linux, unix etc.</li> <li>2. Student will be able to get overview of functions of OS like memory management, process management etc.</li> <li>3. Student will be able to know about memory management.</li> <li>4. Student will be able to get familiar with LAN environment and its protocols.</li> <li>5. Student will be able to know about case study over UNIX.</li> </ol>
			<p align="center"><b>Paper -3</b> PC software</p>	<ol style="list-style-type: none"> <li>1. Student will be able to know the introduction to Disk Operating System.</li> <li>2. Student will be able to get overview of WINDOWS.</li> <li>3. Student will be able to get detailed information about microsoft word.</li> <li>4. Student will be able to get detailed information about microsoft excel.</li> <li>5. Student will be able to get detailed information about Desktop Publising and computer viruses .</li> </ol>



			<b>Paper -4 Object Oriented Programming in C++</b>	<b>1. Student will be able to get introduction to programming in C++, and various programs 2. Student will be able to know about functions in C++, example- main(), switch() etc. 3. Student will be able to get overview of Arrays in C++. 4. Student will be able to understand string and review of pointers. 5. Student will be able to understand overloading operators, like increment operators, assignment operators.</b>
2	PGDCA	II Semester	<b>Paper -I Internet &amp; web designing</b>	<b>1. Student will be able to get Introduction of internet, world wide web, and email. 2. Student will be able to understand the concepts of internet V/S intranet, email protocols and services. 3. Student will be able to get familiar with HTML and its tags like BREAK, FONT, HORIZONTAL RULE etc. 4. Student will be able to prepare layout tables and its attributes, ROWSPAN, COLSPAN. 5. Student will be able to know about basic concepts of stylesheet like CSS (Cascading Style Sheet)</b>
	PGDCA	II Semester	<b>Paper -II Visual Basic and Oracle</b>	<b>1. Student will be able to get overview of RDBMS concepts. 2. Student will be able to comprehend index, view sequence, grant and revoke permissions and PL/SQL introduction. 3. Student will be able to know programming environment in VB (visual basic), controls of Visual Basic project. 4. Student will be able to study programming fundamentals like data types, constants, arrays etc. 5. Student will be able to know the working with form and control: using form template, MDI.</b>
			<b>Paper -III Software Engineering</b>	<b>1. Student will be able to understand the introduction to software engineering and software project planning. 2. Student will be able to study requirement analysis in software engineering. 3. Student will be able to know the design process of software in software engineering. 4. Student will be able to study software implementation, software testing strategies. 5. Student will be able to understand the maintenance and management of software.</b>

## PHYSICS

s.	Course	Year / semester	Subject	Paper	Course Outcomes
	B.sc.	1st year	Physics	1st - Mathematica I Physics, mechanics and properties of matter.	<ol style="list-style-type: none"> <li>1. The course would empower the students to develop the idea about the the behaviour of physical bodies.</li> <li>2. It will provide the basic concepts related to the motion of all the objects around us in daily life.</li> <li>3. The students would be able to build foundation and various applied field in science and technology especially in the field of mechanical engineering.</li> <li>4. The students will acquire the knowledge of basic mathematical methods to solve the various problem in Physics.</li> <li>5. To understand the relativistic effect and the relation between energy and mass.</li> </ol>
	B.sc.	1st year	Physics	2nd - Thermodyna mics and statistical physics	<ol style="list-style-type: none"> <li>1. The course would empower the students to understand the principles of thermodynamics and their applications.</li> <li>2. It will provide the basic concepts related to to statistical mechanics like microstates and macrostates, phase space, ensembles etc.</li> <li>3. The students will acquire the knowledge of partition function, Bose Einstein statistics, Fermi Dirac statistics.</li> <li>4. Students will be able to know the contributions of</li> </ol>

	B.sc.	3rd year	Physics	Physics-1 Quantum Mechanics and Spectroscopy	At the end of the course Students will be able to: <ul style="list-style-type: none"> <li>• Learn basic concept of Quantum Mechanics.</li> <li>• Understand the time independent Schrodinger equation.</li> <li>• Understand the fundamentals of atomic spectroscopy.</li> <li>• Learn about molecular spectroscopy.</li> <li>• Understand the concept of Nuclear Physics with nuclear-models</li> </ul>
	B.sc.	3rd year	Physics	Physics-2 Solid state physics and devices	At the end of the course Students will be able to: <ul style="list-style-type: none"> <li>• Learn about Crystal Structure and bonding.</li> <li>• Understand the Lattice structure and properties of Magnetic materials.</li> <li>• Describe the various types of Diode and Transistors.</li> <li>• Analyse various types of Amplifiers and Oscillator.</li> <li>• Understand basic concept of Nano-Materials and their Applications.</li> </ul>
	M.Sc.	1st Sem	Physics	Mathematical Phy	Students will be able to <ul style="list-style-type: none"> <li>• explain the origin of Legendre polynomial, Bessel functions and Hermite polynomial and use their properties in relevant problems.</li> <li>• understand the integral transform (Laplace and Fourier).</li> <li>• learn the basics of Green's function and how it is used to solve inhomogeneous differential equations.</li> <li>• solve different physical problems which contain</li> </ul>

	M.Sc.	1st Sem	Physics	Quantum mechanics	<ol style="list-style-type: none"> <li>1. To understand the basic postulates of Quantum mechanics,</li> <li>2. To solve the schrodinger equation for one, two and three dimensional problems.</li> <li>3. To learn bra and ket notations, Heisenberg uncertainty principle, creation and annihilation operators.</li> <li>4. To understand the concept of angular momentum in</li> </ol>
	M.Sc.	1st Sem	Physics	Electronic Device	<p>At the end of the course Students will be able to:</p> <ul style="list-style-type: none"> <li>• Analyse various types of Transistors.</li> <li>• Understand various types of Photoconductive devices.</li> <li>• Learn various Memory Devices.</li> <li>• Understand the Electro-optics, magneto-Optics and</li> </ul>
	M.Sc.	2nd Sem	Physics	Statistical Mechani	<p>Students will have understanding to</p> <ul style="list-style-type: none"> <li>• Use various ensemble theories to calculate the thermodynamic properties of statistical mechanics and learn about phase space.</li> <li>• Define and compare the Fermi-Dirac and Bose-Einstein statistics.</li> <li>• Study the behaviour of ideal Bose and Fermi gases.</li> <li>• Classify transitions as first order or second order.</li> <li>• Reproduce the exact solution of Ising model in one</li> </ul>
	M.Sc.	2nd Sem	Physics	Quantum mechar	<ol style="list-style-type: none"> <li>1. To learn Approximation method for bound States</li> <li>2. To understand the Time dependent perturbation theory, to make an idea about theory of scattering and related terms</li> <li>3. To learn the concepts of relativistic Quantum mechanics</li> </ol>

	M.Sc.	2nd Sem	Physics and Molecular	<p>At the end of the course Students will be able to:</p> <ul style="list-style-type: none"> <li>• Describe the Atomic Spectra of one and two Electron atom.</li> <li>• Understand the rotational and vibrational spectrum of di-atomic molecule.</li> <li>• Understand the energy levels of different spectrums.</li> <li>• Understand the fundamentals of spectroscopy.</li> </ul>
	M.Sc.	3rd Sem	Physics	<p>Condensed Matter Physics-1</p> <p>Students will be able to</p> <ul style="list-style-type: none"> <li>• understand the Bravais lattice, basics of crystal structures and symmetry operation.</li> <li>• learn the correlate the X-ray diffraction pattern for a given crystal structure based on the corresponding reciprocal lattice.</li> <li>• understand the elastic behaviour under stress and elastic constants.</li> <li>• Understand of electrical, thermal, magnetic, dynamical and dielectric properties of solids.</li> </ul>
1	M.Sc.	3rd Sem	Physics	<p>Atomic and molecular physics</p> <ol style="list-style-type: none"> <li>1. To understand the concept of nuclear magnetic resonance spectroscopy and electron spin resonance spectroscopy</li> <li>2. To learn the franck condon principle and electronic spectra of diatomic molecules.</li> <li>3. Understand Raman effect and its applications in structure determination.</li> <li>4. To learn the concept of mossbauer spectroscopy and its applications.</li> </ol>

	M.Sc.	3rd Sem	Physics	Digital Electronics	<p>At the end of the course Students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the concept of Basic Number Systems in digital Electronics.</li> <li>• Describe the design of logic gates.</li> <li>• Understand various types of Flip-Flops, Registers and Multiplexers.</li> <li>• Analyse various types of Counters.</li> <li>• Learn to conversion from Digital to Analog and Analog to Digital methods.</li> </ul>
	M.Sc.	4th Sem	Physics	Condensed Matter Ph	<p>Students will have understanding of</p> <ul style="list-style-type: none"> <li>• Concept of superconductivity, Meissner effect and differentiate between type-I and type-II superconductor and their theories.</li> <li>• the basics of imperfection in crystals materials.</li> <li>• Surface topography, electrical conductivity of thin films and quantum size effect in thin film</li> <li>• the important applications and properties of nanomaterials.</li> </ul>
2	M.Sc.	4th Sem	Physics	Laser Physics	<ol style="list-style-type: none"> <li>1. Students will be able to learn basic principles of laser</li> <li>2. To understand the properties of Laser beams and resonators.</li> <li>3. To understand the types and applications of Lasers.</li> <li>4. To learn non- linear optics and applications</li> </ol>

	M.Sc.	4th Sem	Physics	Digital Electronics	<p>At the end of the course Students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the concept of Differential Amplifier circuits.</li> <li>• Analyse the parameters of Op-Amp.</li> </ul> <p>M.Sc. IV Semester Physics Digital Electronics At the end of the course Students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the concept of Differential Amplifier circuits.</li> <li>• Analyse the parameters of Op-Amp.</li> <li>• Understand the Applications of Op-Amp for Positive and Negative terminals.</li> <li>• Construct and describe 8086/8088 microprocessor.</li> </ul>
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## Political science

s.	Course	Subject	Paper	Course Outcome
1	B.A. 1st year	Political science	1st - Political Theory	Student will be able to understand meaning of Political Theory ,different ideologies, concept of state, understand concept of power, authorities and different dimensions of sovereignty ,able to understand Liberty ,equality ,justice ,right ,and democracy.
2	B.A. 1st year	Political science	2nd - Indian Government and politics	Student will be able to understand constitutional development, significance of Preamble, fundamental rights ,and directive principle of State Policy, power and function of Legislative executive and Judiciary, understand constitutional bodies, division of power and local self government.
3	B.A. 2nd year	Political science	1st - Representative political thinker	Student will be able to understand deeply ancient political thought, Western political thought ,modern political thought, communist and Indian political thinkers
4	B.A. 2nd year	Political science	2nd - Constitution of major countries	Student will be able to understand British constitution, American constitution ,swiss constitution and China constitution with comparative approach
5	B.A. 3rd year	Political science	1st - Indian foreign policy	Student will be able to understand the development of India's foreign policy, relationship with India's neighbour and superpower countries, understand regional and World organisations with contemporary issues



6	B.A. 3rd year	Political science	2nd - Public administration	Student will be able to understand meaning ,Nature, and scope of public administration, difference between public and private administration, understand theories of organisation, line and staff Agencies, recruitment ,training promotion ,settlement of disputes ,financial administration, Bureaucracy ,good governance and e governance
7	M.A.1st Sem	Political science	1st - Modern Indian political thought	Students will be able to understand overview of Indian political thought, Genesis and development, understand thoughts of Raja Ram Mohan Rai ,Mahatma Gandhi ,Jawaharlal Nehru ,Syed Ahmed Khan ,bheemrav Ambedkar ,Jay Prakash Narayan ,Dindayal Upadhyay ,M.N Roy and Arvind Ghosh
8	M.A.1st Sem	Political science	2nd - Comparative politics	Student will be able to understand meaning, nature, scope, evolution ,traditional and modern perspective of comparative politics, understand political development ,political modernization, political culture, political socialization, political participation and political communication
9	M.A.1st Sem	Political science	3rd - International politics and contemporary political issue	Student will be able to understand meaning, nature and scope of international politics, theories of international politics ,Regional Cooperation, globalisation, disarmament, environmental and terrorism related isuses.
10	M.A.1st Sem	Political science	4th - Major ideas and issues in public administration	Student will be able to understand meaning ,nature ,scope ,evolution of public administration, different approaches of public administration, financial administration, modernization of bureaucracy.

11	M.A.2nd Sem	Political science	1st - Western political thought	Students will be able to understand ancient western political thought , mediaeval political thoughts ,new leftist thoughts and communitarian thoughts.
12	M.A.2nd Sem	Political science	2nd - Politics of South Asian countries	Student will be able to understand brief History ,politics, and general information of Pakistan, Bangladesh ,Sri Lanka and Nepal
13	M.A.2nd Sem	Political science	3rd - International Organisation	Student will be able to understand evolution of International Organisation ,United Nation structure ,function, different types role of UNO and UN importance in the post cold war era
14	M.A.2nd Sem	Political science	4th - Research methodology	Student will be able to understand nature ,importance and use of social research, tools and techniques of Data Collection, case study, and survey analysis
15	M.A. 3rd Sem	Political science	1st - Indian Government and politics	Student will be able to understand constitutional development, importance of Preamble, Fundamental rights and Directive principle of State Policy, understand deeply Union legislature, executive ,Judiciary and political process
16	M.A. 3rd Sem	Political science	2nd - State politics in India	Student will be able to understand state legislature, executive and judiciary, problem areas of state and different statutory and constitutional commissions of state.

17	M.A. 3rd Sem	Political science	3rd - International law	Student will be able to understand origin and development of international law, relationship between International Law and National Law ,Law of air ,land and sea warfares and international legal principles.
18	M.A. 3rd Sem	Political science	4th - Indian Foreign Policy	Student will be able to understand meaning, nature ,determinants of India's foreign policy, relationship with India's neighbour and superpower countries ,understand regional and world organisation with contemporary issues
19	M.A.4th Sem	Political science	1st - Federalism in India and local self government	Student will be able to understand the nature of Indian federal system ,Centre state relations, Regional parties, development of local self government in rural and urban areas
20	M.A.4th Sem	Political science	2nd - Government and politics of Madhya Pradesh	Student will be able to understand the reorganization of state and formation of Madhya Pradesh ,understand Madhya Pradesh legislature ,executive, Judiciary and administration .local self government and emerging trends of Madhya Pradesh politics.
21	M.A.4th Sem	Political science	3rd - Advanced Political Theory	Student will be able to understand meaning ,nature and significance of Political Theory, decline of Political Theory ,end of ideology and new trends in Political Theory.
22	M.A.4th Sem	Political science	4th - Diplomacy and Human Rights	Students will be able to understand meaning and objectives of diplomacy ,types of diplomacy ,understand meaning and nature of Human Rights, Human Rights local and global scenario ,International protection of human rights

## Sociology

Sociology			
COURSE	YEAR/SEM	SUBJECT/PAPER	COURSE OUTCOME
<b>B.A.</b>	<b>1<sup>ST</sup> YEAR</b>	Major 1 <sup>st</sup> Paper	1. Get an impression about the basic comprehension of Indian Society.
		- Indian Society and culture	
			2. The Student will have extensive comprehension of Indian tradition and opportunity to explore and express them.

Major 2 <sup>nd</sup> Paper -	1. The course is designed to incorporate all the key concept of Sociology.	
Basic Concepts of Sociology		
	2. Students will also learn in details about the three layers of Indian society.	

			3. This paper is expected to bring familiarity among student about Indian society.	
		Minor - Basic Concepts of Sociology	1. The course is designed to incorporate all the key concept of Sociology.	
			2. Students will also learn in details about the three layers of Indian society.	
			3. This paper is expected to bring familiarity among student about Indian society.	
		Open Elective – Introduction of Sociology	1. After studying this course students will be able to understand society, community, family, kinship, marriage, caste, class, role, status, tradition etc.	
	<b>2<sup>ND</sup> YEAR</b>	1 <sup>st</sup> Social process and change	1. Social change will result in improve the right of workers.	

			2. Social change will prove healthy for business and improving the right of workers.	
		2 <sup>ND</sup> Rural, Urban and Tribal Society	1. The course will provide knowledge about socio-culture process and rural, urban & tribal community.	
			2. The students will know the values of Indian social culture, rural, urban and tibal society.	
	<b>3<sup>RD</sup> YEAR</b>	1 <sup>st</sup> Social Thinkers	1. By studying this paper students will get information about various social thinkers (Auguste Comte, Emile Durkheim, PitirisSorokim, Max Weber, Karl Marx, ThrsteinVabler, R.K. Marten, Wilfred Parelo, J.H.Mead, M.N. shrinivas.)	
		2 <sup>nd</sup> Social Research	1. Students will get knowledge about the social research in various fields.	
			2. The course will enhance understanding of social issues of Indian Society.	

			3. They will learn in detail about the social research, steps of research, social survey, methods, process, types of research.	
			4. They will know utility of research in social fields.	
<b>COURSE</b>	<b>YEAR/SEMESTER</b>	<b>SUBJECT/PAPER</b>		<b>COURSE OUTCOME</b>
M.A.	1 <sup>ST</sup> SEMESTER	1 <sup>ST</sup> Classical Sociology Tradition - I	1. In this course student will get information about employment opportunities	
			2. related to the discipline of Sociology.	



			3. The course will provide knowledge about historical Socio-Economic background of the emergence of society and they will improve the knowledge of brief history of development of social thinkers thought (Karl Marx, Emile Durkhim, Mex Weber, Thurston Vebler)
		2 <sup>nd</sup> Methodology of Social research - I	1. They will learn concepts of method and methodology, Technical research, Meaning and nature of social research, nature of social reality and approaches, Methodological perspectives in Sociological Theory.
		3 <sup>rd</sup> Rural Society in India - I	1. After this course Students will be able to understand meaning of Rural society, Rural Social institution, Family, Religion, Marriage, Caste System, Agrarian relation in Rural India, Land ownership and its type, Agrarian movements in India.  2. They will know about rural problems : Poverty, Landless labour, Untouchability.
1		4 <sup>th</sup> Urban Society in India -I	1. The will learn in detail about meaning of Urban Society in India.

			<p>2. Get an impression about the basic composition of Indian Society, its classification of Urban Centers: cities and Town, Indian cities and its growth.</p> <p>3. They will know Urban environmental problems: Migration and poverty.</p>
M.A.	2 <sup>ND</sup> SEMESTE R	1 <sup>ST</sup> Classical Sociology tradition - II	<p>1. The course will provide knowledge of Impact of industrial Revolution and new mode of production on Society and Economy.</p> <p>2. They will also learn in detail about concepts of Sociological Thinkers thought (Karl Marx, Durkhim, Max Weber etc.)</p>
		2 <sup>nd</sup> Methodology of Social research - II	<p>1. In this course student will be able to understand Quantitive Methods and Survey Research, Sampling method, Measures of Control Tendancy, Co-relation analysis etc.</p> <p>2. They will know about Questionnaire, Interview Schedule, Case study method, content analysis, Life History, Power study, use of Statistics in Social research.</p>
		3 <sup>rd</sup> Rural Society in India - II	<p>1. They will know meaning of Rural development, Panchayti Raj Institution, Panchayat before and after 73<sup>rd</sup> amendment, panchayati raj in Madhya Pradesh.</p>

			2. In this course they will get knowledge of Issues and strategies of Rural development, Significance of village studies in India, Social change in Rural India, Modernization, Globalization, Information Revolution and its impact on Rural India.
		4 <sup>th</sup> Urban Society in India - II	1. In this course student will get information about employment in opportunities in Urban Society. 2. They will know changing about occupational structure and its impact on social stratification – Caste, Class, Gender and family, difference between town and city, Sociological studies of Indian cities.
M.A.	3 <sup>RD</sup> SEMESTER	1 <sup>st</sup> Sociology of Kinship, Marriage & Family	1. The course will provide the knowledge of classificatory Kinship in society. 2. They will know about definition of marriage types, base of acquiring mates, Sociological significance of Marriage. 3. They will know about a Universal concept of family, Functions of family, Typology of family, Polyandrous and Matrimonial family.
		2 <sup>nd</sup> Indian Society and Culture	1. They will get definition of culture, attributes, components of culture Indian society, great traditions in India. 2. They will know about components of Indian society; Demographic, Religious, linguistic, Caste and Dominant Caste.

			3. They will know about thoughts of social thinkers (An Indian Village: S.C. Dubey, The City: Dsouza)
		3 <sup>rd</sup> Sociological Essay	1. In this course student will know many Social issues, ie Woman empowerment, Child Labour, Domestic Violence, Panchayati Raj, N.G.O., Self Help Graph etc. 2. They know effects on Indian society for example: woman and government policy change and transformation in Indian Society.
		4 <sup>th</sup> Criminology	1. The course will provide knowledge about meaning of criminology, Concept of white collar crime, Sociological theory of crime, Crime against woman, Juvenile delinquency. 2. They will know correctional program against crime by educational, vocational, human rights & prison management and reformatory institutions.
M.A.	4 <sup>TH</sup> SEMESTER	1 <sup>st</sup> Theoretical Perspective in Sociology	1. This course will enhance the conceptual learning and understanding of the concept used in Sociology. 2. Nature and formation of sociological theory, Social structure and social Avenue, Theory of functionalism, Conflict theory, Interactions perspective and recent trends in sociological theory.
		2 <sup>nd</sup> Sociology of Change and	1. Student will know about Social change: Meaning, Process, Evolution and development.

		Development	2. Theory of Social change, factor of social change, process of social change, Culture and post-modernism, agencies of development and change, Indian experiences of development, Social Impact of IT revolution.
		3 <sup>rd</sup> Political Sociology	1. They will know about political sociology, Scope and subject matter of political sociology, Political Culture, Political System, Democratic system, Political parties, Voting behavior, Concept of Bureaucracy.
			2. They will know social impact and significance of public opinion in Democracy, Decentralization of politics and Panchayati Raj System.
		4 <sup>th</sup> industrial Sociology	1. In this subject student will know nature and scope of Industrial Sociology, they will know how can development of industrial structure happen.
			2. They will know the dilution of labour, Labour organizations, Labour movement, woman and Child Labour, Capitalism, Meaning of Power, Industry etc.

## URDU

Course	Subject	paper	Course out of come
B.A. 1st year	Urdu	sawaneh , khake , in shaiye Paper 1st Galazaliyat Paper 2nd	The course aims to build a rock solid foundation of the subject for the pursuers of Urdu literature. Providing biographical details of the literateurs, shedding light on the aspects of the Urdu language and its growth and development are other objectives of the program.
B.A. 2dn year	Urdu	Dastan, masnavi, and drama Paper 1st Paper 2nd Masnaviyat, manzumat	To make students aware of the art of dramaturgy and its related aspects is the chief aim of this program. It focuses on the study of the nuances of drama writing -thematic patterns ,writing styles ,diction, stagecraft ,and the general milieu of those times.
B.A. 3rd year	Urdu	Khutoot, drama, Mazamen, o, Maqalat 1st paper Qasida, Marsiya 2nd Paper	The course focuses on making the students acquire the skills of letter writing/ drafting in the classical style. It also aims to make the students aware of the literary achievements of a novelist in his respective field. The chief highlight of the course is to teach the students the art of writing Qasidas( elegy/ epitaph) and penning Morsiyas( appreciating verses). A study f the Urdu language and the social- cultural atmosphere of the bygone times is another area of concern.

## ZOOLOGY

s.	Course	Subject	Paper	Course Outcome
1	M.sc. 1st sem	Zoology	1st - Biosystematics, taxonomy and evolution	Student will be able to explain taxonomy classification speciation theories of biological classification formation of scientific names and various taxa evolution of biodiversity -index, Hardy weinberg law natural selection, migration, molecular genetics, speciation and reproductive isolation
	M.sc. 1st sem	Zoology	2nd - Structure and function of invertebrates	Student will be able to explain origin of metazoa, locomotion in various phylum,protozoa to echinoderms, respiration, nutrition and digestion in organisms and also explain excretion and nervous system in invertebrates larval forms of invertebrates.
	M.sc. 1st sem	Zoology	3rd - Quantitative biology biodiversity and wildlife	To learn and understand mean median and mode, probability analysis of variance, correlation, regression, biodiversity wildlife, and conservation.
	M.sc. 1st sem	Zoology	4th - Biomolecules and structural biology	Student will be able to explain chemical foundation of biology biomaterials protein folding and denaturation DNA and RNA gene expression, basic concepts of metabolism RNA synthesis, enzymatic reactions regulation of enzyme reactions
	M.sc. 2nd sem	Zoology	1st - General and comparative animal physiology and endocrinology,	Explain respiratory pigments transport of oxygen regulation of respiration excretion digestion thermoregulation comparative study and various aspects hormones and their classification neuroendocrine system hormones and reproduction.

	M.sc. 2nd sem	Zoology	2nd - Population ecology and environmental physiology	Student will be explained to populations demography, population regulation, adaptations, aquatic and ecophysiological adaptations of different fauna, environmental limiting factors, conservation management of natural resources and physiology response to oxygen deficient stress.
	M.sc. 2nd sem	Zoology	3rd - Tools and techniques in biology	to learn and understand Microscopy, principle and application, light microscope and phase contrast microscope, electron microscope, colorimeter and spectrophotometer, ultracentrifuge microbiological techniques, media preparation is sterilization incubation and monitoring separation techniques and immunological techniques surgical techniques
	M.sc. 2nd sem	Zoology	4th - Molecular cell biology and genetics	Explian Bio membranes, molecular compositions, cell movement, intracellular transport, cell signalling jet junction, calcium independent Felix cells gape junction, genome organisation sex determination in male and drosophila human genome project and genetic disease.
	M.sc. 3rd sem	Zoology	1st - Comparative anatomy of vertebrates	To understand origin of chordates development and function of integument respiratory and digestive system. Be able to explain evolution of heart and its function. To be able to explain comparative account and various blood circulation of various vertebrate group. bird and mammals explain how it's works with different mechanisms.



	M.sc. 3rd sem	Zoology	2nd - Limnology	<p>To understand identification and identify character of freshwater and marine water fishes.</p> <p>To understand behaviours habits feeding behaviour migration locomotion and reproduction of each group.</p> <p>Understand the different type of physicochemical parameters turbidity salinity dissolved gases oxygen carbon dioxide hydrogen sulphide and PH carbonate and bicarbonate phosphate nitrate its uses industrial and different fields.</p>
	M.sc. 3rd sem	Zoology	3rd - Ecotoxicology	<p>Understand general principle of environmental biology, biotic - abiotic factors, productivity, remote sensing, environmental pollution, toxicology, toxicity testing, public health hazards, pesticides agrochemical uses of pesticides.</p>
	M.sc. 3rd sem	Zoology	4th - Aquaculture	<p>Definition and scope of and its importance, biotic and abiotic factors of water necessary for fish life, freshwater prawn culture and the prospect of India seed culture in identification setting and the management of freshwater aquarium preservation and processing of fishes.</p>

1	M.sc. 4th sem	Zoology	1st - Animal behaviour and neurophysiology	<p>At the end of course the student will be able to</p> <p>Introduction of ethology animal physiology reflex and complex behaviour, Evolution and ultimate causation, neural and hormonal control of behaviour, motivation and communication</p> <p>To understand ecological aspects of behaviour, biological rhythms and learning and memory</p> <p>To be able to explain reproductive behaviour evolution of sex and reproductive strategies, social behaviour</p> <p>To understand thermoregulation, receptor physiology and bioluminescenes</p>
	M.sc. 4th sem	Zoology	2nd - Gamate biology, development and differentiation	<p>At the end of course student will be able to</p> <p>To explain comparative account of differentiation of gonads, spermatogenesis and fertilization, ovarian follicular growth and differentiation, sex determination and embryo transfer technology</p> <p>To understand hormonal regulation of of of ovulation, placentation , cryopreservation and teratological effects on garments.</p> <p>To be able to explain cell commitment and differentiation, creating new cell types diversification totipotency ,embryonic stem cells and hematopoietic stem cells.</p>

	M.sc. 4th sem	Zoology	3rd - Cell biology	<p>At the end of course students will be able to</p> <p>Molecular organisation of eukaryotic chromosomes, polytene chromosomes, lampbrush chromosome and, DNA methylation</p> <p>To understand gene families, genetic elements of prokaryotes and eukaryotes,</p> <p>eukaryotic transcription , DNA binding domains, environmental modulation of gene activity and molecular basis of thalassemias</p> <p>To able to DNA arrangement, amplification during development, drosophila development and and origin of segmentation genes</p> <p>To understand drosophila development, homeotic selector genes and mutation, homeo boxes and its significance</p>
	M.sc. 4th sem	Zoology	4th - Pisci culture and economic importance of fishes	<p>At the end of course students will be able to</p> <p>To understand collection of fish, dry bundh , hypophysation and Indian major camps</p> <p>To able to explain drugs useful in fishes fish culture farms management of hatcheries and stocking ponds</p> <p>To explain fish culture prawn culture and pearl culture and fisheries resources of MP</p> <p>Will be able to explain coastal fisheries in India, sewage fed fisheries.</p> <p>To be able to explain fish preservation marketing of fishes economic importance of fishes</p>
	B.sc. 1 year	Zoology	1st - Animal diversity : Non chordata	<p>Understand the invertebrates taxonomy phylogeny and different type of animal kingdom its related diseases protozoans and disease classifications of different type of phylum protozoans to echinodermata idea of evolution of non chordata phyla. Knowledge about economic ecological and the metric significance of various animal in human welfare and importance parasite and their control measures.</p>

	B.sc. 1 year	Zoology	2nd - Cell biology, reproductive biology and developmental biology	Function of cellular level cell biology reproductive biology recent assisted reproductive techniques, placentation, IVF, developmental biology and embryology of chick developmental stages in the multicellular organism
	B.sc. 2nd year	Zoology	1st - Vertebrates and evolution	understand origin of chordata, development and function of Euro chordates, protochordate, cephalochordates and respiratory, digestive and respiratory sense organ, placentation in mammals, macro and micro evolution, zoological distribution, evolution of geographical time scales.
	B.sc. 2nd year	Zoology	2nd - Animal physiology and biochemistry of animal	Understand nutrition and metabolism, physiology of digestion, respirations, excretion and immune system, regulation and different types of role of enzymes, vitamins, neuromuscular coordination and endocrine systems.
	B.sc. 3rd year	Zoology	1st - Genetics	To explain mendel's law, nucleic acid and nucleosome, genetic code, gene expression, linkage sex determination, mutation, multiple alleles blood groups and DNA fingerprinting gene therapy and recombinant DNA techniques is explain.
	B.sc. 3rd year	Zoology	2nd - Ecology and applied zoology	To Understand ecology, freshwater biogeochemical cycle, communities habit ecology of different fauna, wildlife and environment aquaculture maintenance, major crops management and technology sericulture api culture and lac culture.