Maratha Vidya Prasarak Samaj's
Arts, Science and Commerce College, Ozar (Mig)
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Office: 02550-257219/275919 Email: ozarcollege@gmail.com
Affiliated with Savitribai Phule Pune University, Pune (ID No PU/NS/ASC/027/1984)
AISHE ID: C-41965

Department of Botany- Academic Year 2019-20

Programme Outcomes (PO) & Course Outcomes (CO) offered by the institution are stated and displayed on websites.

Programme Outcome : B.Sc. (Botany)	
PO1	• Students completing this course will have understanding of morphology and anatomy of various groups of plants
PO2	• Students know about different types of lower & higher plants their evolution infrom algae to angiosperm & also their economic and ecological importance.
PO3	• Student can describe morphological & reproductive characters of plant and alsoidentified different plant families and classification
PO4	• Use modern Botanical techniques and decent equipment's.
PO5	• To inculcates the scientific temperament in the students and outside the scientificcommunity
PO6	• They knows economic importance of various plant products & artificial methodsof plant propagation

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Course Outcomes: B.Sc. (Botany)

Class	Semester	Course Title with Subject Code	Outcome
F.Y. B.Sc.	**I**	BO 111: Plantlife and utilization I	• CO1: Learn plant diversity and life cycle of Algae, Lichen, Fungi and Bryophytes and welfare to human beings. • CO2: Review the economic importance.
F.Y. B.Sc.	**I**	BO 112: Plantmorphology and Anatomy	• CO1: Learn Morphological and Anatomical characters ofAngiosperms
F.Y. B.Sc.	**I**	BO 113: Practical basedon BO 111 & BO 112	• CO1: To acquire the practical knowledge of differentplant groups • CO2: To develop skills to study morphological characters and anatomical organization in differentgroups' of plants.
F.Y. B.Sc.	**II**	BO 121: Plantlife and utilization II	• CO1: To learn plant diversity and life cycle of Pteridophytes, Gymnosperms and Angiosperms. • CO2: To review the economic importance.
F.Y. B.Sc.	**II**	BO 122: Principles of plant science	• CO1: To understand different plant cell organelles andCytological techniques. • CO2: Help to understand different Molecularprocesses.
F.Y. B.Sc.	**II**	BO 123: Practical basedon BO 121 & BO 122	• CO1: Acquire the practical knowledge of different plantgroups. • CO2: Help to develop skills to study Physiological, cytological and molecular processes of plant.
S.Y. B.Sc.	III	BO-231: Taxonomy of Angiosperms and Plant Ecology	• CO1: Know principals of taxonomy, methods in taxonomy • CO2: Types of taxonomy, Sources of data for taxonomy • CO3: Methods of preparation of Herbarium, EHerbarium
S.Y. B.Sc.	III	BO-232:Plant Physiology	• CO1: Applications of plant physiology, Mechanism of Absorption of water, Transpiration • CO2: Plant growth and growth regulators, Nitrogen Metabolism in plants • CO3: Physiology of flowering
S.Y. B.Sc.	III	BO-233:Practical	• CO1: Know practical knowledge of plant family of angiosperms • CO2: Study of different ecological groups and methods to study vegetations in forests • CO3: Study different parameters of plant physiology like WHC, DPD, Rate of transpiration and Different instruments used in physiology

Class	Semester	Course Title with Subject Code	Outcome
S.Y. B.Sc.	IV	BO-241: Plant Anatomy and Embryology	• CO1: Know different tissue systems in plants • CO2: Normal secondary growth and different types of anomalous secondary growth • CO3: Study of male and female gametes in angiosperms, Process of fertilization and types of endosperms and structure of embryo.
S.Y. B.Sc.	IV	BO-242: Plant Biotechnology	• CO1: Know various application of biotechnology like Enzyme technology, Fermentation technology • CO2: Single Cell Proteins and Environmental biotechnology Know Basics of Plant Genetic Engineering, Methods of gene transfer in plants and applications of plant genetic engineering in crop improvement • CO3: Knowledge about Nanotechnology and its applications in Agriculture
S.Y. B.Sc.	IV	BO-243:Practical	• CO1: Study of Different tissue systems and normal and anomalous secondary growth • CO2: Study of fermentation techniques, Spirullina cultivation for SCP

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Department of Chemistry- Academic Year 2020-21

Programme Outcomes (PO) & Course Outcomes (CO) offered by the institution are stated and displayed on websites.

Programme Outcome: B.Sc. (Chemistry)	
PO1	• The students are expected to understand the fundamentals, principles, and recent developments in the subject area.
PO2	• It is expected to inspire and boost interest of the students towards chemistry as the main subject
PO3	• To impart practical skills and learn basics behind experiments
PO4	• To prepare background for advanced and applied studies in chemistry
PO5	• To inculcate the scientific temperament in the students and outside the scientific community.
PO6	• To inculcate the scientific temperament in the students and outside the scientific community
PO7	• Use modern techniques, decent equipment and Chemistry software

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Course Outcomes: B.Sc. (Chemistry)

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.Sc.	I	Physical Chemistry CH-101	• Students will be able to apply thermodynamic principles to physical and chemical process • Calculations of enthalpy, Bond energy, Bond dissociation energy, resonance energy • Variation of enthalpy with temperature – Kirchoff's equation • Third law of thermodynamic and its applications
F.Y. B.Sc.	I	Organic Chemistry CH-102	• The students are expected to understand the fundamentals, principles, and recent developments in the subject area. • It is expected to inspire and boost interest of the students towards chemistry as the main subject. • To familiarize with current and recent developments in Chemistry. • To create foundation for research and development in Chemistry.
F.Y. B.Sc.	II	Inorganic Chemistry CH-201	• Various theories and principles applied to revel atomic structure • Origin of quantum mechanics and its need to understand structure of hydrogen atom • Schrodinger equation for hydrogen atom • Explain rules for filling electrons in various orbitals- Aufbau's principle, Pauli exclusion principle, Hund's rule of maximum multiplicity • Discuss electronic configuration of an atom and anomalous electronic configurations
F.Y. B.Sc.	II	Analytical Chemistry CH-202	• Calculations of mole, molar concentrations and various units of concentrations which will be helpful for preparation of solution. • Relation between molecular formula and empirical formula. • Basics of type determination, characteristic tests and classifications, reactions of different functional groups. • Basics of chromatography and types of chromatography • Theoretical background for Paper and Thin Layer Chromatography
S.Y. B.Sc.	III	CH-301 Physical & Analytical	• Introduction to Analytical Chemistry • Define / Explain concept of kinetics, terms used, rate laws, molecularity, order, factors affecting rate of reaction.

Class	Semester	Course Title with Sub. Code	Outcome
		Chemistry	• Classification of Adsorption Isotherms, to derive isotherms • Solve / discuss problems using theory. • Define, explain and compare meaning of accuracy and precision. • Apply the methods of expressing the errors in analysis from results • Perform calculations involved in volumetric analysis. • Explain why indicator show colour change and pH range of colour change.
S.Y. B.Sc.	III	CH-302 Inorganic & Organic Chemistry	• Define terms related to molecular orbital theory • Explain and apply LCAO principle for the formation of MO's from AO's. • Apply MOT to explain bonding in diatomic molecules other than explained in syllabus • Define different terms related to the coordination chemistry • Explain Werner's theory of coordination compounds • Give the mechanism of reactions involved. • To correlate reagent and reactions • Explain / discuss synthesis of alkyl / aryl halides. To correlate reagent and reactions • Able to differentiate between alcohols and phenols
S.Y. B.Sc.	III	CH-303 Organic & Inorganic Chemistry	• Verify theoretical principles experimentally. • Understand systematic methods of identification of substance by chemical methods • Perform organic and inorganic synthesis • Set up the apparatus / prepare the solutions - properly for the designed experiments. • Perform the quantitative chemical analysis of substances explain principles behind it. • Systematic working skill in laboratory will be imparted in student.
S.Y. B.Sc.	IV	CH-401 Physical & Analytical chemistry	• Discuss meaning of phase, component and degree of freedom. • Derive of phase rule. • Define various terms, laws, differentiate ideal and no-ideal solutions. • Explain distillation of liquid solutions from temperature – composition diagram. Solve problem by applying theory • Explain / define different terms in conductometry. • Explain / discuss conductometric titrations. • Explain / define different terms in Colorimetry • Apply colorimetric methods of analysis to real problem in analytical laboratory. • Solve problems based on theory / equations. • Explain properties of adsorbents, ion exchange resins, etc.
S.Y. B.Sc.	IV	CH-402 Inorganic & Organic Chemistry	• Isomerism in coordination complexes • Apply principles of VBT to explain bonding in coordination compound of different geometries. • Explain principle of CFT. • Explain spectrochemical series, tetragonal distortion / Jahn-Teller effect in Cu (II) Oh complexes only. • Identify and draw the structures aldehydes, ketones amines and carboxylic acids. • Explain / discuss synthesis of aldehydes, ketones, amines and

Class	Semester	Course Title with Sub. Code	Outcome
			carboxylic acids. • Perform inter conversion of functional groups.
S.Y. B.Sc.	IV	CH-403 Practical Course in Chemistry	• Verify theoretical principles experimentally • Interpret the experimental data on the basis of theoretical principles. • Understand systematic methods of identification of substance by chemical methods. • Write balanced equation for all the chemical reactions performed in the laboratory. • Set up the apparatus properly for the designed experiments. • Perform the quantitative chemical analysis of substances and able to explain principles behind it.
T.Y. B.Sc.	V	CH-331 Physical Chemistry	• Write an expression for rate constant K for third order reaction • Solve the numerical problems based on Rate constant • Understand the term specific volume, molar volume and molar refraction • Know the meaning of phase, component and degree of freedom • Derive the expression for rotational spectra for the transition from J to J+1
T.Y. B.Sc.	V	CH-332 Inorganic Chemistry	• Know the meaning of various terms involved in co-ordination chemistry • To understand Werner‟s formulation of complexes and identify the types of valences • Know the limitations of VBT • Know the shapes of d-orbital‟s and degeneracy of d-orbital‟s • Draw the geometrical and optical isomerism of complexes
T.Y. B.Sc.	V	CH-333 Organic Chemistry	• Define organic acids and bases. • Distinguish between geometrical and optical isomerism. • Discuss kinetics, mechanism and stereochemistry of SN1 and SN2 reactions. • Compare between E1 and E2 reactions. • Understand the evidences, reactivity and mechanism of various elimination and substitution reactions.
T.Y. B.Sc.	V	CH-334 Analytical Chemistry	• Know the principles of common ion effect and solubility product. • Study the methods of thermo-gravimetric analysis. • Understand the principles of Spectro-photometric analysis and properties of electromagnetic radiations. • Study the Voltammetry and Polarography as an analytical tool. • Measure the absorbance of atoms by AAS.
T.Y. B.Sc.	V	CH-335 Industrial Chemistry	• Know the importance of chemical industry. • Classify various insecticides. • Study the nutritive aspects of food constituents. • Understand the characteristics of some food starches.

Class	Semester	Course Title with Sub. Code	Outcome
			• Study the manufacture of cement, dyes, Glass, Soap and Detergents by modern methods.
T.Y. B.Sc.	V	CH-336D Environmental Chemistry	• Know the role of environmental chemistry and its potential • Understand the basic concept of properties of soil & its classification on the basis of pH. • Know the different plant nutrients, their functions and deficiency symptoms. • Identify the problematic soil pollution, air, water pollution. • Have the knowledge of various pesticides, insecticides, fungicides and herbicides and their impact
T.Y. B.Sc.	VI	CH-341 Physical Chemistry	• Understand Mechanics of system of particles. • Know the Redox reaction. • Study the Nuclear Chemistry. • Solve the cell reaction and calculate EMF. • Calculate interplanar distance. • Understand De-Broglie hypothesis and Uncertainty principle • Derive Schrodinger's time dependent and independent equations
T.Y. B.Sc.	VI	CH-342 Inorganic Chemistry	• Study the electronic configuration of lanthanides and actinides. • Get knowledge of Crystalline solid. • Understand different operation in stoichiometric molecule. • Study the Bio-inorganic chemistry. • Understand the p-type semiconductor and n-type semiconductor
T.Y. B.Sc.	VI	CH-343 Organic Chemistry	• To study UV, IR and NMR spectroscopy. • Discuss different types of rearrangement reactions. • Determine structure of compound by spectroscopic methods. • Understand the difference between carbocation and carbanion. • To study alkaloids, Ephedrine, citral molecule with their properties and application.
T.Y. B.Sc.	VI	CH-344 Analytical Chemistry	• Know the different analytical techniques. • To understand different types of separation techniques. • To study principle, construction and working of GC and HPLC. • To give an extended knowledge about chromatographic techniques used for separation of amino acids. • Discuss the problem based on distribution coefficient and extraction techniques.
T.Y. B.Sc.	VI	CH-355 Industrial Chemistry	• Know the various pharmaceutical drugs, their application and synthesis. • To study the waste management. • To understand the function of dyes, paints and pigments. • To study the various type of surfactants.

Class	Semester	Course Title with Sub. Code	Outcome
			• To know about molasses and bagasse. • To study the different types of polymers.
T.Y. B.Sc.	VI	CH-346D -Environmental Chemistry	• Know the various environmental issues and their solution. • To study the waste management. • To understand the function of chemicals and application of green chemistry. • To study the various type of surfactants. • To know natural sources of energy. • To study the different types of hazardous and toxic chemicals.
T.Y. B.Sc.	VI	CH-347 Physical chemistry practical's	• Calculate molar and normal solution of various concentrations. • Determine specific rotations and percentage of optically active substances by polarimetrically. • Study the energy of activation and second order reaction. • Study the stability of complex ion and stranded free energy change and equilibrium constant by potentiometry. • Find out the acidity, Basicity and PKa Value on pH meter.
T.Y. B.Sc.	VI	CH-348 Inorganic chemistry practical's	• Study the gravimetric and volumetric analysis of ores and alloy. • Prepare various inorganic complex and determine its % purity. • To study binary mixture with removal of borate and phosphate. • To understand the chromatographic techniques
T.Y. B.Sc.	VI	CH-349 Organic chemistry practical's	• Perform the Binary mixtures. • Preparation of organic compounds, their purifications and run TLC. • Determination of physical constant: Melting point, Boiling point. • Different separation techniques.

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Department of Mathematics - Academic Year 2019-2020

Programme Outcome : B.Sc. (Mathematics)	
PO1	• Develop the critical thinking with scientific temper
PO2	• Engage in continuous reflective learning in the context of technological and scientificadvancements
PO3	• Understand and apply the fundamental principles, concepts and methods in key areas ofscience and multidisciplinary fields
PO4	• Provides basic knowledge on core concepts of Science.
PO5	• Empowered with analytical mind and critical thinking.
PO6	• To inculcate the scientific temperament in the students and outside the scientificcommunity.

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Course Outcomes: B.Sc. (Mathematics)

Class	Semester	Course Titlewith Sub. Code	Outcome
F.Y. B.Sc.	I	MT-111 Algebra	• Learn to find graphs, roots and primes integer using maxima software. • Introduction to complex analysis.
		MT-112 Calculus - I	• Introduction to sequence and series. • Learn to check function is continuous understand the consequences of the intermediate value theorem for continuous functions.
		MT-113 Mathematics Practical	• Learn Maxima software. • Problem solve on algebra and calculus by using maxima software. • Knowledge of application of mathematics
F.Y. B.Sc.	II	MT-121 Analytical Geometry	• Finding equation in various form of line, circle, ellipse, sphere, cones etc. • Give the knowledge of geometry using maxima software.
		MT-122 Calculus - II	• Student will be to understand differentiation and fundamental theorem in differentiation and various rules. • Introduction to Ordinary Differential Equation.
		MT-123 Mathematics Practical	• Learn Maxima software. • Problem solve on analytic geometry and calculus byusing maxima software. • Problem solving on geometry and calculus.
S.Y. B.Sc.	I	MT -231 Calculus of several variables	• Solve problems involving tangent planes and normal lines • Determine the extrema of functions of several variables • Use the Lagrange multiplier method to find extrema of functions with constraints.
		MT 232(A) Numerical Methods and its Applications	• Using appropriate numerical methods determine approximate solution of ODE and system of linear equation. • Compare different methods in numerical analysis w.r.t accuracy and efficiency of solution.
		MT232(B) Graph Theory	• Solve problems on Definition and some properties of trees, Distance and Centre in a tree, Definitions of Rooted and Binary trees, Spanning trees, Minimal Spanning trees, Directed graphs, some types of digraphs.
		MT233 Mathematics Practical	• Problem solving on calculus of several variable and Graph Theory and Numerical Methods and Its Applications using Maxima Software • Introduction to application of mathematics in real life.
S.Y. B.Sc.	II	MT 241 Linear Algebra	• Understand the concepts of vector spaces, subspaces, bases, dimensions and their properties.

Class	Semester	Course Titlewith Sub. Code	Outcome
			• Relate matrices and linear transformations; compute Eigen values and Eigen vectors of linear transformations. • Linear properties of inner product spaces and determine orthogonality in inner product spaces
		MT 242(A) Vector Calculus II	• Understand the basic of surfaces in space. • Able to apply the basic concepts of partial derivatives. • Understand and able to apply the concepts of vector function, vector field, scalar field, gradient, divergence and curl.
		MT242(B) Dynamical Systems	• Will have information about the concepts related to dynamic systems • Be able to apply their knowledge about dynamic systems in a simulation environment and develop system analysis capability in the framework of linear and time-invariant systems
		MT243 Practical	• Problem solving on Linear Algebra and Dynamical Systems and Vector Calculus using Maxima Software.
T.Y. B.Sc.	III	MT 331 : Metric Spaces	• Deal with various examples of metric spaces. • Have some familiarity with continuous maps. • Work with compact sets in Euclidean space.
T.Y. B.Sc.	III	MT 332 : Real Analysis-I	• Explain the completeness of a system of real numbers: a least upper bound, a greatest lower bound. • Elaborate on the topological concepts of the real numbers: open sets, closed sets, accumulation points, closure, open covers, compact sets. • Define and utilize the following concepts: sequence, subsequence, monotone sequence, Cauchy sequence.
T.Y. B.Sc.	III	MT 333 : Problem Course on MT 331 and MT	• Appreciate how abstract ideas and rigorous methods in mathematical analysis can be applied to important practical problems.
T.Y. B.Sc.	III	332	• Problem solving on metric space and connected and contactless.
T.Y. B.Sc.	III	MT 334 : Group Theory	• Learn about the fundamental concepts of groups, subgroups, normal subgroups, isomorphism, cyclic and permutation groups.
T.Y. B.Sc.	III	MT 335 : Ordinary Differential Equations	• Recognize and solve a homogeneous differential equation. • Recognize and solve an exact differential equation. • Recognize and solve a linear differential equation by use of an integrating factor. • Make a change of variables to reduce a differential equation to a known form. • Find particular solutions to initial value problems
T.Y. B.Sc.	III	MT 336 : Problem Course on MT 334 and MT 334	• Demonstrate by solving various problem based on Symmetry using group theory • Application of ODE.
T.Y. B.Sc.	III	MT 337:A. Operations Research	• Students learn to calculate optimal solution of models through graphical and iterative methods. • Students study transportation and assignment models and methods to solve them. • This helps them to get optimum solutions within the

Class	Semester	Course Titlewith Sub. Code	Outcome
			given constraints to problems arising in industry.
T.Y. B.Sc.	III	MT 337:D. Lattice Theory	• to understand lattices as algebraic structures • homomorphisms between lattices and Boolean Algebra • polynomials, switching circuits
T.Y. B.Sc.	III	MT 338: Practical based on papers selected from 337A to 337F	• Develop a report that describes the model and the solving technique, analyze the results and propose recommendations in language understandable to the decision-making processes in Management Engineering
T.Y. B.Sc.	IV	MT 341: Complex Analysis	• Compute sums, products, quotients, conjugate, modulus, and argument of complex numbers · Define and analyze limits and continuity for complex functions as well as consequences of continuity · • Conceive the concepts of analytic functions and will be familiar with the elementary complex functions and their properties ·Determine whether a given function is differentiable, and if so find its derivative. Applies the theory into application of the power series expansion of analytic functions
T.Y. B.Sc.	IV	MT 342: Real Analysis-II	• Illustrate the effect of uniform convergence on the limit function with respect to continuity, differentiability, and integrability. • Study improper integration using Riemann integration
T.Y. B.Sc.	IV	MT 343: Problem Course on MT 341 and MT 342	• Applies the theory into application of the power series expansion of analytic functions · Understand the basic methods of complex integration and its application in contour integration. • To analyze sequences and series of analytic functions and types of convergence, · Evaluate complex contour integrals directly and by the fundamental theorem, apply the Cauchy integral theorem in its various versions, and the Cauchy integral formula
T.Y. B.Sc.	IV	MT 344: Ring Theory	• Study of various integral domains in ring. • Introduction to Ring.
T.Y. B.Sc.	IV	MT 345: Partial Differential Equations	• Apply specific methodologies, techniques and resources to conduct research and produce innovative result in the area of specialization. • Extract information form partial derivative models in order to interpret reality. • Identify real phenomena as models of partial derivative equations.
T.Y. B.Sc.	IV	MT 346: Problem Course on MT 344 and MT 345	• Problem on ring and PDE. • Application of PDE in real life. • Various structural study of ring.
T.Y. B.Sc.	IV	MT347F : Computational Geometry	• Students learn the representation of objects in 2D and 3D in the form of matrices • To study the transformations like reflection, rotation, scaling, shearing, translation of objects in 2D and 3D and their geometrical significance. • Students learn to generate plane curves by using parametric equation

Class	Semester	Course Titlewith Sub. Code	Outcome
			• All the concepts help students to learn graphic display of objects on computer.
T.Y. B.Sc.	IV	MT 347: A Optimization Techniques	• Solve simple games using various techniques • Analyze economic situations using game theoretic techniques · Recommend and prescribe which strategies to implement.
T.Y. B.Sc.	IV	MT 348 : Practical based on papers selected from 347A to 347 F	• Solve optimal real life problem based on supply and demands. • Solve simple games using various techniques · Analyze economic situations using game theoretic techniques · Recommend and prescribe which strategies to implement

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Department of Physics - Academic Year 2020-21

Programme Outcome: B.Sc. (Physics)	
PO1	• Scientific attitude will be inculcated in students with in-depth knowledge of scientific andtechnological
PO2	• Student will be familiar with recent scientific and technological developments and solidfoundation will be created for research and development in Physics.
PO3	• Analytical abilities to address real world problems will be developed through various experimental and computational tools
PO4	• Students will be developed to build-up a progressive and successful career in Physics.
PO5	• Apply and demonstrate knowledge of concepts of physics, to analyze a variety of physical phenomena. Demonstrate the learned laboratory skills, enabling them to take • Measurements in a physics laboratory and analyze the measurements to draw valid conclusions
PO6	• Respond effectively to unfamiliar problems in scientific contexts
PO7	• Demonstrate the ability to translate a physical description to a mathematical equation, and conversely, explain the physical meaning of the mathematics, represent key aspects of • Physics through graphs and diagrams, and use geometric arguments in problem-solving.

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Course Outcomes: B.Sc. (Physics)

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.Sc.	I	PHY 111 - Mechanics and properties of matter	• Relative motion. Inertial and non-inertial reference frames. • Newton's laws of motion and its real-lifeapplications. • Motion and its types with examples. • Define and calculate Speed, Velocity, and Acceleration. • Energy, conservation of Energy. Define kinetic and Potential Energy. • Conservative and non-conservative force with examples. • Concept of viscous force, viscosity. Bernoulli's equations and its applications. • Different properties of matter such as SurfaceTension, Elasticity. • Factors affecting surface tension and differentmethods for determining surface tension. • Applications of Surface Tension. • Concept of Stress, Strain and different elasticModuli • Using elasticity determination of Young's Modulusand Modulus of Rigidity. • Understanding of Poisson's Ratio. • Relation Between three elastic moduli.
F.Y. B.Sc.	I	PHY 112 Physics Principles and Applications	• To understand the general structure of atom,Spectrum of Hydrogen atom • To understand the atomic excitation and LASER principles • To understand the bonding mechanism and its different types • To demonstrate and understanding electro-magnetic waves and its spectrum • Understand the types and sources of electromagnetic waves and applications • To demonstrate quantitative problems solving skillsin all the topics covered
F.Y. B.Sc.	I	PHY 113 Physics Laboratory	A practical physics course enables students to do experiments on the fundamental laws and principles, and

Class	Semester	Course Title with Sub. Code	Outcome
		1A	gain experience of using a variety of measuring instruments. Practical work enhances basic learning skills. • Students get skills on handling measuring instrument and finding the percentage error inmeasurement • Enables students to understand Mechanics through experiments • Enables students to understand optics through performing experiments and skills get developed to handle optical instrument's
F.Y. B.Sc.	II	PHY 121 Heat and Thermodynamics	• To understand the basic concepts ofthermodynamics. • To be able to state First Law of thermodynamicsand to define heat, work and thermal efficiency. • To calculate changes in Enthalpy, Entropy andInternal Energy. • To explain the classification of external and internal combustion engine and sketch the diagramof Processes involved in spark ignition and compression ignition. • Students will be able to read a thermometer. • Students will become familiar with and will beable to convert different temperature scales
F.Y. B.Sc.	II	PHY 122 Electricity and Magnetism	• To understand the concepts of electric field, electric force and electric potential for stationary charge • Able to calculate electrostatic field and potential of charge distributions using Coulombs Law and Guass law • To understand the dielectric phenomenon andeffect of electric field on dielectric. • To study magnetic field for steady current usingBiot-Savarts and Ampere circuit Laws. • To understand Magnetic material and its properties • To demonstrate quantitative problems solvingskills in all the topics covered
F.Y. B.Sc.	II	PHY 123 Physics Laboratory 1B	A practical physics course enables students to do experiments on the fundamental laws and principles, and gain experience of using a variety of measuring instruments. Practical work enhances basic learning skills. • Students well understand the concepts based onheat and thermodynamics. • Students well understand the concepts based on Electricity and magnetism through various experiments.
S.Y. B.Sc.	I	PHY-231 Mathematical Methods in Physics-I	• Understand the complex algebra useful in physicscourses. • Understand the concept of partial differentiation. • Understand the role of partial differential equations in physics. • Understand vector algebra useful in mathematics and physics.

Class	Semester	Course Title with Sub. Code	Outcome
			• Understand the concept of singular points of differential equations.
S.Y. B.Sc.	I	PHY-232(A) Electronics-I	• Apply different theorems and laws to electrical circuits. • Understand the relations in electricity. • Understand the parameters, characteristics and working of transistors. • Understand the functions of operational amplifiers. • Design circuits using transistors and applications of operational amplifiers. • Understand the Boolean algebra and logic circuits.
S.Y. B.Sc.	I	PHY-232(B) Instrumentation	• Understand the concept of measurement. • Understand the performance of measuring instruments. • Design experiments using sensors.
S.Y. B.Sc.	I	PHY-233 Physics Laboratory-2A	• Use various instruments and equipment. • Design experiments to test a hypothesis and/ordetermine the value of an unknown quantity. • Investigate the theoretical background of an experiment. • Setup experimental equipment to implement an experimental approach. • Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • Work in a group to plan, implement and report on a project/experiment. • Keep a well-maintained and instructive laboratory logbook.
S.Y. B.Sc.	II	PHY-241 Oscillations,Waves and Sound	• To study underlying principles of oscillations and itsscope in development. • To understand and solve the equations / graphical representations of motion for simple harmonic, damped, forced oscillators and waves. • To explain oscillations in terms of energy exchange with various practical applications. • To solve numerical problems related to undamped, damped, forced oscillations and superposition of oscillations. • To study characteristics of sound, decibel scales and applications.
S.Y. B.Sc.	II	PHY-242 Optics	• Acquire the basic concept of wave optics. • Describe how light can constructively and destructively interfere. • Explain why a light beam spread out after passingthrough an aperture • Summarize the polarization characteristics of electromagnetic wave • Understand the operation of many modern opticaldevices that utilize wave optics • Understand optical phenomenon such polarization, diffraction and interference in terms of the wave model • Analyze simple example of interference and diffraction.

Class	Semester	Course Title with Sub. Code	Outcome
S.Y. B.Sc.	II	PHY-243 Physics Laboratory-2B	• Use various instruments and equipment. • Design experiments to test a hypothesis and/ordetermine the value of an unknown quantity. • Investigate the theoretical background of an experiment. • Setup experimental equipment to implement an experimental approach. • Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • Work in a group to plan, implement and report on a project/experiment. • Keep a well-maintained and instructive laboratory logbook.
T.Y. B.Sc.	III	PH 331 Mathematical Methods in Physics	• The application of mathematics to problems in physics and the development of mathematical methods suitable for such applications and for the formulation of physical theories
T.Y. B.Sc.	III	PH 332 Solid State Physics	• Students will be able to analyze different types of matter depending on nature of chemical bonds and their properties • Students will be able analyze the crystal structures by applying crystallographic parameters. • Students will be able to determine the crystal structure by analysis of XRD data • Students will be able to evaluate and analyze the electrical and optical properties of solids • Students will be able to analyze electron transport and energy related problems by applying quantum mechanical principles • Students will be able to analyze the lattice vibration phenomenon in the solids
T.Y. B.Sc.	III	PH 333 Classical Mechanics	• Students can have deep understanding of Newton's laws. Be able to solve Newton's equations for simple configurations using various methods. Understand the foundation of chaotic motion. To study the basics of Hamiltonian and lagrangian systems.
T.Y. B.Sc.	III	PH 334 Atomic and Molecular Physics	• Students learn about atomic spectrum, molecular spectra, Zeeman effect, Raman spectra & starck effect. There topics helps the students to understand spectroscopic techniques for quantative & qualitative analysis of materials
T.Y. B.Sc.	III	PH 335 Computational Physics	• Students get knowledge about C programming useful to design and development of varies program to control the operation of different machines
T.Y. B.Sc.	III	PH 336 Astronomy and Astrophysics	• Students will learn about basics of astronomy and astrophysics. They will study about various theories of origin of universe, also about solar system in detail. • They will get to know different types of telescopes, star

Class	Semester	Course Title with Sub. Code	Outcome
			life cycle.
T.Y. B.Sc.	IV	PH 341 Classical Electrodynamics	• Behaviour of the charge particle in electrostatic as well as magnetostatis gives the new era in physics. • The basic laws of electrostatics and magnetostatics used to solve the complicated problems in electrodynamics. • Behaviour the field can be used to derive the Maxwell's equation. Using Maxwell's equation can be used for many applications like radar as well as communication purpose.
T.Y. B.Sc.	IV	PH 342 Quantum	• Students learn about origin of quantum mechanics wave function , Probability density,
T.Y. B.Sc.	IV	Mechanics	Schrödinger's equations, applications of Schrodinger's equation, and operators in quantum mechanics. This knowledge helps the students to solve the problem in physics by applying quantum theory
T.Y. B.Sc.	IV	PH 343 Thermodynamics and Statistical Mechanics	After successful completion of the course the student will be able to: • Describe transport phenomena and compute coefficient of thermal conductivity, viscosity and diffusion in terms of mean free path • Define and discuss the concepts and roles of thermodynamic functions from the view point of statistical mechanics • Derive Binomial distribution and Gaussian probability distribution using random walk problem and calculate mean values for a statistical system
T.Y. B.Sc.	IV	PH 344 Nuclear Physics	After successful completion of the course the student will be able to: • Define threshold voltage, dead time and recovery time in GM counter, threshold energy, nuclear fission, nuclear fusion, critical size, critical mass. • Determine the basic properties of nucleus. • Classify nuclear radiations, elementary particles and nuclear states, nuclear detectors. • Compose baryons and mesons with Quark model.
T.Y. B.Sc.	IV	PH 345 Electronics / Advanced electronics	After successful completion of the course the student will be able to: • Define and state the meaning of terms such as amplification, voltage gain, line and load regulation, flip-flop, counters, register, distortion, multiplexer, de-multiplexer, etc. • Draw and explain characteristics of various types of FET's and various types of diode and construct a circuit using these components according to application.
T.Y. B.Sc.	IV	PH 346 Lasers	After successful completion of the course the student will be able to: • Difference between ordinary light and laser • They will learn about different types of lasers

Class	Semester	Course Title with Sub. Code	Outcome
			• Study different applications of lasers
T.Y. B.Sc.	IV	PH-347 Laboratory Course I	• The students will be able to understand the working and use of various advanced instruments and equipment's. • The students will be able to design experiments to test a hypothesis and/or determine the value of an unknown quantity. • The students will be able to investigate the theoretical background to an experiment. • The students will be able to set up experimental equipment to implement an experimental approach.
T.Y. B.Sc.	IV	PH-348 Laboratory Course II	• The students will be able to understand the working and use of various advanced instruments and equipment's. • The students will be able to design experiments to test a hypothesis and/or determine the value of an unknown quantity. • The students will be able to investigate the theoretical background to an experiment. • The students will be able to set up experimental equipment to implement an experimental approach.
T.Y. B.Sc.	IV	PH-349 Laboratory Course III (Project)	The students will be able to understand a general definition of research design. • The students will be able to design experiments to test a hypothesis. • The students will be able to collect and analyze data to reach conclusions related to the hypothesis. • The students will be able to work in a group to plan, implement and document on the systematic study to solve a research problem.

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Department of Statistics- Academic Year 2019-20

Programme Outcome : B.Sc. (Statistics)	
PO1	To understand the statistical methods and increase problem solving ability.
PO2	To acquire the strong foundation of statistical concepts which will benefit them in a master'sdegree
PO3	To use the knowledge of Statistical tools and techniques in solving real life problems/situations.
PO4	To acquire the knowledge of statistical software for problem solving.
PO5	To prepare students for entrance examinations.

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Course Outcomes: B.Sc. (Statistics)

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.Sc.	I	ST – 111: Descriptive Statistics I	• To acquaint students with some basic concepts in Statistics • To compute various measures of central tendency, dispersion, skewness and kurtosis • To analyze data pertaining to attributes and theinterpret the results
		ST – 112: Discrete Probability and Probability distribution I	• To introduce to the students the basic concepts of probability, axiomatic theory of probability • To distinguish between random and non-random experiments • To find the probabilities of events • To obtain a probability distribution of random variable (one or two dimensional) in the given situation
		ST – 113 : PRACTICALS	• To use various graphical and diagrammatic techniques and interpretation. • to analyse data pertaining to discrete and continuous variables and to interpret the results, • to compute various measures of central tendency, dispersion, skewness and kurtosis. • to interpret summary statistics of computer output • to summarize and analyze the data using computer
F.Y. B.Sc.	II	ST - 121: Descriptive Statistics II	• Compute the correlation coefficient for bivariate data and interpret it. • Fit linear, quadratic and exponential curves to the bivariate data to investigate the relation between two variables. • To analyze data pertaining to attributes and to interpret the results
		ST - 122: Discrete Probability & Probability DistributionsII	• to apply standard discrete probability distribution to different situations. • To study properties of these distributions as well as interrelation between them
		ST - 123 : Practical	• to compute correlation coefficient, regression coefficients, • to compute probabilities of bivariate distributions, • to fit binomial and Poisson distributions • to compute probabilities of bivariate distributions. • to draw random samples from Poisson and binomial distributions

Class	Semester	Course Title with Sub. Code	Outcome
S.Y. B.Sc.	I	ST-231: Discrete Probability Distributions, Time Series	• Apply the discrete distributions in real life problem. • Understand the concept of time series with its components. • To understand the concept of truncated distribution, and its real life applications
		ST-232: Continuous Probability Distribution	• Obtain summary statistics of a continuous random variable. • Obtain probability of events related to continuous random variable. • Obtain correlation and regression lines, m.g.f. moments, probabilities for bivariate continuous random variable. • Explain probability distributions, nature of curve, properties of continuous uniform, exponential, normal, distributions and relations between them.
		ST-233 Statistics Practical	• To understand the fitting of different distribution • Applications of discrete distribution • To understand model sampling • Understand the concept of time series with its components.
S.Y. B.Sc.	II	ST-241 Tests of Significance And Statistical Methods	• Understand multiple linear regression models with applications. • Formulate the null and alternative hypotheses and apply small, large sample tests in real life problems. • Understand the different ways of summarizing the Vital Statistics. • Formulate M/M/1 queue and find its parameter also find the average waiting time in queue.
		ST-242: Sampling Distributions And exact tests	• Derive probability distribution function of chi-square, t, F distribution • Explains interrelation between the above distributions and their properties. • Get familiar with statistical tests of hypothesis and are able to apply in real life situations in various fields.
		ST-243: Practical	• To conduct various tests of significance like averages, population proportions, independence of attributes, variance etc. included in theory (using calculators, software). • To compute probabilities of discrete and continuous probability distributions using R software. • To use software for finding basic summary statistics.

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Department of ZOOLOGY- Academic Year 2020-21

Programme Outcome: B.Sc. Zoology	
PO1	• Demonstrate, solve and an understanding of major concepts in all disciplines of Zoology
PO2	• Solve the problem and also think methodically, independently and draw a logical conclusion.
PO3	• Understand the evolution, history of phylum
PO4	• Create an awareness of the impact of Zoology on the environment, society, and development outside the scientific community
PO5	• To study and understand the classification of whole phyla includes in Nonchordates with the help of charts/models/pictures.
PO6	• To inculcate the scientific temperament in the students and outside the scientific community.
PO7	• Use modern techniques, decent equipment's

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Course Outcomes: B.Sc. Zoology

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.Sc.	I	ZO111 Animal Diversity I (CC)	• The student will be able to understand classify and identify the diversity of animals. • The student understands the importance of classification of animals and classifies them effectively using the six levels of classification. • The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.
F.Y. B.Sc.	I	ZO 112 Animal Ecology (CC)	• The learners will be able to Identify and critically evaluate their own beliefs, values and actions in relation to professional and societal standards of ethics and its impact on ecosystem and biosphere due to the dynamics in population. • To understand anticipate, analyse and evaluate natural resource issues and act on a lifestyle that conserves nature. • The Learner understands and appreciates the diversity of ecosystems and applies beyond the syllabi to understand the local lifestyle and problems of the community. • The learner will be able to link the intricacies of food chains, food webs and link it with human life for its betterment and for non-exploitation of the biotic and abiotic components. • The working in nature to save environment will help development of leadership skills to promote betterment of environment.
F.Y. B.Sc.	II	ZO 121 Animal Diversity II (CC)	• The student will be able to understand classify and identify the diversity of animals. • The student understands the importance of classification of animals and classifies them effectively using the six levels of classification. • The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.
F.Y. B.Sc.	II	ZO 122 Cell Biology. (CC)	• The learner will understand the importance of cell as a structural and functional unit of life. • The learner understands and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development. • The dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life. • The cellular mechanisms and its functioning depend on endo-membranes and structures. They are best studied with microscopy.
S.Y. B.Sc.	I	ZO 231 Animal Diversity-II	• The study of vertebrate biology and diversity is an important part of science education at all levels. • By learning about the structure, function, and diversity of vertebrates, students can gain a better understanding of the

			biological processes that underpin life on Earth. • The study of vertebrate biology and diversity has many uses and applications, from medical research and conservation to ecology, evolutionary biology, and education. • It is an important field of study that can help us better understand the natural world and our place in it
S.Y. B.Sc.	I	ZO 232 Applied Zoology	• Applied biology is a critical field of study with many important applications in fields such as fishery, apiculture, and sericulture. • It can help us better understand the natural world and develop strategies for sustainable management of natural resources, conservation of biodiversity, and improvement of agricultural production. • Apiculture: The study of applied biology is important for the sustainable management of bee populations, which are essential for pollination of many crops.
S.Y. B.Sc.	I	ZO 233 Zoology Practical Paper	• The practical study of vertebrate biology and applied biology has many important uses and applications, from medical research and agriculture to conservation, animal welfare, and education. • It is a critical field of study that can help us better understand the natural world and develop strategies for sustainable management of natural resources, conservation of biodiversity, and improvement of human and animal welfare. • Vertebrates are commonly used as animal models for medical research.
S.Y. B.Sc.	II	ZY 241 Animal Diversity-IV	• The study of mammals, aves, and reptiles is important for science education and public outreach. By engaging students and the general public in hands-on experiences with different species, can inspire interest in science and raise awareness about important environmental and conservation issues. • Identify, classify and describe the characters of class – Reptilia, Aves and mammals • Discriminate between the poisonous and non-poisonous snakes with the help of identification key, Desert adaption in reptiles in general • Explain Aerial adaptation, Migration, Beak and Feet modification in Birds • Explain Aquatic and egg laying Mammals
S Y B Sc	II	ZY 242 Applied Zoology-II	• The study of applied biology is also important for the sustainable management of silk production. By studying the biology and ecology of silk moths and their natural enemies, can develop strategies for maintaining healthy populations, reducing the impact of diseases and parasites, and optimizing silk production. • Articulate the basic concept of Apiculture and Sericulture, its importance, history and present status. Describe the taxonomy, morphological sex differences in pupa, larvae and adult of silkworm and honey bee. • Differentiate between different life stages of silkworm and honey bee and explain their life cycle. Discuss control and prevention of pests and diseases. • Demonstrate and discuss the culture methods of B.mori and Apis species. Outline the silkworm rearing technology, bee pollination and management of bee colonies for pollination
T.Y. B.Sc.	III	ZY 331 Animal Systematics and Diversity- V	• Systematic position, general characters of Pila globose. Describe the body wall and pallial complex and organ system of Pila globosa. • Explain the methods of locomotion, nutrition in Protozoa, canal

			system and skeleton in Porifera, Analyse the polymorphism and corals and coral reef in Coelenterate. Explain the general characters and affinities of hemichordates. • Describe morphological structure, various system of Calotes versicolor
			• Understand comparative account of integument, heart, kidney and Brain in Scoliodon, Frog, Calotes, Pigeon & Rat • Describe polymorphism in hydrozoa and alternation of generation in sponges. • Explain chordate animals-Pisces,Reptiles and Mammal with respect to Dipnoi, Accessory respiratory organs , Electric organs; Temporal vacuities, General characters of Rhyncocephalia and Dentition respectively
T.Y. B.Sc.	III	ZY 332 Mammalian Histology	• Describe concept of histology, basic structure of tissues and Illustrate histological structures of various cell types, tissues, and organs • Differentiate between histological structure of different regions of alimentary canal - Oesophagus (T.S.), stomach (T.S.), duodenum (T.S.) Ileum (T.S.) and rectum (T.S.) Glands- Salivary glands – parotid (C.S.), submandibular (C.S.) sublingual (C.S.), liver (C.S.) and pancreas (C.S.) including both exocrine and endocrine components • Explain the histological structure of skin, tooth and Tongue, Kidney • Explain the histological structure of male and female reproductive organs • Explain the histological structure of Pituitary, Thyroid and Adrenal gland
T.Y. B.Sc.	III	ZY 333 Biological Chemistry	• Outline concept of pH and buffer, its importance and explain types of bond and buffers in biological system. Describe structure and properties of water • Explain and Classify types of sugars and demonstrate Isomerism, stereochemistry, racemisation of carbohydrates, biological and clinical significance. • Explain and Classify Protein, amino acids on the basis of their structures function. • Differentiate structures of proteins, state examples and tell bonds responsible for protein structures • Explain, classify and illustrate properties of enzyme, learn factors influencing enzyme activity, Isoenzymes in detail. Introduction the knowledge to relate vitamins to the type of deficiency diseases. • Explain and Classify lipids based on the structure, and functions and explain triglycerides, saponification
T.Y. B.Sc.	III	ZY 334 Environmental Biology and Toxicology	• Describe basic concept of ecosystem, structure and function of ecosystem and its management. Define, differentiate and explain the large-scale patterns of temperature regulation. • Describe and write about different types of pollutants(Air, Water, Land and Noise), their effects, control measures and how they interact in the environment. • Discuss Renewable and non-renewable natural resources and conservation of Soil, Forest and Energy • Discuss about wildlife management, endangered species, vulnerable species, rare and threatened species
T.Y. B.Sc.	III	ZY 335 Parasitology	• Understand and defines the terms in Parasitology, types of parasites and hosts • Describe the host-parasite relationship

			• Study of the following parasites with reference to habit, habitat, Life cycle, Mode of Infection, pathogenicity and control measures - Plasmodium vivax, Entamoeba histolytica, Ascaris lumbricoides and Taenia solium • Explain following parasites with reference to morphology, life cycle, pathogenicity and control measures: Head louse, Tick, Mite (Sarcoptes scabei) • Gives significance of Zoonosis: Bird flu, Rabies and Toxoplasmosis • Explains control measures of Malaria (Anopheles stephensi, A culicifacies), Dengue, Haemorrhagic fever (Aedes aegypti, A. albopictus), Filariasis (Culex pipiens fatigans) • Discuss Epidemic diseases: Typhoid, Cholera, Small pox; their occurrence and eradication programmes
T.Y. B.Sc.	III	ZY 336 Cell Biology	• Understand and defines the terms in cell biology. • Understand and compares between the prokaryotic and eukaryotic cells and extrapolates the life to the aspect of development. • Describe the composition, structure and functions of the plasma membrane, ER, GC, Lysosome Mitochondria, Nucleus and cytoskeleton • Explain and discuss the cell cycles and its importance. • Describe the concept of cellular aging defining theories in detail and cell death. • Explain characteristics and theories of and cause of Cancer
T.Y. B.Sc.	IV	ZY 341 Biological Techniques	• Understand and defines the terms in solution, strength. • Outline principle, applications, procedure of separation techniques (Chromatography, Electrophoresis, Ultracentrifugation, Colorimetry and spectroscopy) • Understand haematological techniques-Blood count and its significance • Understand working and principle of Microscopy, Micro technique and Camera lucida • In-depth understanding of fixatives, and method of dehydration, clearing, dealcoholisation, Impregnation and embedding • Types of Microtomes and knifes • Discuss different stains and staining methodology, Histochemical staining
T.Y. B.Sc.	IV	ZY 342 Mammalian Physiology and Endocrinology	• To familiarize students with the principles and basic facts of mammalian physiology and with some of the laboratory techniques and equipment used in the attainment of physiological data. The importance will be on mammalian system • The students will be able to describe, identify, and/or explain various physiological organ-systems and their importance to the integrative functions of the human body. • Understand Concept of energy requirements and various aspects of Digestive physiology, Circulatory system with medical conditions, Respiratory mechanism and gases transport. • The students will be able to describe the process of Eliminations of waste materials from the body • Develop understanding in Structure and functions of muscles, Nerves and Reproductive system.Hormonal interplay will be dealt. • Understand formation of gametes and function of endocrine glands
T.Y. B.Sc.	IV	ZY 343 Genetics and Molecular Biology	• Understand the basic principle and importance of Mendelian genetics. • Describe the detail structure of DNA and RNA, and explains the experiments stating DNA and RNA as genetic material

			• The course shall prepare learner to get insight and depth of understanding of the Central Dogma of Molecular Biology • Students will understand and explain the concepts like mutation, its types and mutagens. • Students shall also understand and explain the related areas of genetic engineering
T.Y. B.Sc.	IV	ZY 344 Organic Evolution	• The course shall explain in detail - how life might have originated on this planet. • Students shall get basic knowledge of origin and evolution of life, origin of eukaryotic cell origin of mitochondria, plastids as symbionts. • Students become aware about Theories of organic evolution Such as Lamarckism, Darwinism and Neo Darwinism, Mutation Theory and Modern Synthetic theory. • Students will get the knowledge of pre-zygotic and post-zygotic isolation mechanisms. • Students will understand the process of speciation and the factors influencing speciation. • Students learn the basic co-evolutionary mechanism. • Students become aware of Geological Time Scale and the evolution of man.
T.Y. B.Sc.	IV	ZY 345 General Embryology	• Students will be able to understand the processes involved in embryonic development and it Applications. • Students will be able to explain the mechanisms related to embryonic developments. • Students will know about recent trends in developmental biology
T.Y. B.Sc.	IV	ZY 346 Medical Entomology	• Describe the concepts of forensic entomology, its medicolegal importance and rigor mortis. • Explain the life cycle of insects of forensic importance and use of insects to determine post-mortem interval

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Department of Economics - Academic Year 2020-21

Programme Outcome: BA Economics	
PO1	• Communication Skills: A graduate student in arts/social sciences/humanities shall be confident to speak, write, read, listen and understand the one or more Indian languages. Relate the ideas, knowledge, books, and people.
PO2	• Critical, logical and rational thinking: Acquire the ability for objective, rational, sceptical, logical, and unbiased analysis of factual evidences to form a judgment or conclusion. Enhance the process of rational thinking, problem solving and analytical evaluation from different perspectives.
PO3	• Values and Ethics: Recognizes the importance, worth and usefulness of principles and standards of behaviour, moral dimensions of one's own decisions ad judgment of what is important in life.
PO4	• Sustainable development: Understands, organizes and promotes the principle of human development goals by sustaining the ability of natural systems, natural resources and ecosystem services upon which the economy and society depends.
PO5	• Life-long process of Learning: Cultivates the proficiency to engage in independent, life-long and progressive learning abilities in the broadest context of changing socio-politico-economic-cultural and technological scenario.

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Course Outcomes: BA (Economics)

Class	Semester	Course Title with Sub. Code	Outcome
FYBA	I	Indian Economic Environment - I (11151)	• To familiarize the students with the recent developments in the Indian Economy • To provide the students with the background of the Indian Economy with focus on contemporary issues like economic environment. • To help the students to prepare for varied competitive examinations • To enable students to understand and comprehend thecurrent business scenario, agricultural scenario and other sectorial growth in the Indian context. • To make the student aware of the developments such as MSMEs, Digital Economy, E-Banking, BPO & KPO, etc.
FYBA	II	Indian Economic Environment - I (11152)	• To familiarize the students with the recent developments in the Indian Economy • To provide the students with the background of the Indian Economy with focus on contemporary issues like economic environment. • To help the students to prepare for varied competitive examinations • To enable students to understand and comprehend thecurrent business scenario, agricultural scenario and other sectorial growth in the Indian context. • To make the student aware of the developments such as • MSMEs, Digital Economy, E-Banking, BPO & KPO, etc.
SYBA		Modern Banking (G2)	• Awareness among Students about evolving and modern nature of Banking System will be Created. • Students will be Introduced with role of RBI in the Indian Economy. • Nature and Functions of Cooperative and Rural Banking will be understood by students. • Clear understanding of Financial Markets with respect to Indian and international Context.
SYBA	I	Micro Economics (S1)	• Student is expected to understand the behavior of an economic agent, namely, a consumer, a producer, a factor owner and the price fluctuation in a market. • understand nature and scope of economics, the theory of consumer behavior, analysis • Understand the production function and equilibrium of a producer, the price formation in different markets structures and the equilibrium of a firm and Industry. • Understand price determination of factors (Rant, wages, interest and Profit.) • Understand meaning of social welfare function.
SYBA	II	Macro Economics (S1)	• Understanding of macroeconomics and its differentcomponents. • Critical analysis of study different ideological schools andtheir theories of macro-economic development. • Understanding of Saving and investment functions will be

Class	Semester	Course Title with Sub. Code	Outcome
			injected into their knowledge • Different theories related to money will be studied bystudents. • Understanding different policies in macro terms
TYBA	Annual Pattern	Economic Development &Planning (G3)	• Introduction of the concept like indicators of growth & development. • Students will study different development theories. • Students will study different growth modeless. • Importance of economic Planning, & importance of foreign capital will be studied by students.
TYBA	Annual Pattern	International Economics (S3)	• Understanding Nature, Scope and Importance of International Economics. • Understanding of theories of International Trade. • Understanding the role of International Financial Institutions. • Importance of Foreign capital into the economy will be studied by Students.
TYBA	Annual Pattern	Public Finance (S4)	• Understanding of the role of government in economy • Various expenditure & revenue process in the public finance will be analysed. • Information of fiscal policy in public finance and its importance will enhance student's macro level thinking. Study of the theories of social welfare.

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Programme Outcome: B.Com. (Business Economics)	
PO1	• To impart knowledge of business economics.
PO2	• To clarify micro economic concepts.
PO3	• To analyse and interpret charts and graphs.
PO4	• To understand basic theories, concepts of micro economics and their application.

Course Outcomes: B.Com. (Business Economics)

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.Com.	I	Business Economics (Micro) – I 113	• Meaning, nature & scope of business economics will be given to all students. • Understanding of basic concept of micro economics. • Students will learn to analyse demand & supply its determinants. • Analysis of market structure & pricing under the same. • Remunerative structure of different factors of production will be studied.
F.Y. B.Com.	I	Business Economics (Micro) – II 123	• To understand the basic concepts of microeconomics. • To understand the tools and theories of economics for solving the problem of decision making by consumers and producers. • To understand the problem of scarcity and choices.
S.Y. B.Com.	Annual Pattern	Business Economics (Macro) 203	• The objective of the course is to familiarize the students the basic concept of Macro Economics and application. • To Study the behavior of the economy as a whole. • To Study the relationship among broad aggregates. • To apply economic reasoning to problems of the economy.

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AISHE ID: C-41965

Department of English - Academic Year 2020-21

Programme Outcomes: BA (English)	
PO1	• Students Communicate in English language fluently and effectively.
PO2	• Students demonstrate the knowledge and understanding of English language and texts in English.
PO3	• Students understand literary texts in English.
PO4	• Students comprehend, interpret and apply critical theories and texts in English.
PO5	• Students understand the phonology, morphology, syntax, semantics and pragmatics of English language.

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Course Outcomes: BA (English)

Class	Semester	Course Title	Course Outcome
F.Y.B.A. 2019 Pattern	I	Compulsory English (11011)	After studying the paper successfully, the learners will be able to- • CO1. Expose to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English. • CO2. Learn the prescribed prose and poetry students realize the beauty and communicative power of English. • CO3. Instill human values among them. • CO4.The character building of the students is developed. • CO5. prepare to be responsible citizens of the world.
F.Y.B.A. 2019 Pattern	II	Compulsory English (11012)	After studying the paper successfully, the learners will be able to- • CO1. Develop the abilities to appreciate ideas and think critically. • CO2. Develop their linguistic competence and communicative skills, the employability of the students are enhanced. • CO3. The structures already learnt in the previous stages of learning are revised and reinforced. • CO4. acquire the skills of understanding and using English language correctly by learning grammar. • CO5. Communicate in English in different situations.
F.Y.B.A. 2019 Pattern	I	Optional English (11331)	After studying the paper successfully, the learners will be able to- • CO1. Expose to the basics of literature and language. • CO2. Expose to develop an integrated view about language and literature in them. • CO3. Acquaint with minor forms of literature in English especially short stories, essay and poetry. • CO4. Appreciate the creative use of language in literature.
F.Y.B.A. 2019 Pattern	II	Optional English (12331)	• After studying the paper successfully, the learners will be able to- • CO1. Learn the basics of phonology of English. • CO2. Do the English pronunciation and speak English correctly. • CO3. Prepare for the detailed study and understanding of literature and language. • CO4. Enhance the job potential by improving their language skills.

Class	Semester	Course Title	Course Outcome
F.Y.B.A. 2019 Pattern	I	Functional English (11851)	After studying the paper successfully, the learners will be able to- • CO1. Get introduced to Spoken English. • CO2. Create awareness about using language according to the situation/context. • CO3. Create awareness about mispronunciation. • CO4. Reinforce grammar studied up to std. XII. • CO5. Acquire the basic skills of effective writing.
F.Y.B.A. 2019 Pattern	II	Functional English (12851)	After studying the paper successfully, the learners will be able to- • CO1. Get introduced to Spoken English. • CO2. Create awareness about using language according to the situation/context. • CO3. Create awareness about mispronunciation. • CO4. Reinforce grammar studied up to std. XII. • CO5. Acquire the basic skills of effective writing.
S.Y.B.A. 2019 Pattern	--	Compulsory English	After studying the paper successfully, the learners will be able to- • Students have developed competence for self-learning • Students have familiarized with prose and poetry in English • Students have developed interest in literary pieces • Students have developed humane values • Students have learnt advanced Grammatical Concepts • Students have also mastered important written skills such as paragraph writing, report writing & letter writing
S.Y.B.A. 2019 Pattern	--	Optional English	After studying the paper successfully, the learners will be able to- • Students have understood literary devices employed in short story • Students have learnt the components of a literary piece and approaches of literature • Students have been familiarized with different genres of short story • They have followed technical aspects of short story writing • Students have learnt advanced concepts in linguistics
S.Y.B.A. 2019 Pattern	--	Special English - I	After studying the paper successfully, the learners will be able to- • Students have been acquainted with Shakespearean plays esp.tragi-comedy with reference to The Merchant of Venice • Students have understood features of Naturalistic and • Realistic Theatre with reference to ADoll's House • Students have learnt about Indian Dramas in English
S.Y.B.A. 2019 Pattern	--	General English - II	After studying the paper successfully, the learners will be able to- • Students have learnt new terminology in poetry criticism • Students have learnt to appreciate poems • Students' aesthetic sense has improved • Students are able to read, appreciate and critically evaluate the poetry independently

Class	Semester	Course Title	Course Outcome
T.Y.B.A. Annual Pattern (2013 Pattern)	--	Compulsory English (36001)	After studying the paper successfully, the learners will be able to- • CO1. Expose to varied cultural experiences through literature. • CO2. contribute to the students' overall personality development by improving their communicative and soft skills • CO3. Learn transformation of sentences. • CO4. Acquire pivotal components of communication skills. • CO5. Study different presentation skills.
T.Y.B.A. Annual Pattern (2013 Pattern)	--	General English (G-3) Advanced Study of English Language and Literature (35333)	After studying the paper successfully, the learners will be able to- • CO1. Expose to some of the best samples of Indian English Poetry • CO2. Learn how Indian English poetry expresses the ethos and culture of India • CO3. Understand creative uses of language in Indian English Poetry
T.Y.B.A. Annual Pattern (2013 Pattern)	--	General English (G-3) Advanced Study of English Language and Literature (36333)	After studying the paper successfully, the learners will be able to- • CO1. Introduce to some advanced areas of language study • CO2. Prepare to go for detailed study and understanding of literature and language. • CO3. Develop integrated view about language and literature among the students is developed.
T.Y.B.A. Annual Pattern (2013 Pattern)	--	Special Paper III (S-3) Appreciating Novel (35331)	After studying the paper successfully, the learners will be able to- • CO1. Introduce the basics of novel as a literary form. • CO2. Expose to the historical development and nature of novel. • CO3. Be aware of different types and aspects of novel.
T.Y.B.A. Annual Pattern (2013 Pattern)	--	Special Paper III (S-3) Appreciating Novel (36331)	After studying the paper successfully, the learners will be able to- • CO1. Learn literary terms related to novel/fiction for background study. • CO2. Develop literary sensibility and sense of cultural diversity. • CO3. Expose to some of the best examples of novel.
T.Y.B.A. Annual Pattern (2013 Pattern)	--	Special Paper IV(S-4) Introduction to Literary Criticism (35332)	After studying the paper successfully, the learners will be able to- • CO1. Introduce to the basics of literary criticism. • CO2. Learn definition, origin, principles, types, and functions of literary criticism. • CO3. Study the nature and historical development of criticism.

Class	Semester	Course Title	Course Outcome
T.Y.B.A. Annual Pattern (2013 Pattern)	--	Special Paper IV(S-4) Introduction to Literary Criticism (36332)	After studying the paper successfully, the learners will be able to- • CO1. Be familiar with the significant critical approaches and terms. • CO2. Encourage to interpret literary works in the light of the critical approaches. • CO3. Develop the aptitude for critical analysis.
T.Y.B.A. Annual Pattern (2013 Pattern)	--	Functional English Paper V Introduction to Print Media and Writing for Mass Media & Key Competency Modules (35851)	• After studying the paper successfully, the learners will be able to- • CO1. Get acquainted to new career options and equipping them to be prepared for the same. • CO2. Learn elements, characteristics and types of news and also learn difference between writing for Newspaper and Radio & TV with reference to Language. • CO3. Prepare for various careers in language like translation, technical writing, writing for mass media, advertising, free lancing • CO4. Create awareness about language change from one media to the other. • CO5. Encourage to observe, compare and analyze the language activities of media through exposure. • CO6. Providing with basic data required for skills like translation especially related to media.
T.Y.B.A. Annual Pattern (2013 Pattern)	--	Functional English Paper VI Entrepreneurship development, Project Report & Oral Communication in English: advanced (Practical Paper) (36852)	After studying the paper successfully, the learners will be able to- • CO1. Encourage to thrash out the possibility of self-employment. • CO2. Provide basic sources of information regarding SSI. • CO3. Promote the idea of self-employment through field work, study reports and interviews. • CO4. Lead to overall development of personality through key competency modules. • After studying the paper successfully, the learners will be able to- • CO5. Initiate into research through project report. • CO6. Furnish basic information about ethics, business ethics, role of an individual in society so as to develop a value-base among students through Key Competency Modules. • CO7. Expose to work environment and work experience through visits and field work. • CO8. Create possibility of focused writing in the field of their interest.

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Programme Outcome : F. Y. B. Com. (English)	
PO1	• Students of Commerce faculty communicate in English language fluently and effectively.
PO2	• Students demonstrate the knowledge and understanding of English language and texts in English and do the practical application.
PO3	• Students understand literary texts in English reflecting socio-economic and cultural life.
PO4	• Students develop oral and written communication skills for availing employment opportunities.
PO5	• Students develop overall linguistic and communicative competence.

Course Outcomes: F. Y. B.Com. (English)

Class	Semester	Course Title	Course Outcome
F.Y.B.Com. 2019 Pattern	I	Compulsory English (111)	After studying the paper successfully, the learners will be able to- • CO1. Learn selected pieces of prose and poetry to students so that they not only get to know the beauty and communicative power of English but also its practical application. • CO2. Expose students to a variety of topics that dominate the contemporary socio- economic and cultural life. • CO3. Develop oral and written communication skills so that their employability enhances. • CO4. Develop overall linguistic competence and communicative skills of students.
F.Y.B.Com. 2019 Pattern	II	Compulsory English (121)	After studying the paper successfully, the learners will be able to- • CO1. Learn selected pieces of prose and poetry to students so that they not only get to know the beauty and communicative power of English but also its practical application. • CO2. Expose students to a variety of topics that dominate the contemporary socio-economic and cultural life. • CO4. Develop oral and written communication skills so that their employability enhances. • CO5. develop overall linguistic competence and communicative skills of students.

Programme Outcomes: S.Y. B.Sc. (English)	
PO1	• Students Communicate in English effectively.
PO2	• Students demonstrate the knowledge and understanding of English language and literary forms of English Literature
PO3	• Students understand and appreciate literary pieces or forms in English.
PO4	• Students understand, interpret and also apply English structures in their day today conversation.
PO5	• Students learn Soft skills and develop their written and oral Communication.

Course Outcomes: S.Y. B.Sc. (English)

Class	Semester	Course Title	Course Outcome
S.Y. B.Sc.(REGULAR) Annual Pattern 2013 Pattern	--	ENGLISH (23321)	• CO1. Students demonstrate an understanding of literary forms and they appreciate the use of language in Literary Writings. • CO2. By learning the prescribed prose and poetry students realize the beauty and communicative power of English language. • CO3. Students absorb and inculcate human values on reading the literary forms. • CO4. Students develop their personality by learning Soft Skillsailing with Oral and Written Communication Skills. • CO5. Students demonstrate an understanding of literary forms and they appreciate the use of language in Literary Writings.
S.Y. B.Sc.(REGULAR) Annual Pattern 2013 Pattern	--	ENGLISH (24321)	• CO1. Students demonstrate an understanding of literary forms and they appreciate the use of language in Literary Writings. • CO2. By learning the prescribed prose and poetry students realize the beauty and communicative power of English language. • CO3. Students absorb and inculcate human values on reading the literary forms. • CO4. Students develop their personality by learning Soft Skillsailing with Oral and Written Communication Skills. • CO5. Students demonstrate an understanding of literary forms and they appreciate the use of language in Literary Writings.

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Department of Geography-Academic Year 2020-21

Programme Outcome: BA (Geography)	
PO1	• The basic concepts in Physical Geography, Human Geography, Climatology, Economic Geography, Regional Geography of India and Practical Geography areintroduced to the students.
PO2	• Understand the Theory of demographic transition & Composition of Indianpopulation
PO3	• The students acquired the information about Climatology in modern times.
PO4	• The students aware regarding the Impact of Green Revolution in Indianagriculture
PO5	• The students understand basic concepts related to surveying and traditional surveymethods
PO6	• The students understand the details about various policies in India.
PO7	• The students familiar with the weather instruments and their applications inGeographical phenomena

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Course Outcomes: BA (Geography)

Class	Semester	Course Title with Sub. Code	Outcome
FYBA (2019)	I	Gg- 110 (A) Physical Geography(G1)	• The students acquired the knowledge about Development of Physical Geography and its nature and scope. • Understand the Earth system and Interior of the earth. • Understand the Wegner's Continental Drift Theory & Davis Concept of Cycle of erosion. • Acquired basic knowledge of atmosphere andhydrosphere.
FYBA (2019)	II	Gg- 110 (B) Human Geography(G1)	• The students acquired the knowledge about Development of Human Geography and itsnature and scope. • Acquired knowledge about factors affecting on distribution of population. • Understand the Theory of demographic transition & Composition of Indian population. • Identify characterize and explain Types and pattern of rural settlements. • Acquainted with Problems of Indian agriculture.
SYBA (2019)	III	GG 210 (A): Environmental Geography I (G1)	• The students acquired the information about the Ecosystem. • The students understand the Economic Value and Potential of biodiversity. • The students aware about the environmental problems (pollution) • The students acquired information Loss of biodiversity and hotspot in India
SYBA (2019)	IV	GG 210 (B): Environmental Geography II (G2)	• The students aware about the environmental problems (Global Warming, Climate Change, Acid rain) • The students acquired the information about the Environment planning and Management. • The students understand the details about various policies in developed and Developing countries • To create awareness about the major environmental disaster in India and efforts to resolve them.
SYBA (2019)	III	GG 220 (A): Geography of Maharashtra (S1)	• The students understand the Geographical Location of the Maharashtra State. • The students aware about Major physiographic divisions & Major rivers of Maharashtra State. • The students acquired information regarding climatic condition of Maharashtra State. • The students understand details about soil types, soil problems and soil conservation in Maharashtra State.
SYBA	IV	GG 220 (B):	• The students acquired comprehensive Knowledge about

(2019)		Geography of Maharashtra (S2)	Population growth, distribution and its major characteristics of Maharashtra State. • The students received details information about agriculture types and their problems in Maharashtra State. • The students well aware about the types of Tourism. • The students acquired details information about rural development in Maharashtra State.
SYBA (2019)	III	Scale and Map Projection	• Understand the map scale and its uses. • Acquired the knowledge of conversion scale. • Developed skill to draw and use of Zenithal Projection, Conical Projection & Cylindrical Projection. • Aware of the new techniques, accuracy and map making skills
SYBA (2019)	IV	Cartographic Techniques, Surveying and Excursion/ Village/ Project Report	• The students acquired the knowledge about Development of Development of cartography and its use. • Understand the various techniques of representation of data. • Acquired surveying and plotting skills about land with help of Plane Table Survey and GPS Survey. • Acquired the knowledge of conversion of area (hector into Acer, Square km into square meter, and Square meter to Square feet). • Understand how to write study tour and village survey report.
SYBA (2019)	III	SEC A Introduction to Geographic Information System	• The The students acquired the knowledge about stages of GIS development and its components of GIS • The students understand details about data types and models • Developed skill to geo-referencing of toposheet map
SYBA (2019)	IV	SEC B Introduction to Remote Sensing	• The students acquired the knowledge about stages in remote sensing. • The students understand image interpretation. • Developed skill to image downloading through bhuvan USGS, image enhancement.
TYBA (2013)	Yearly Pattern	Gg: 310 Regional Geography of India (G-3)	• The students acquired the information about the physiography of India. • The students aware about Major physiographic divisions & Major rivers in India. • The students understand students with geography of our Nation. • The students aware help the students to understand the inter relationship between the subject and the society • The students aware and understand the recent trends in regional studies • The students aware the magnitude of problems and Prospects at National level. • The students understand the details about various policies in India. • The students understand details about soil types, soil problems and soil conservation in India. • The students aware about the Vegetation: Types and distribution, Methods of forest conservation used in India
		Gg-320 Agriculture Geography	• The students acquired the information about the types of agriculture and various methods of agriculture. • The students received details knowledge with new modern

TYBA (2013)	Yearly Pattern	(S-3)	technical methods and their applications in Agricultural activities. • The students able to apply previous knowledge in Problems and Prospects in agriculture • The students understand the details about various policies in agriculture in India. • The students understand the Role of irrigation in Agricultural Development • The students received details Sustainable Agricultural Development and Agriculture in India
TYBA (2013)	Yearly Pattern	Gg. 301 Techniques of Spatial Analysis (S-4)	• The students understand acquires the students with IMD weather maps and to gain the knowledge of weather map Reading and interpretation. • The students understand details about elementary statistics as an essential part of geography. • The students able to read SOI Toposheets Arial Photographs & Satellite Image to acquire the knowledge physical & cultural features • The students acquired information regarding about GIS. • The students familiar with the weather instruments and their applications in Geographical phenomena • The students could write report about study tour and village survey after visit to Geographical place and village.

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Course outcomes: B.Sc. (Geography)

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.Sc. (2019)	I	Gg- 111 Introduction to Physical Geography–I (Geomorphology)	• Students will understand the basic concepts of PhysicalGeography. • Students will understand the applications ofGeomorphology. • Students will understand the theories regarding Origin ofContinents and oceans. • Students will be sensitizing with urgent need of protectionand conservation of different aspects of Earth and its environment. • Students will be able to understand various geographicalphenomenon, their origin, distribution and effect on life.
	I	GG-121	• The students' understanding of basic concepts of

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.Sc. (2019)		Introduction to Human Geography	Human Geography would help them for application of the same to local issues. • Students will acquire knowledge of the history and evolution of humans and their races. • Students will learn and respect cultural diversity through various theories. • Students will explore man-environment relationship or man within environment in different geographical regions.
F.Y. B.Sc. (2019)	I	Gg-112 Introduction to Physical Geography II (Geography of Atmosphere and Hydrosphere)	• Students will gain knowledge of the fundamentals of the Atmosphere so that they will be able to understand its uniqueness in among the planets in the galaxy. • Students will understand insolation and heat budget of the Earth. This is essential to understand causes and effects of global warming. • Students will be acquainted with atmospheric pressure and wind system. With this scientific knowledge they would understand intricacies of monsoon system that effects on Indian economy and polity. • Students will gain knowledge of hydrosphere to appreciate how water resource is precious.
F.Y. B.Sc. (2019)	II	GG-122 Population and Settlement Geography	• With a knowledge base of Population Geography students would be able to understand issues related to population growth and related issues. • Students would understand the applications and sources of Population data. • Students would familiarize with the different types of Man-Environment relationship in different periods and areas. • Students would be able to understand the issues and solutions related to settlements using concepts in Settlement Geography. • Students would understand the concept and process of urbanisation in view of problems related to urban sprawl, rural urban divide and conflicts between human beings and environment.
F.Y. B.Sc. (2019)	II	Gg-113 Practicals in Physical Geography	• Students will get acquainted with basics of maps. • Students will understand map scales and its types. • Students will acquire skills of drawing various map projections with their advantages and limitations. • The students would develop the skills of representing geographical, meaning thereby spatial and temporal, data. • Exposure will be given to students about the field-based studies and data collection.
F.Y. B.Sc. (2019)	II	GG-123 Practical in Human Geography	• Students would understand the Population Indices and Projection with appropriate examples. • Students would be able to understand and apply notions of Population Geography in various field. • Students would develop their skills for using techniques used in Agriculture Geography.

Class	Semester	Course Title with Sub. Code	Outcome
			• Students would acquire the skills of computer aided presentation techniques. • They would get the idea of conducting social survey project which could surface the issues of particular social and economic sections of the society.

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Department of Hindi- Academic Year 2020-21

Programme Outcomes: B.A. (Hindi)	
PO1	• हिंदी भाषा और संस्कृति की वृद्धि को मनोबल मिलेगा।
PO2	• राष्ट्रभाषा के कारण छात्रों में राष्ट्रीय एकात्मता बढ़ती है।
PO3	• हिंदी साहित्य के अध्ययन से आकलन, परिक्षण बढ़ता हैं।
PO4	• हिंदी साहित्य के अध्ययन से लिखने की क्षमता विकसित होती है।
PO5	• प्रसार माध्यमों में समाचार लेखन, विज्ञापन लेखन, घोषणा पत्र आदि ज्ञान प्राप्त होने से हिंदी भाषा को उपयोग में लाना सहज होता है।
PO6	• कार्यक्रम संयोजन कौशल विकसित होने से कार्यक्रम की संकल्पना, उद्देश्य, कार्यक्रम की प्रस्तावना सुत्र संचालन, अभिमत, आभार ज्ञापन आदि प्रभावी होने से कार्यक्रम सफल होने में मदद मिलती है।
PO7	• हिंदी भाषा का ज्ञान प्राप्त करने से राजभाषा अधिकारी पद का अवसर प्राप्त होता है।

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Course Outcomes: B.A. (Hindi)

Class	Semester	Course Title with Sub. Code	Outcome
F.Y. B.A.	I	**वैकल्पिक हिंदी प्रश्नपत्र**	• छात्रों को हिन्दी के गदय एवं पदय के प्रतिनिधि रचनाकारों का परिचय होगा। • हिन्दी सहित्य के प्रति छात्रों कि रुचि बढाना तथा सहित्य कि विविध विधाओं से परिचित होंगे। • कहानी, कविता, एकांकी, साक्षात्कार, रेखाचित्र आदि विधाओं के माध्यम से छात्रों का भावात्मक विकास होगा। • छात्रों में राष्ट्र के प्रति एवं सामाजिक प्रतिबद्धता की भावना विकसित होगी। • राष्ट्रीय ऐक्य सामाजिक उत्तरदायित्व, वैज्ञानिकता अदि मूल्यों के प्रतिछात्रों का ध्यान आकर्षित होंगे। • छात्रों में नैतिक मूल्य, राष्ट्रीय मूल्य, सामाजिक मूल्यों के प्रति आस्था निर्माण होगी। • पारिभाषिक शब्दावली के माध्यम से छात्रों को प्रयोजनमूलक हिंदी से परिचित होंगे। • पत्रलेखन, अनुवाद अदि के माध्यम से छात्रों को भाषा के रचनात्मक पहलू से परिचित होंगे। सारांश लेखन, निबंध अदि के माध्यम से छत्रों की विचार क्षमता तथा कल्पना -शक्ति को बढ़ावा मिलेगा। • वाक्य शुद्धिकरण अदि के माध्यम से छात्रों कों वर्तनी के नियमों, विरामचिन्हों से अवगत होंगे। • छात्रों को मानक लिपि एवं भाषा का महत्त्व स्पष्ट होगा। • छत्रों की सर्जनात्मक शक्ति एवं संभाषण कला को विकसित होगी। • छात्रों में राष्ट्रभाषा हिंदी का प्रचार – प्रसार करने की क्षमता विकसित होगी।
S.Y.B.A.	III and IV	**आधुनिक काव्य, कहानी तथा व्यावहारिक हिंदी**	• छात्रों कों व्यंग पाठ से परिचित कराना I • छात्रों कों कहानी व्यंग पाठ का बोध कराना I

Class	Semester	Course Title with Sub. Code	Outcome
			• छात्रों कों साक्षात्कार कला से अवगत कराना I • छात्रों कों भाषा का मोबाइल तंत्र समझाना I • छात्रों कों पल्लवन कला से अवगत कराना I
S.Y.B.A.	III and IV	**काव्यशास्त्र / साहित्य के भेद**	• छात्रों कों काव्य, साहित्य की परिभाषाओं द्वारा काव्य के स्वरूप के साथ काव्य हेतु तथा काव्य के प्रयोजनों का ज्ञान कराना। • छात्रों कों काव्य काव्य के भेद तथा शब्दशक्ति का ज्ञान कराना। • छात्रों कों अलंकार, छंदों के स्वरूप के साथ उनका सोदाहरण परिचय कराना। • छात्रों कों गद्य – भेदों के साथ नाटक, एकांकी और निबंध के स्वरूप एवं तत्त्वों की जानकारी देना। • छात्रों कों रस का स्वरूप, रस के अंगों एवं भेदों का परिचय देना। • छात्रों कों आलोचना का स्वरूप, अलोचना की उपयोगिता और आलोचक के गुणों से परिचित कराना।
S.Y.B.A.	III and IV	**मध्ययुगीन काव्य तथा उपन्यास साहित्य / मध्ययुगीन काव्य तथा नाटक साहित्य**	• छात्रों कों कबीर के साहित्य का परिचय देना I • छात्रों कों मीराबाई काव्य से अवगत कराना • छात्रों कों मूल्यांकन की दृष्टि विकसित कराना I • छात्रों की सभा- इतिवृत्त लेखन कौशल वृद्धी का विकास कराना I • छात्रों की वार्ता लेखन कौशल वृद्धी का विकास कराना I • छात्रों कों रहीम के तथा बिहारी के साहित्य का परिचय देना I • हिंदी नाटक और रंगमंच का परिचय देना I
S.Y.B.A.	III and IV	**अनुवाद स्वरूप एवं व्यवहार / माध्यम लेखन**	• अनुवाद कौशल से छात्रों को अवगत कराना। • अनुवाद का स्वरूप समझाना। • अनुवाद क्षेत्र से परिचय कराना। • हिंदी से मराठी में प्रत्यक्ष अनुवाद कार्य कराना। • अंग्रेजी से हिंदी, मराठी में अनुवाद कौशल का विकास कराना। • छात्रों को माध्यम लेखन से परिचित कराना। • सृजनात्मक लेखन से अवगत कराना। • श्रव्य-दृश्य माध्यमों की भाषा से अवगत कराना। •
S.Y.B.A.	III and IV	**हिंदी भाषा शिक्षण (अ तथा ब)**	• छात्रों में हिंदी भाषा श्रवण कौशल विकसित करना। • छात्रों में हिंदी भाषा संवाद कौशल विकसित करना।

Class	Semester	Course Title with Sub. Code	Outcome
			• छात्रों में हिंदी भाषा वचन कौशल विकसित करना। • छात्रों में हिंदी भाषा लेखन कौशल विकसित करना। • हिंदी भाषा-विधि तथा भाषा-व्यवहार से अवगत करना। • लघुकथा सृजन कौशल विकसित करना।
T.Y.B.A.	V and VI	**कथेतर विधाएं / गजल विधा और पत्राचार**	• छात्रों को हिंदी संस्मरण साहित्य का परिचय देना। संस्मरण के विकास तथा उसके स्वरूप का परिचय देना • छात्रों को रेखाचित्र साहित्य से अवगत कराना। • छात्रों के मूल्यांकन दृष्टि का विकास करना। • सभा-इतिवृत्त लेखन कौशल वृद्धि का विकास करना। • वार्ता लेखन कौशल दृष्टि निर्माण करना। • छात्रों को गजल साहित्य से अवगत करना। • छात्रों को गजलकर के व्यक्तित्व से अवगत करना। • छात्रों को सरकारी पत्र लेखन से अवगत करना।
T.Y.B.A.	V and VI	**हिंदी साहित्य का इतिहास (एस.3) / हिं. सा. इति. (आधुनिक काल)**	• छात्रों कों हिंदी साहित्येतिहास लेखन का परिचय देना I • छात्रों कों हिंदी साहित्येतिहास के कालविभाजन तथा नामकरण का परिचय देना I • छात्रों कों आदिकालीन, भक्तिकालीन, रीतिकालीन प्रमुख साहित्यिक प्रवृत्तियों, रचनाकारों, रचनाओं से परिचित कराना I • छात्रों को आधुनिक काल का परिचय देना।
T.Y.B.A.	V and VI	**भाषाविज्ञान (एस.4) / हिंदी भाषा और उसका विकास**	• छात्रों को भाषा की परिभाषा, विशेषताएँ तथा भाषा के विविध रूपों की जानकारी देना I • छात्रों को हिंदी ध्वनि विज्ञान, ध्वनि यंत्र, ध्वनि गुण, परिवर्तनन का परिचित कराना I • छात्रों को रूप विज्ञान तथा उसके भेद से परिचित कराना I • छात्रों में भाषा के वैज्ञानिक अध्ययन की दृष्टि निर्माण करना I • भाषाविज्ञान के अंगों तथा भाषाविज्ञान की शाखाओं का परिचय देना I • भाषाविज्ञान का अन्य विज्ञानों से संबंध विशद करना I • अर्थ विज्ञान का स्वरूप, दिशा, कारण की जानकारी देना I • हिंदी की बोलियाँ, नागरी लिपि की जानकारी देना।
T.Y.B.A.	V and VI	**पटकथा लेखन / साहित्य और**	• छात्रों को स्क्रिप्ट लेखन, अर्थ, परिभाषा से अवगत कराना।

Class	Semester	Course Title with Sub. Code	Outcome
		फिल्मातरण	• छात्रों को कथा, पटकथा और संवाद से परिचित कराना। • छात्रों को ड्राफ्ट बनाने से परिचित कराना। • छात्रों को सिनेमा का स्वरूप से परिचित कराना। • छात्रों को हिंदी साहित्य और सिनेमा के अंतसंबंध से परिचित कराना। • छात्रों को हिंदी उपन्यासों/ कहोनियों पर आधारित फिल्मों से अवगत कराना ।

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AISHE ID: C-41965

Department of Botany- Academic Year 2019-20

Programme Outcomes (PO) & Course Outcomes (CO) offered by the institution are stated and displayed on websites.

Programme Outcome: B.A. (History)	
PO1	• Student enables to Evaluate, analyze and synthesize historical materials (primary and secondary sources).
PO2	• Student enables to Recognize and explain the historical development of cultures.
PO3	• Student understands to Evaluate and recognize different Empire in Indian history
PO4	• Student Identify the role of theory and methodology in the production of historical knowledge
PO5	• Student Identify and critique basic historical concepts

Program Specific Outcome: B.A. (History)	
1.	A history graduate can find employment with Archaeological Survey of India or with private firms related to archaeology
2.	For History graduates, the option of public service is always open.
3.	Work as a teacher in schools and high schools
4.	Serve as conservator and tourist guide in historical monuments.
5.	NGOs and Social Welfare Organizations also employ BA History graduate
6.	Writer/Subject Matter Expert

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Course Outcomes: B.A. (History)

Class	Course title	Outcome
FYBA	(1177) Chh. Shivaji and His Times (1630 to 1707)	• Students got knowledge of concept of Shivaji and his times. • Student view increased of Nationalism and Secularism. • Students got knowledge of administration of Shivaji Maharaj. • Introduced to student social, economic and religious • condition.
SYBA	(2177) Modern India (1857-1950)	• Learn innovative study techniques in the study of History of Ancient India to make it value based, conceptual and thought Provocative. • Understand the importance of past in Exploration of present context. • Understand the Socio –economic, cultural and political and architecture background of Post Mauryan to the Age of the Rashtrakuta. • Acquire knowledge of various Empire after the age of Mouryas.
S.Y.B.A. GeneraI	III	• Student will develop the ability to analyses sources for Maratha History. • Student will learn significance of regional history and political foundation of the region. • It will enhance student's perception of 17th century Maharashtra and India in context of Maratha history. • Appreciate the skills of leadership and the administrative system of the Marathas.
S.Y.B.A. History Special	III	• Provides examples of sources used to study various periods in history. • Relates key historical developments during medieval period occurring in one place with another. • Analyses socio - political and economic changes during medieval period • Estimate the foreign invasion and the achievement of rulers
S.Y.B.A. History Special	III	• It will enable students to develop the overall understanding of the Modern World. • The students will get acquainted with the Renaissance, major political, socio-religious and economic developments during the Modern World. • It will enhance their perception of the history of the Modern World. • It will enable students to understand the significance of the intellectual, economic, political developments in the Modern World.

Class	Course title	Outcome
S.Y.B.A. Skill Enhancement Course	III	• Students will get an overall understanding of the process and development of the Tourism Management • They will learn to work in the Tourism Management. • They will be able to seek self-employment by starting their own tourism related business.
S.Y.B.A. GeneraI	IV	• Students will be able to analyze the Marathas policy of expansionism and its consequences. • They will understand the role played by the Marathas in the 18th century India. • They will be acquainted with the art of diplomacy in the Deccan region. • It will help to enrich the knowledge of the administrative skills and profundity of diplomacy
S.Y.B.A. History Special	IV	• Draws comparisons between policies of different rulers. • Understanding Role of Akbar in the consolidation of Mughal rule in India. • Understand Aurangzeb's conflict with Rajput as, Maratha and weakening Mughals age. • Analyses factors which led to the emergence of new religious ideas and movements (bhakti and Sufi
S.Y.B.A. History Special	IV	• It will enable students to develop the overall understanding of the Modern World. • Students will get acquainted with the major nationalist movements, the World War II and its consequences, the Cold War and its Consequences. • It will enhance students overall perception of the history of the Modern World. • It will enable students to understand the significance of the strategic political developments in the Modern World.
S.Y.B.A. Skill Enhancement Course	IV	• Students will get an overall understanding the details of the business of Travel Agency. • They will be trained on both theory and Practical aspect Travel agency and Tourism Industry. • They will enable to seek self-employment by starting their own business.
TYBA	(3178)- Introduction to History	• Students known source of history, • Practically student known to how much write history. • Increased the knowledge of research in history • Students know external and internal Criticism. • Students know historian works.
TYBA	(3179) History of Asia in 20th Century	• Students know history of America. • Concept of American history introduced to Students • Students know causes of Great Depression and policy of New Deal and Fear Deal. • Students know American politics in world. • Students got knowledge of international relation with America.

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Department of Marathi- Academic Year 2020-21

Program Outcomes: B.A. (Marathi)	
1	PO1: Know • Program develops communication skills in Marathi of the students. • Program enriches Linguistic skills of the Marathi. • Graduate students acquire Global knowledge through Marathi literatures and Language. • Graduate students are acquainted to National cultures through literatures in Marathi • Graduate students study various styles of writing of writers.
2	PO2: Do • Graduate students can become good communicator of Marathi language at the platform. • Graduate students can become good writer, poet, dramatist and journalist, etc. • Graduate students can become good translator and Mediator. • Graduate students can become good Teacher and can be recruited in firms where Marathi is required.
3	PO3: Feel • Graduate students express their emotions through fluent communication skills & writing • Graduate students can achieve emotional and intellectual maturity • Graduate students can feel self-esteemed and acquires soft skills • Graduate students can become aware of Humanity, Human Values, Ethics, Liberty, Equality, Fraternity, etc. by studying English Language and Literatures, (Various Genres of Literature) • Graduate Students feel responsible citizens with acquisition of good manners.

Program Specific Outcomes: B.A. (Marathi)	
PSO1	The Programme will develop competence of the students in four major skills of Marathi language: Listening skill, Speaking skill, Reading Skill , Writing Skill
PSO2	Students will develop an appreciation of how the formal elements of language and genre shape meaning. They will develop a facility at writing in appropriate genres for a variety of purposes and audiences.
PSO3	Students will gain knowledge of the major traditions of literatures written in Marathi and an appreciation for the diversity of literary and social voices within– and sometimes marginalized by–those traditions. They will develop an ability to read texts in relation to their historical and cultural contexts, in order to gain a richer understanding of both text and context, and to become more aware of themselves as situated historically and culturally.
PSO4	Students will develop the ability to read works of literary, rhetorical, and cultural criticism, and deploy ideas from these texts in their own reading and writing.
PSO5	They will express their own ideas and understand how their own approach compares to the variety of critical and theoretical approaches.

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Course Outcomes: B.A. (Marathi)

Class	Course	Course Outcomes
F.Y.B.A. (Sem-I & II) G-I	मराठी साहित्य कथा/ एकांकिका आणि भाषिक कौशल्यविकास (CC - 1A)	• The students were introduced to the literary genres of stories, dramas and one-act plays. • The form, elements and classification of literary forms such as stories, dramas and one-act plays were identified. • Students learned about stories, dramas and one-act plays in various literary streams. • Applied skills were developed in relation to Marathi language
F.Y.B.Com. (Sem-I & II) Opt. Marathi Opt. [AEC-117]		• Students are aware of the nature and application of language practice in various fields. • Students develop practical, applied and written language skills. • Ethical, professional and ideological values are inculcated in the students. • The students were introduced to the works and thoughts of accomplished persons in various fields of work.
SYBA (Sem-III & IV) G-II	भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार कादंबरी /ललितगद्य (CC -1C (3))	• The students were introduced to the concept, form, type and history of the literary genre of novel and prose. • The student learned to enjoy and understand the assigned textbook. • Applied skills were developed in relation to Marathi language.
SYBA (Sem-III & IV) Marathi Spl.-I [DSE 1 A (3)] & [DSE 2 A (3)]	आधुनिक मराठी साहित्य : प्रकाशवाटा / मध्ययुगीन मराठी साहित्य : निवडक मध्ययुगीन गद्य, पद्य	• The students were introduced to the concept, form, type and history of the literary genre of Autobiography and Literary History • The student learned to enjoy and understand the assigned textbook. • Applied skills were developed in relation to Marathi language.
SYBA (Sem-III & IV) Marathi Spl.-I [DSE 1 B (3)] & [DSE 2 B (3)]	साहित्यविचार / साहित्य समीक्षा	• The students were introduced to the concept, form, type and literary concepts, genre , Literary terms, Criticism and literary History • To introduce students to the basics of literary Terms & criticism • To make them aware of the nature and historical development of literary Terms & criticism. • To make them familiar with the significant critical approaches and terms • To encourage students to interpret literary works in the light of the critical approaches • To develop aptitude for critical analysis
SYBA	मराठी भाषिक संज्ञापन	• Students develop advanced modern language skills.

Class	Course	Course Outcomes
(Sem-III & IV) MIL (Marathi) [MIL 2 (2) & [MIL 2 (2)]	**कौशल्ये / नवमाध्यमे आणि समाजमाध्यमांसाठी मराठी**	• The students got a detailed introduction to various modern media as well as New media and social media. • Students become familiar with the correlation between language and personality development. • To prepare students to go for detailed study and understanding of New media and social media MIL language • Students have developed media literacy skills.
SYBA (Sem-III & IV) (SEC) Skill Enhancement Course [SEC 2 A (2) & SEC 2 B (2)]	**प्रकाशन व्यवहार आणि संपादन / उपयोजित लेखनकौशल्ये**	• Students acquire skills in publishing transactions and editing/applied writing skills. • Students are imparted necessary training in publishing practices and Editing/applied writing skills. • To create opportunities to access exposure of Publishing transactions and editing/applied writing skills Contest • Students were imparted essential training in publishing business and editing/applied writing skills, advertising, interview writing.
SY.B.Sc. (Sem-III & IV) Opt. Marathi	**उपयोजित मराठी** (AECC-2 A)/ मराठी साहित्य मराठी (AECC-2 B)	• Students have got information about Marathi language and literature and have realized their interrelationship. • Applied skills of Marathi language were developed among the students.\ • Literary taste has developed among the students and through these students have tried to understand science literature. • On the basis of literature, the students developed an understanding of life.
T.Y.B.A. (Sem-V & VI) Gen-III	आधुनिक मराठी साहित्य आणि व्यावहारिक उपयोजित मराठी (Sub Code-35023/36023)	• Students were introduced to different types of literature. Based on that, his literary taste was formed and from that he developed the ability to enjoy literary works. • The students were introduced to the literature tradition in the form of various literature types. • The students got theoretical knowledge about essays and travelogues. • To expose students to varied cultural experiences through literature • To contribute to their overall personality development by improving their communicative and soft skills
T.Y.B.A. (Sem-V & VI) Marathi Spl -III-	साहित्यविचार (Sub Code-35021/36021)	• To develop students' understanding of literature, its form, inspiration and creation • The students were introduced to the literature tradition in the form of various literature types. • Students gained an understanding of the relationship between literature and society. • The students gained scientific knowledge about what is literature.
T.Y.B.A. (Sem-V & VI) Marathi Spl -IV-	भाषाविज्ञान (भाषाविज्ञान :वर्णनात्मक आणि ऐतिहासिक) (Sub Code-35022/36022)	• Students got scientific knowledge of language and linguistics. • The students were introduced to the literature tradition in the form of various literature types. • Students gained an understanding of the

Class	Course	Course Outcomes
		relationship between literature and society. • The students gained scientific knowledge about what is literature.
T.Y.B.A. (Sem-V & VI) Marathi – SEC	कार्यक्रम संयोजन कौशल्य (Sub Code- 35022/36022	• Students acquire skills in organize programmer skills. • Students are imparted necessary training in ancaring practices and applied writing skills. • To create opportunities to access exposure of programme organize and editing/applied writing skills Contest • Students were imparted essential training in Anchoring and editing/applied writing skills, interview writing.

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Department of Political Science - Academic Year 2020-21

Programme Outcome: BA (Political Science)	
PO1	• Students understand the political process of India along with its constitutional structure and institutions.
PO2	• Make students learn about western political thinkers of the ancient and medieval period.
PO3	• Efforts are being made to appraise the global and regional politics along with the interstate relationship.
PO4	• To develop and be able to demonstrate skills in conducting and presenting research in political science
PO5	• To analyze political and policy related problems and formulate policy options.
PO6	• Enable students to discuss the major theories and concepts of political science and its subfields, and also deliver thoughtful and well-articulated presentations of research findings.

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Course Outcomes: BA (Political Science)

Class	Semester	Course Title with Sub. code	Outcome
FYBA	I	11161 CC-1 A Introduction to Indian Constitution I	• Students will be able to understand the making of Indian Constitution. • Students will understand their Fundamental Rights, Fundamental Duties and Directive Principles of State. • Students can understand the Salient features of Indian Constitution. • Students will able to compare Federal System in the world and can examine the Federal System of India. • Students will be able to understand the constitutional provisions and can analyze Constitutional Amendments. • Students will be able to understand the Basic Structure of Indian Constitution. • Students will be able to understand the structure, powers and functions of three organs of government and their mutual relationship and engagements.
FYBA	II	12161 CC-1B Introduction to Indian Constitution II	• Students will be able to explain Judicial System of India. • Students will be able to understand the concept of Judicial Review and Judicial Activism. • Students will be able to explain Electoral System & Reforms of India. • Examine political thought through the Classical, Renaissance, and Enlightenment periods based on the works of Plato, Aristotle, Machiavelli, Locke, Rousseau, and Marx; Compare and contrast the concepts of justice, freedom, equality, citizenship, and sovereignty in the works of Machiavelli, Hobbes, Locke, and Rousseau.
SYBA	III	23161 Western Political Thought (S-1)	• Major traditions of thought that have shaped political discourse in different parts of the world. • The great diversity of social contexts and philosophical visions. • The history of political thought as a series of critical, interconnected and open-ended conversations about the ends and means of the good life. • Explain different versions, and importance of the state of nature to political thought; Explain Karl Marx's worldview with particular regard to his critique of democracy and the modern,

Class	Semester	Course Title with Sub. code	Outcome
			politically liberal state; how it came into being; and its fundamental link to capitalism; and Explain John Stuart Mill's theory on utilitarianism and how he applies it to society and the state. • Have good knowledge about main issues and topics in Political Sociology. • Be able to understand basic principles of the exercise of power, of the state relations with civil society; individual and group interactions in the political realm.
SYBA	III	23162 Political Journalism (S-2)	• Students will learn to establish the complex relationship between the communication, media and power politics. • Students will be able to make a Critical appraisal of practices adopted in political image management, campaigns, propaganda and censorship. • The students will be aware of Political Journalism their Definitions and Meaning. • The students will understand about Political journalism Nature Scope. • The students will learn about agencies to Political Journalism like Print, Electronic, Web • The students will be aware of History of Political Journalism. • The students will understand about Pre-Independence, Post-Independence and World History. • The students will be able to understand about Methods of Political Journalism, Reporting of Political Events, Political Interview, Commentary of Legislation
SYBA	III	23164 CC-1C An Introduction To Political Ideologies (G-2)	• Students are enabled to understand the nature and scope of Political Ideologies. • Students are acquainted with the theories and approaches to Political Ideologies. • Students will understand Nationalism and the difference between Progressive and Reactionary nationalism. • Students are enabled to understand Internationalism. • Students are enabled to evaluate the Achievements and Limitations of Democratic Socialism. • Role of different political ideologies and their impact on politics like fascism and factors responsible for its rise.
SYBA	III	23165 SEC- 2A Basics of Indian Constitution	• To familiarize students with the working of the Constitution of India. • To acquaint students with the important features of the Constitution of India and with the basic framework of Indian Government. • The students will able to know the Importance of Fundamentals Duties. • Explaining the Concept and Nature of

Class	Semester	Course Title with Sub. code	Outcome
			Fundamental Duties. • The students will able to know how Directive Principles work for State. • The students will able to know the importance of Directive Principles for State Policy.
SYBA	IV	24161 DSE-1B Western Political Thought (S-1)	• The students will be able to make a distinction among Locke and Rousseau on the state of nature, the law of nature, nature and form of contract and the emergence of state from the contract. • The students will be able to understand Bentham's Utilitarianism; and John Stuart Mill's views on liberty and representative government. • The students will be able to understand Hegel idealism & theory of State. • The students will be able to discern the meaning of Utilitarianism and how Bentham and Mill differed from each other. • The students will be able to understand Marxian Theory of Historical Materialism, class Struggle and theory state.
SYBA	IV	24162 DSE-2B Political Journalism (S-2)	• The students will aware about Indian Political Process & Journalism like Role of social media in Political Process. • The students will understand about Role of • Election and Media: Loksabha and Maharashtra Vidhansabha 2014 and 2019 General Elections, Political Parties and social media. • The students will learn about Mediatisation of Politics, Definition and Meaning, Practices, Mediums. • The students will about Media & Public Opinion, Definition and Meaning, Practices, Mediums. • The students will Understand Challenges before Political Journalism like Increase of paid News. • The students will Aware Party Spirited News Papers & Commercialization, Media Saturation
SYBA	IV	24164 CC-1D An Introduction to Political Ideologies (G-2)	• Students will be able to understand Marxism and its significance in the study of Political Ideologies. • Students will know about various Marxian theories like Historical Materialism and Marxian State. • The students are enabled to learn Phule-Ambedkarism and the principles of Equality, Democracy, Cast and religion through their perspective. • The students will be able to know Gandhism and its noble ideals of Truth & Non-Violence, Satyagraha and the theory of Gram Swaraj as put forth by Mahatma Gandhi. • Students are enabled to understand Feminism along with liberal feminism and feminism in India with Caste system and patriarchy as its major challenges. • The students will be able to analyse the role of Political ideologies in course of a history of

Class	Semester	Course Title with Sub. code	Outcome
			nation.
SYBA	IV	24165 SEC- 2B Basics of Indian Constitution	• The students will able to know basic knowledge of Constitution. • The students will understand the features of fundamentals Duties. • The students will able to know the Relations between Directive Principles and Fundamental Duties. • The students will learn how Directive Principles and Fundamental Duties work together.
TYBA (2013 Pattern)	--	3168 Public Administration (S-3)	• Students are enabled to understand the 20th century emergence of the modern administrative state as a result of the technological, social, economic and political pressures that have emerged in national industrialized and developed complex, interdependent systems. • Students are made to understand public administration as a career field in government. • Students are enabled to understand the evolution, scope and significance of international relations.
TYBA (2013 Pattern)	--	3169 International Politics (S-4)	• Students are enabled to demonstrate an understanding of: the key historical events and also they enable to understand contemporary international system; and the key actors which shaped the international Politics. • Students are encouraged to discuss the main international relations theories. • Students enable to analyze importance of International relation in process of nation progress. • Students are enabled to appreciate the foreign policy their determinants features & its relevance. • Students are enabled to understand the role of different political Ideologies and their impact in Politics.
TYBA (2013 Pattern)	--	3167 Modern Political Ideologies (G-3)	• Students are made to understand the different streams and subtle nuances within each ideology, the change and continuities in its doctrine and its relevance to contemporary times are highlighted. • Students are able to understand the core doctrines of each of the ideologies.

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Department of Psychology- Academic Year 2020-21

Programme Outcome: BA(Psychology)	
PO1	Develop an understanding of the basic concepts in Psychology.
PO2	Understand various psychological disorders, classify them and know the treatment.
PO3	Know characteristic features of the human developmental stages.
PO4	To develop a sense of responsibility of one's own actions as a part of society at large.
PO5	Help them out to make better adjustment in life and inculcating the same in themembers of society.
PO6	Develop listening skills and empathy with others.

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Course Outcomes: BA (Psychology)

Class	Semester	Course Title with Sub. Code	Outcome
FYBA	I	Foundation of Psychology (Course Code-11221)	• Describes the basic principles of psychology. • Differentiates the historical trends in psychology and the theoretical perspectives. • Solves personal day today problems related to him on his own. • Applies the principles learnt in perception, learning and memory.
FYBA	II	Introduction to Social Psychology (Course Code-12221)	• Understands the basic concepts, theories and applications of Social Psychology. • Mingles in a healthy manner in groups. • Develops healthy close relationships with peers and others in society. • Displays prosocial behavior in society.
S.Y. B.A.	III	23223 CC/SEC- 1A: Health Psychology	• Acquire the knowledge about the symptoms, diagnostic criteria, and causes of various psychological disorders • Examine multiple probable causes and correlates of behaviour. • Understand critiques, limitations, and implications of diagnosis and classification of psychological diseases. • Create awareness about mental health problems in society. • Understand health psychology and arrive at the introduction to the role of psychology in health. • Understand the nature of stress and coping • Understand various factors related to health and diseases. • Understand quality of life and promoting the good health.
S.Y. B.A.	IV	24223 CC/SEC- 1B: Positive Psychology	• Understand how the positive psychology as the science of happiness, human strengths, positive aspects of human behavior and 'psychology of well-being.' • How we lead our lives, find happiness and satisfaction, and face life's challenges. • How positive psychology has become an evolving. • Understand basic concepts of positive psychology and implement it to solve our day to day problems of life.
TYBA	Gen.3	Industrial and	• Describes the emergence of Industrial and

Class	Semester	Course Title with Sub. Code	Outcome
		Organizational Psychology	Organizational Psychology. • Understand the work done in Industrial and Organizational Sector.

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Department of Commerce- Academic Year 2020-21

Programme Outcome: B.Com.	
PO1	• Practical Exposure that would equip the students to face the challenges in the modern era in commerce and business.
PO2	• The course offers a number of values based and job oriented Skills to ensure that students become enabled on two feet for every challenging situation.
PO3	• Proficiency for completing various professional courses like management, CA.,CMA.,CS.,MBA and Law
PO4	• Ability to recognize the role of businessman, entrepreneurs, consultants etc.
PO5	• Thorough knowledge of fundamentals of Commerce, Trade, Economics, Management etc.
PO6	• Expertise in way to contribute towards the development of new practices and procedures of Administration, Banking and finance, Entrepreneurship, Marketing, Insurance, Computers, Laws, Accountancy etc.
PO7	• Students become competent to demonstrate the role of Accountant, Manager, Advisor, Analyzer etc. in society and business.
PO8	• Learners will be able to do higher education and advance research in the field of commerce and finance.

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Course Outcomes: B.Com.

Class	Semester	Course Title with Sub. Code	Outcome
FYBCOM	I	112 Financial Accounting- I	• Students acquainted with the knowledge of various accounting concepts. • Students become knowledgeable about accounting procedures, methods and techniques. • Acquaint them with a practical approach to accounts writing by using software packages e.g. Tally ERP-9, SAP etc.
FYBCOM	I	114 (A) Business Mathematics and Statistics - I	• Students are prepared for competitive examinations by inculcating them with the concept of Simple interest, compound interest and the concept of EMI. • Imparted the concept of shares and to calculate Dividend, concept of population and sample. • They knew how to calculate various types of averages and variations along with the application of profit and loss in business.
FYBCOM	I	115 (A) Organisational Skill Developments - I	• On successful completion of this subject the students acquire the Knowledge about the various types of business organisations, office management and related practices.
FYBCOM	I	116 (C) Marketing and Salesmanship (Fundamentals of Marketing) - I	• On successful completion of this course the students should get the practical knowledge and the tactics in the marketing.
FYBCOM	I	116 (D) Consumer Protection and Business Ethics - I	• The students have understood consumer motivation and perception, Learnt consumer protection act 1986.
FYBCOM	II	112 Financial Accounting- II	• Students acquainted with the knowledge of various accounting concepts. • Students become knowledgeable about accounting procedures, methods and techniques. • Acquaint them with a practical approach to accounts writing by using software package e.g. Tally ERP-9, SAP etc.
FYBCOM	II	114 (A) Business Mathematics and Statistics - II	• Students are prepared for competitive examinations by inculcating them with the concept of Simple interest, compound interest and the concept of EMI. • Imparted the concept of shares and to calculate Dividend, concept of population and sample. • They knew how to calculate various types of averages

			and variations along with the application of profit and loss in business.
FYBCOM	II	115 (A) Organizational Skill Developments - II	• On successful completion of this subject the students acquire the Knowledge about the various types of business organisations, office management and related practices.
FYBCOM	II	116 (C) Marketing and Salesmanship (Fundamentals of Marketing) - II	• On successful completion of this course the students should get the practical knowledge and the tactics in the marketing.
FYBCOM	II	116 (D) Consumer Protection and Business Ethics – II	• The students have understood consumer motivation and perception, Learnt consumer protection act 1986.
S.Y.B.Com	III	Business Communication Course code: 231 & 241	• Knowledge Aim: learning Business Communication at S.Y.B.Com. level will help to understand the basics concepts of communication barriers to communication & reveries, channels of communication, soft skill, drafting various types of business letters & job application letter & social media of network & new technologies in communication. • Competence aims: To study of Business Communication is useful to understand the concept of soft skill means grooming manners etiquettes, effective spacing, interview skills listening G.D & oral presentation communication improve the student's behavior. • Skills: Student will able to solve each problem regarding business, also able to developed their personals knowledge skills & abilities.
S.Y.B.Com.	III	Business Management Course code: 234 &244	• Knowledge aim: Learning of Business Management at S.Y.B.Com level will help to understand the management keys, the need of management study, management skills, planning of management motivation, leadership, coordination & controlled & recent trends in Business management means business ethics social responsibilities, disasters management & changes in management. • Competence aim: To study of Business Management is useful to understand basic techniques of management & way the management is imp in modern edge as well as students will able to handled the problems related to disasters management. • Skills: Students will able to solve the problems related to management stuffing motivation, leadership Co-ordination & controlling.
S.Y.B.Com.	III	Elements of Company Law Course code: 235 & 245	• Knowledge aim: After studying this course students are able to understand evolution of the subjects and their interrelationship. Students can describe of the subject of Elements of Company Law and its importance. This subject is important for improving the knowledge of Company Law and useful for future Development of the students.

			• Competence aim: Students can able to apply Elements of Company Law and its rules and regulation. • Skills: The student can think about this subject and also understand overview about company act 2013.
S.Y.B.Com.	IV	Corporate Accounting Course code: 232 & 242	• Knowledge aim: learning the Corporate Accounting at S.Y.B.Com level will help to understand the & Corporate Accounting & provisions of Company's Act. Student's commerce acquire the knowledge of computerized accounting and align standard. • Competence aim: To know allying standard 5,6,10, 14 & 21 & its examples. To solve the problems of co. final also Co liquidation, Amalgamation, Holding co, & also computation practices. • Skills: Students are able to develop their skill for computerized accounting & align standard.
S.Y.B.Com.	IV	Business Administration I Course code: 236A & 246A	• Knowledge aim: Learning Business Administration at S.Y.B.Com. level will help to understand the basic knowledge of business, trade & Industry. Business organization business Environment legal aspects, productivity & recent trends in business management • Competence aims: The study of Business Administration is very useful to understand the various information about business & legal aspect of business. Student will able to use the business information for their own business • Skills: Student will able to use the legal aspects while establishing their own business. (Like licensing, registration, filling returns and other document & some important legal provision.
S.Y.B.Com.	IV	Marketing Management I Course code: 236H & 246H	• Students will understand marketing management its scope and functions. • Students will learn about marketing strategy, its significance and its formulation. • Students will get acquainted of steps in marketing planning and marketing management. • Students will know the marketing research, its Scope, Procedure and can distinguish between marketing research and marketing information.
T.Y.B.Com. (Annual Pattern)	-	301 Business Regulatory Framework	• Enables to inculcate knowledge on various laws relating to business such as law of contract, law of sale of goods, law of agency, Negotiable Instruments Act etc.
T.Y.B.Com. (Annual Pattern)	-	302 Advanced Accounting	• Providing entire coverage of advanced accountancy. • Acquired knowledge on preparation of departmental accounts with respect to Apportionment of overheads.
T.Y.B.Com. (Annual Pattern)	-	304 Auditing and Taxation	• Creating basic conceptual knowledge about the auditing principles. • Understanding the basic concepts and to acquire knowledge about Computation of Income, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.
T.Y.B.Com. (Annual	-	305 (A) Business	• Acquaint the students with basic concepts & functions of HRD and nature of Marketing functions of a

Pattern)		Administration - II	business enterprise.
T.Y.B.Com. (Annual Pattern)	-	305 (H) Marketing Management - II	• Enable the students to understand the Principles of marketing management, market segmentation Product life cycle, pricing, branding, advertising, sales promotions, marketing research and CRM.
T.Y.B.Com. (Annual Pattern)	-	306 (A) Business Administration – III	• Acquaint the students with basic concepts & functions of HRD and nature of Marketing functions of a business enterprise.
T.Y.B.Com. (Annual Pattern)	-	306 (E) Cost and Works Accounting. Special Paper - III	• The students get a thorough knowledge on the cost accounting principles and the methods of cost accounting.
T.Y.B.Com. (Annual Pattern)	-	306 (G) Business Entrepreneurship - III	• Acquainted the students with the basic concepts of entrepreneurship and preparing a business plan to start a small industry and developed the Knowledge and understanding in creating and managing new ventures.
T.Y.B.Com. (Annual Pattern)	-	306 (H) Marketing Management - III	• Enable the students to understand the Principles of marketing management, market segmentation Product life cycle, pricing, branding, advertising, sales promotions, marketing research and CRM.

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Department of B. Voc.- Academic Year 2019-20

Programme Outcomes (PO) & Course Outcomes (CO) offered by the institution are stated and displayed on websites.

Program outcome: B. Voc.	
PO 1	Ability to apply the knowledge of science and engineering principles for analyzing and solving electrical and electronics engineering problems.
PO 2	Ability to identify, analyze real life electrical and electronics engineering problems.
PO 3	Ability to develop solutions for real life electrical and electronics engineering problems.
PO 4	Ability to develop sophisticated equipment and experimental system for carrying out detailed investigation to multifaceted electrical and electronics engineering problems.
PO 5	Ability to develop and utilize modern tools for modelling, analyzing, and solving electrical and electronics engineering problems.
PO 6	Dedication to work as an electrical or electronics engineer who is capable of identifying solutions to various local and global problems faced by the society.
PO 7	Ability to design and develop modern systems for the up keep of pollution free environment.
PO 8	Ability to express ideas clearly and communicate orally as well as in writing with others.

Program Specific outcomes: B. Voc.	
1	Provide effective solutions in the fields of Electrical Power system, Electrical machine Switchgear and protection.
2	Design and Develop various Electrical and Electronics Systems, particularly renewable energy systems.
3	Install and maintain different Electrical Equipment.
4	Demonstrate the overall knowledge and contribute for the betterment of the society.

Course Outcomes of First Year B. Voc.
Semester I

Year	Course	Course Outcome
FY (Sem-I) Communication Skills	BVET 11.1	To acquired knowledge about office correspondence in Marathi as well as in English language.
	BVET 11.2	To learn about Appearance and layout of Business letter such as Equiry, Sales, administrative, complaint, order letter.
	BVET 11.3	To learn about Writing and comprehensive
	BVET 11.4	To prepare Resume, to acquired knowledge about Job application letter.
FY (Sem-I) Basic Electrical Engineering-I	BVET12.1	Impart a basic knowledge of electrical quantities such as current, voltage, power, energy and frequency to understand the impact of technology in a global and societal context.
	BVET12.6	Obtain solution for electrical network analytically
	BVET12.7	Demonstrate the awareness on social issues like conservation of electrical energy, electrical safety.
FY (Sem-I) Basic Electrical Engineering-II	BVET13.1	Understand and demonstrate the fundamental of electromagnetism
	BVET13.2	Differentiate between electric and magnetic circuits.
	BVET13.3	Apply concept of electromagnetism for the working of transformer.
	BVET13.4	Explain Three Phase delta and star connection

Semester II

Year	Course	Course Outcome
FY (Sem-II) Applied Mathematics	BVET 21.1	Evaluate higher order linear differential equations using appropriate techniques for modelling and analysing electrical circuits.
	BVET 21.2	Solve problems related to trigonometric functions and limits.
	BVET 21.3	Perform vector differentiation and integration.
	BVET 21.4	Identify logic gates and application to switching circuit.
FY (Sem-II) Electrical Appliances-I	BVET 22.1	Acquire necessary skills/hand on experience/ working and testing knowledge on mustimeters, galvanometers, ammeters, voltmeters.
	BVET 22.2	To Acquire knowledge about construction and working of various Appliances Iron, Room heater, Toaster, Kettle, coffee percolator, stoves, Water heaters, Water purifiers.
	BVET 22.3	To acquire knowledge about practical testing (SC, OC, Earth Fault) and fault finding of above appliances.
	BVET 22.4	To acquire knowledge about practical repairing (for electrical & mech. Fault) of above appliances.
FY (Sem-II) Electrical Machines I	BVET 23.1	To study the working principle of transformer
	BVET 23.2	Discussion of single-phase transformer
	BVET 23.3	Detailed construction of D.C. machine
	BVET 23.4	Study of starter and speed control of DC machine
	BVET 23.5	Explain the Rotating Magnetic Field in AC machines
	BVET 23.6	Distinguish between Starters for slip-ring and cage rotor induction motors

Course Outcomes of Second Year B. Voc.

Semester I

Year	Course	Course Outcome
SY (Sem-I) Computer Technology	BVET 31.1	Understand the fundamental hardware components that make up a computer's hardware and the role of each of these components
	BVET 31.2	Demonstrated a basic understanding of computer hardware and software.
	BVET 31.3	Understand the difference between an operating system and an application program, and what each is used for in a computer.
	BVET 31.4	Understand the difference between hardware and software.
	BVET 31.5	Demonstrate computer architecture concepts related processors, memories and I/Os
SY (Sem-I) Electrical Appliances-II	BVET 32.1	Acquire necessary skills/hand on experience/ working and testing knowledge about testing equipment and basic control equipment.
	BVET 32.2	To Acquire knowledge about construction and working of various non – motorised and motorised

Year	Course	Course Outcome
		Appliances such as Tube light, Water heater, geyser, hair dryer, fan regulator, table lamp, torch, doorbell.
	BVET 32.3	To acquire knowledge about practical testing (SC, OC, Earth Fault) and fault finding of above appliances.
	BVET 32.4	To acquire knowledge about practical repairing (Trouble shooting) of above appliances.
SY (Sem-I) Electrical Machines II	BVET 33.1	Explain construction & working principle of three phase synchronous machines
	BVET 33.2	Demonstrate operation of synchronous motor at constant load and variable excitation (v curves & ∧ curves) & constant excitation and variable load.
	BVET 33.3	Explain Speed control methods of three phase induction motor.
	BVET 33.4	Discussion of three phase transformer
	BVET 33.5	Develop equivalent circuit of single-phase induction motor by performing no load & blocked rotor test.

Semester II

Year	Course	Course Outcome
SY (Sem-II) Environment Awareness	BVET 40.1	Articulate the interconnected and interdisciplinary nature of environmental studies.
	BVET 40.2	Demonstrate an integrative approach to environmental issues with a focus on sustainability.
	BVET 40.3	Use critical thinking, problem-solving, and the methodological approaches of the social sciences, natural sciences, and humanities in environmental problem solving;
	BVET 40.4	Communicate complex environmental information to both technical and non-technical audiences
	BVET 40.5	Understand and evaluate the global scale of environmental problems
	BVET 40.6	Reflect critically on their roles, responsibilities, and identities as citizens, consumers and environmental actors in a complex, interconnected world.
SY (Sem-II) Entrepreneurship and Employable Skill	BVET 41.1	Appreciate the concept of Entrepreneurship.
	BVET 41.2	Identify entrepreneurship opportunity.
	BVET 41.3	Develop entrepreneurial values and attitude.
	BVET 41.4	Collect and use the information to prepare project report for business venture.
	BVET 41.5	Develop awareness about enterprise management
SY (Sem-II) Basic Electronics	BVET 42.1	Develop characteristics of different power electronics switching devices.
	BVET 42.2	Express the design and control of rectifier and filters.
	BVET 42.3	Explain working principle of power electronics Semiconductor diodes.
	BVET 42.4	Analyse switching technologies implemented in recent technologies.
SY (Sem-II)	BVET 43.1	Examine various characteristics of measuring instruments, their classification and range extension

Year	Course	Course Outcome
Electrical Measurements and Instrumentation		technique.
	BVET 43.2	Classifies resistance, apply measurement techniques for measurement of resistance, inductance.
	BVET 43.3	Explain construction, working principle and use of dynamometer type wattmeter for measurement of power under balance and unbalance condition.
	BVET 43.4	Explain Construction, working principle of 1-phase and 3-phase induction, static energy meter and calibration procedures.
	BVET 43.5	Use of CRO for measurement of various electrical parameters, importance of transducers, their classification, selection criterion and various applications.
	BVET 43.6	Measurement of various physical parameters using transducers

Course Outcomes of Third Year B. Voc.

Semester I

Year	Course	Course Outcome
TY (Sem-I) Testing and Maintenance of Electrical Equipment	BVET 51.1	Classify distribution systems, its types and substations
	BVET 51.2	Design of different earthing systems for residential and industrial premises
	BVET 51.3	Understand the practical aspects of condition monitoring and testing of various Electrical Equipment's
	BVET 51.4	Explain the different types of maintenance of Electrical Machines.
	BVET 51.5	Estimating and Costing of residential and industrial premises.
	BVET 51.6	Explain the Importance of Electrical safety.
TY (Sem-I) Power System & Switchgear Protection	BVET 52.1	Describe arc interruption methods in circuit breaker.
	BVET 52.2	Describe Construction, and working of different high Voltage circuit breakers such as ABCB, SF6 CB, and VCB.
	BVET 52.3	Classify and describe different type of relays such as over current relay, Reverse power relay.
	BVET 52.4	Demonstrate a protection scheme used for transformer, alternator and busbar.
	BVET 52.5	Express transmission line protection schemes.
TY (Sem-I) Power Electronic Drives	BVET 53.1	Analyse the operation of the converter, chopper fed dc drive.
	BVET 53.2	Classify the operation of both classical and modern induction motor drives.
	BVET 53.3	Design current and speed controllers for different drives.
	BVET 53.4	Select the drives for any particular application.
	BVET 53.5	Describe different operation of DC motor speed control using converters and choppers.
	BVET 53.6	Analyse the operation of Permanent magnet

Year	Course	Course Outcome
		synchronous motor and Brushless DC Motor.

Semester II

Year	Course Outcome No.	Course Outcome
TY (Sem-II) Illumination Engineering	BVET 61.1	Explain lighting fixtures and its applications.
	BVET 61.2	Design commercial and residential illumination schemes
	BVET 61.3	Describe Quantification and Measurement of light. .
	BVET 61.4	Demonstrate the basics of lighting and illumination and its parameters
	BVET 61.5	Describe modern trends in illumination, street lighting and flood lighting.
TY (Sem-II) Electric & Hybrid Vehicle	BVET 62.1	Explain the basics of electric and hybrid electric vehicles, their Characterisation,
	BVET 62.2	Battery based energy storage and analysis used in hybrid electric vehicles.
	BVET 62.3	Discuss different Battery Management Systems for hybrid electric vehicles.
	BVET 62.4	Discuss Concept & Architecture of Hybrid Electric Vehicles.
	BVET 62.5	Discuss the various drive system for various motors. Analysis of vehicle to grid system.
TY (Sem-II) Special Purpose Machine	BVET 63.1	Evaluate the basic operation and performance of special machines and can select special machines for different purpose
	BVET 63.2	Acquire knowledge about the constructional details and principle of operation of PM synchronous machines.
	BVET 63.3	Acquire knowledge about the working of Reluctance motors.
	BVET 63.4	To learn about Construction, working, characteristics and application of stepper motor
	BVET 63.5	Acquire the knowledge of fundamentals, construction details and classification of linear and Ultrasonic motor.
TY (Sem-II) Project	BVET 64.1	Analyze the given problem.
	BVET 64.2	Generate alternative solutions to the problem
	BVET 64.3	Compare & select feasible solutions amongst alternative generated.
	BVET 64.4	Develop and manufacture new/modified equipment.
	BVET 64.5	Acquire technical knowledge beyond curriculum

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AISHE ID: C-41965

Programme Outcomes (PO) & Course Outcomes (CO) offered by the institution for Post Graduate Programmes

Department of Chemistry- Academic Year 2020-21

Programme Outcome: M.Sc. Analytical Chemistry	
PO 1	**Creative Thinking:** Students will be able to think creatively (divergently and convergent) to propose novel ideas in explaining facts and figures or providing new solution to the problems in chemistry. The skills of observations and drawing logical inferences from the scientific experiments will also be developed.
PO 2	**Interdisciplinary Approach:** Students will realize how developments in any science subject helps in the development of other science subjects and vice-versa and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments. Also, the knowledge of subjects in other faculties such as humanities, performing arts, social sciences etc. can have greatly and effectively influence which inspires in evolving new scientific theories and inventions.
PO 3	**Personality Development:** Students will imbibe ethical, moral and social values in personal and social life leading to highly cultured and civilized personality. They will also realize that pursuit of knowledge is a lifelong activity and in combination with untiring efforts and positive attitude and other necessary qualities leads towards a successful life.
PO 4	**Skills in research and industrial field:** Students will build a scientific temper and will be able to learn the necessary skills to succeed in research or industrial field. In addition, they will acquire the skills in handling scientific instruments, planning and performing in laboratory experiments.
PO 5	**Communication Skills:** Students will develop various communication skills such as reading, listening, speaking, etc., which we will help in expressing ideas and views clearly and effectively.
PO 6	**Environmental monitoring:** Students will be able to understand the environmental issues Global warming, Climate change, Acid rain, Ozone depletion and will create awareness in society.

Program Specific Outcomes: M.Sc. Chemistry	
PSO 1.	Students will understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life. They will also be able to acquire knowledge about the fundamentals and applications of chemical and scientific theories.
PSO 2.	Students will find that every branch of science and technology is related to Chemistry. They will develop scientific outlook not only with respect to science subjects but also in all aspects related to life.
PSO 3.	Students will become familiar with the different branches of chemistry like analytical, organic, inorganic, physical, environmental, polymer and biochemistry. They will also learn to apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries.
PSO 4.	The student will acquire knowledge of Chemical Thermodynamics, Kinetics,
PSO 5.	Viewing chemistry as a tool the developing mind and critical attitude and the faculty of logical reasoning that is prepared to serve in diverse fields.
PSO 6.	Students will gain a thorough Knowledge in the subject to be able to work in projects at different research as well as academic institutions.

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Course Outcomes: M.Sc. Analytical Chemistry

Semester I

Class	Course	Outcomes
M. Sc. -I	CHP-110: Physical Chemistry-I	• CO1: Student able to understand about State function, path function, exact differential and • inexact differential, internal energy and enthalpy, temperature dependent internal energy and • enthalpy, reversible and irreversible adiabatic expansion. • CO2: Raoult's and Henery's law, Thermodynamics of Gibbs function of mixing, colligative • properties: Elevation in boiling point, depression in freezing point and osmosis. • CO3: Schrödinger wave equation, particle in one dimensional box, Normalization and • orthogonality of wave function, particle in three-dimensional box, hydrogen like atoms (no • derivation). Operators: algebra of operators, commutative property, linear operators, commutator • operator, the operator ∇ and ∇ 2. • CO4: Valence bond theory, hybrid orbitals, geometry and hybridization, molecular orbital theory • for di and tri atomic molecule, linear variation method, approximations underlying Huckel • theory, applications to simple π-systems. • CO5: Molecular energy levels, Boltzmann distribution law, partition functions and ensembles, • translational, rotational and vibrational partition function of diatomic molecule. • CO6: Michaelis mechanism, effect of pH and temperature on enzyme catalyzed reactions, • limiting rate, Lineweaverburk and Eadie equation and plots, inhibition of enzyme action, • competitive inhibition and non- competitive inhibition. • CO7: Recapitulations of basic concept, the temperature dependent reaction rates, reaction • moving towards equilibrium, consecutive reaction, parallel reactions. • CO8: Fast reactions: flash photolysis, flow technique, stopped flow technique, relaxation • method, the steady state approximation.
	CHI-130: Inorganic Chemistry-I	• CO1: Student should visualize/ imagine molecules in 3 dimensions. • CO2: To understand the concept of symmetry and able to pass various symmetry elements • through the molecule. • CO3: Understand the concept and point group and apply it to molecules.

Class	Course	Outcomes
		• CO4: To understand product of symmetry operations. • CO5: To apply the concept of point group for determining optical activity and dipole moment. • CO6: Student should understand the importance of Orthogonality Theorem. • CO7: They should able to learn the rules for constructing character table. • CO8: Using reduction formulae should be able to find out the possible type of hybridization. • CO9: Student should know the concept of SALC. • CO10: Student able to find out character for reducible representation. • CO11: To know about projection operator. • CO12: Apply projection operator to find out the normalized wave function for atomic orbital. • CO13: Student should correlate the application of symmetry to spectroscopy. • CO14: Students able to find out the possible modes of vibration. • CO15: From the previous knowledge of symmetry student must able to find out which mode are • IR active. • CO16: Student should understand the detail chemistry of S and P block elements w.r.t. their compounds, their reactions and applications. • CO17: Organometallic chemistry of some important elements from the main groups and their applications.
	CHO-150: Organic Chemistry-I	• CO1: To understand some fundamental aspects of organic chemistry, to learn the concept • aromaticity, to understand the various types of aromaticity • CO2: To study heterocyclic compound containing one and two hetero atoms with their structure, • synthesis and reactions. • CO3: To know stereochemistry of organic compounds; able to do interconversion of Fischer to • Newmann, Newmann to Sawhorse and vice versa, Able to assign R and S to given molecules; • understand stereoselective and stereospecific reactions; acquire knowledge on topicity. • CO4: To study structure, formation, stability and related name reaction of intermediates like • Carbocation, Carbanion, Free Radical, Carbenes and nitrenes; Recognize neighboring group • participation • CO5: To study rearrangement reaction with specific mechanism and migratory aptitude of • different groups. • CO6: To study Ylides and their reaction. • CO7: To understands the basis of redox reaction; acquire knowledge about the reagents which • causes selective oxidation / reduction in various compounds; learn the basic mechanism of • oxidation / reduction in organic compounds.
	CHG – 190: General Chemistry-I	• CO1: Bonding in solids – band theory • CO2: Electronic conductivity • CO3: Semiconductors, photoconductivity

Class	Course	Outcomes
		• CO4: Non-stoichiometry, defects and types of defects in solids • CO5: Ionic conductivity and their applications • CO6: Superconductivity and theory of superconductivity.
	CHP-107: Practical Course – I	• Sec-I: Physical Chemistry Practical • CO1: Statistical treatment of experimental data (calculation of mean and standard deviation for • given data and least square method for calibration curve method) • CO2: Determination of an order of a reaction • CO3: Kinetics of oxidation of ethanol by K2Cr2O7 • CO4: Simultaneous determination of Ni and Co by spectrophotometry • CO5: Half-life of a radioactive nuclide and counting errors • CO6: Estimation of Cu(II) by titration with Na2 EDTA by colorimetry. • Sec-II: Organic Chemistry • CO1: Meaning of safety signs on container of chemicals, safety handling of chemicals, MSDS • sheets. • CO2: Detailed explanation at least for 4 different types of substances (e.g. nitric acid, benzene, • potassium dichromate, bromine, etc.) • CO3: Handling of glassware's and care to be taken, handling of organic flammable as well as • toxic solvents in laboratory, use of safety goggles, shoes and gloves, fire extinguisher and its use, • action to be taken in accidental cases • CO4: Putification techniques like Thin Layer Chromatography technique, organic solids by • recrystallization using solvents other than water, organic liquids by upward/downward/traditional • distillation technique. • CO5: Sublimation by Cold Thumb Method • CO6: Concept of green chemistry, twelve principals of green chemistry, applications of green • chemistry for sustainable development, Atom economy. • CO7: Preparation of Schiff's bases in aqueous medium. • CO8: Preparation of dihydropyrimidinone under solventfree conditions

Semester-II

Class	Course	Outcomes
MSc-I	CHP-210: Physical Chemistry-II	• CO1: student should know about Microwave Spectroscopy. • CO2: The vibrating diatomic molecule, harmonic and Anharmonic oscillator, The diatomic vibrating rotator, breakdown of the Born-Oppenheimer approximation • CO3: Quantum and classical theory of Raman effect, pure rotational Raman spectra, vibrational Raman spectra, polarization of light and Raman effect, structure determination from Raman and Infra-red spectroscopy, applications. • CO4: Electronic spectra of diatomic molecules - The Born-Oppenheimer approximation, • Vibrational coarse structure, Frank- Condon principle. • CO5: Principle, Instrumentation and Applications of Mossbauer Spectroscopy.

Class	Course	Outcomes
		• CO6: Types of radioactive decay, general characteristics of radioactive decay, decay kinetics, general expression for the activity of a daughter nuclide. CO7: The discovery of nuclear fission, the process of nuclear fission, fission fragments and their mass distribution. CO8: Radiochemical principles in the use of tracers, Isotopes in elucidating reaction mechanism and structure determination, physic-chemical research - The solubility of a sparingly soluble substances. CO9: Analytical applications- Isotope dilution analysis, Neutron activation analysis.
	CHI-230: Inorganic Chemistry	• CO1: Student should able to find out the no of microstates and meaningful term symbols, construction of microstate table for various configuration CO2: Hund's rules for arranging the terms according to energy. CO3: Student should understand interelectronic repulsion. CO4: Student should know the concept of weak and strong ligand field. CO5: Student able to find out splitting of the free ion terms in weak ligand field and strong ligand field. CO6: To draw correlations diagram for various configurations in Td an Oh ligand field. CO7: Student should know basic instrumentation and selection rules and relaxation in rules. CO8: Student should know basic d-d transition, d-p mixing, charge transfer spectra. CO9: Interpretation of electronic spectra for spin allowed oh and td complexes using Orgel diagram. CO10: Understand the concept of spectro chemical series and Nephelauxetic series.
	CHO – 250: Organic Chemistry-II	• CO1: MOT and will be able to extend this in predicting reaction mechanism and stereochemistry of electro cyclic reactions. CO2: The concepts in free radical reactions, mechanism and the stereo chemical outcomes. CO3: The basic principle of spectroscopic methods and their applications in structure elucidation of organic compounds using given spectroscopic data or spectra.
	CHG – 290: General Chemistry -II	• CO1: Valence electron count, back bonding in organometallics, spectral characterization of organometallic compounds. CO2: Catalytic reaction involving organometallic compounds and mechanism of these reactions CO3: Types of reaction involving organometallic compounds.
	CHP-227: Practical Course-II	• Section-I: Inorganic Chemistry CO1: Synthesis and Purity of [Mn(acac)3] CO2: Synthesis and Purity Chloropentaamminecobalt(III) chloride. CO3: To study complex formation between Fe(III) with sulfosalicylic acid by conductometry. CO4: Determination of Pb(II) in solution with Na2SO4 solution and determination of solubility

Class	Course	Outcomes
		• product of PbSO4. • CO5: Kinetics of formation of Cr(III)-EDTA complex. • CO6: eparation of mixture of Zn(II) and Mg(II) using Amberlite IRA 400 anion exchanger and • quantitative estimation of separated ions Zn(II) and Mg(II). • Section -II: Organic Chemistry • CO1: This course is designed to make students aware of how to perform organic compounds in • laboratory. • CO2: The course includes synthesis of some derivatives and organic compounds, which will help • them while working in research laboratory in future. • CO3: Making derivatives of organic compounds will help them in industry or while doing • research in medicinal chemistry for Drug development. • CO4: This practical course is also designed to make student aware of green chemistry and role of • green chemistry in pollution reduction. • CO5: Also, the work-up procedure in many experiments is made more eco-friendly to • environment.

Semester III

Class	Course	Outcomes
M. Sc. - II	CHA-390: Electrochemical and Thermogravimetric Methods of Chemical Analysis	• CO1: Define various terms in electrochemistry and thermogravimetry. • CO2: Explain instrumentation in electrochemistry and thermogravimetry • CO3: Describe basic principles of electrochemistry and thermogravimetry
	CHA-391: Analytical Method Development and Extraction Techniques	• CO-1 Define / understand various terms in analytical extraction and method development and validation. • CO-2: Explain instrumentations and methodology in analytical extraction. • CO-3: Explain / describe basic principles of analytical extraction method development and validation.
	CHA-392: Advanced Chromatographic Methods of Analysis	• CO-1: Define / understand various terms in chromatography (GC and HPLC) and mass spectroscopy. • CO-2: Explain instrumentations in chromatography (GC and HPLC) and mass spectroscopy. • CO-3: Explain / describe i) basic principles of chromatography (GC and HPLC) and mass spectroscopy. ii) Separation in GC / HPLC column. iii) Functioning and construction of GC / HPLC/ MS detectors.
	CHA-393: Analysis of Food and Controlled Substances	• CO1: Define / understand various terms in food analysis techniques and methods, forensic science and drug substances. • CO2: Explain methods and principles of analysis of i) Food - carbohydrates, proteins, preservatives, ii) drug substances. • CO3: Select appropriate methods of food analysis for its quality.
	CCPP-3: Practical I: Basics of Instrumental	• CO1: Maintain proper record of analytical data in notebook. Observer personal safety in laboratory and able handle all chemicals, instruments, etc safely in laboratory. • CO2: Define / understand various terms involved practical

Class	Course	Outcomes
	Methods of Chemical Analysis	methods of quantitative analysis. • CO3: Explain instrumentations of colorimeter, spectrophotometer, photoflurometer, TGA, HPLC, GC, Flame-photometer, CV, AAS, etc. • CO4: Explain / describe basic principles of chromatography different instrumental methods of analysis. Able to handle particular instrument according to SOP.

Semester-IV

Class	Course	Outcomes
MSc-II	CHA-490: Advanced Analytical Spectroscopic Techniques	• CO1: Define / understand various terms in atomic absorption, atomic emission, fluorescence, ESR and electron spectroscopy. • CO2: Explain instrumentation of atomic absorption, atomic emission, ICPAES, ICPAES-MS, fluorescence, ESR and electron spectroscopy. • CO3: To describe basic principles of atomic absorption, atomic emission, ICPAES, ICPAESMS, fluorescence, ESR and electron spectroscopy. • CO4: Select appropriate methods for sample treatment in AAS / AES, ICPAES, ICPAES-MS.
	CHA-491: Chemical Methods of Pharmaceuticals Analysis	• CO-1: Define / understand various terms in pharmaceutical raw material and finished product analysis. • CO-2: Explain various pharmaceutical dosage forms and types of raw materials used. • CO-3: To describe basic principles of methods of pharmaceutical analysis according to IP. • CO-4: Explain importance particular test in pharmaceutical raw material and finished product analysis.
	CHA-492: A) Laboratory Automation and Environmental Analytical Chemistry	• CO-1: Define / understand various terms in – i) Laboratory automation and sensors, ii) environmental pollution, analysis water and air. • CO-2: Explain instrumentation of automated laboratory analysis and sensors. • CO-3: To describe basic principles of automated laboratory analysis and sensors. • CO-4: Explain importance of automated laboratory analysis and sensors.
	CHA-492: B) Analytical Chemistry of agriculture, Polymer and Detergents	• CO1: Define / understand various terms in soil analysis, pesticide residue analysis, detergent analysis and polymer analysis. • CO2: Explain / describe techniques / methods of soil analysis, pesticide residue analysis, detergent analysis and polymer analysis. • CO3: To describe basic principles techniques / methods soil analysis, pesticide residue analysis, detergent analysis and polymer analysis.
	CHA-493: A) Optional Analytical Chemistry Practical	• CO 1: Maintain proper record of analytical data in notebook. Observer personal safety in laboratory and able handle all chemicals, instruments, etc safely in laboratory. • CO 2: Define / understand various terms involved practical methods of quantitative analysis. • CO 3: Perform analysis of sample with described procedure. Able to handle analytical instruments.
	CHA-493: B) Project	• CO 1: Maintain proper record of analytical data in note book for research purpose. • CO 2: Perform review of literature related to the topic of project

Class	Course	Outcomes
		work and design the problem for project work. • CO 3: Decide and describe methodology for problem to solve proposed problem in the form of project. Decide and perform application of research work.

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Department of Physics- Academic Year 2020-21

Program outcome: M.Sc. (Physics)	
1.	PO1: Transfer and apply the acquired fundamental knowledge of physics, including basic concepts and principles of 1) classical mechanics, electrodynamics, quantum mechanics, Statistical Mechanics and thermodynamics, Atomic and Molecular Physics, Laser, Electronic (2) Mathematical (analytic and numerical) methods and Experimental Techniques in Physics for physics to study different branches of physics
2.	PO2: Demonstrate the ability to translate a physical description to a mathematical equation, and conversely, explain the physical meaning of the mathematics, represent key aspects of physics through graphs and diagrams, and use geometric arguments in problem-solving.
3.	PO3: Apply and demonstrate knowledge of concepts of physics, to analyze a variety of Physical phenomena
4.	PO4: Demonstrate the learned laboratory skills, enabling them to take measurements in a Physics laboratory and analyze the measurements to draw valid conclusions
5.	PO5: Capable of oral and written scientific communication, and will prove that they can think critically and work independently.
6.	PO6: Communicate effectively using graphical techniques, reports and presentations Within a scientific environment.
7.	PO7: Use and apply professional software for scientific data analysis and presentation
8.	PO8: Respond effectively to unfamiliar problems in scientific contexts
9.	PO9: Plan, execute and report the results of a complex extended experiment or investigation, using appropriate methods to analyze data and to evaluate the level of its uncertainty
10.	PO10: Integrate and apply these skills to study different branches of physics.
11.	PO11: Work comfortably with numbers and analyzing an issue quantitatively, acquire knowledge effectively by self-study and work independently, present information in a clear, concise and logical manner and apply appropriate analytical and approximation methods.
12.	PO12: Willingness to take up responsibility in study and work Confidence in his/her Capabilities Capacity to work effectively in a team Motivation for learning and Experimentation

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Course Outcomes: M.Sc. Physics

Semester I

Class	Course code and title	Outcome
MSc I (Paper-I)	PHCT-111 Mathematical Methods in Physics	• CO1: To understand the concept of the Revision on Vector space: Vectors (dependent and independent), Vector space, Hilbert space, Dimension of vector space, Matrix representation, Similarity transformation, Eigen values and Eigen vectors, Inner product, Orthogonality, • CO2: To understand the concept of the Gramm-Schmidt orthogonalization procedure, Self-adjoint and unitary transformation, Eigen values and Eigen vectors of Hermitian and Unitary transformation, Diagonalization • CO3: Explain the Fourier series: Definition, Dirichlet's Condition, Convergence, Fourier Integral and Fourier Transform • CO4: State and Explain convolution theorem • CO5: State and prove Parseval's identity • CO6: Solve numerical problems on Application to the solution of differential equations • CO7: Explain the Laplace transform and its properties, Fourier transform and Laplace transform of Dirac Delta function
MSc I (Paper-II)	PHCT-112 Classical Mechanics	• CO1: Solve advanced problems involving the dynamic motion of classical mechanical systems with an intermediate knowledge of Newton's laws of motion • CO2: Apply the concept of center of mass and mechanics of system of particles and conservation of energy, linear and angular momentum to solve dynamics problems. • CO3: Demonstrate an intermediate knowledge of central-force motion and the concept of converting two body problems to single body problem and apply advanced methods to complex central-force motion problems. • CO4: Demonstrate an intermediate knowledge of concept of laboratory frame and center of mass frame and their use to calculate results of scattering experiments. • CO5: Apply the concept scattering to get important information regarding the nature of interaction between atomic and subatomic particles through experiments. • CO6: Derive Lagrange and Hamilton's equations, and represent the equations of motion for simple mechanical systems such as: the Atwood's machine, Simple pendulum using these formulations of classical mechanics. • CO7: Acquire working knowledge of the methods of Hamiltonian Dynamics and compute the Hamilton equations of motion for mechanical systems.

Class	Course code and title	Outcome
		• CO8: Use calculus of variations to find the Euler-Lagrange equations and canonical transformations to find the constants of motion according to the Hamilton Jacobi theory. • CO9: Use Poisson brackets to find derivatives in phase space.
MSc I (Paper-III)	PHCT-113: CCTP: ELECTRONICS II	• O1: Define and state the meaning of terms such as amplification, voltage gain, line and load regulation, flip-flop, counters, register, distortion, multiplexer, de-multiplexer, etc. • CO2: Draw and explain characteristics of various types of FET's and various types of diodes and construct a circuit using these components according to application. • CO3: Draw and explain block diagram of IC 723, IC555, and OPAMP. • CO4: Compare various types of semiconductor diode (LED, photodiode, etc.) types of multivibrators, types of power amplifier and types of three pin regulators (78XX,79XX, etc.) on the basis of working principle and application. • CO5: Design and construct a circuit for amplifier, a-stable, mono-stable and bi stable multivibrator using IC555, low voltage and high voltage regulator using IC723, various types of flip-flop and counters. • CO6: Use OPAMP (IC723) as an adder, subs tractor, differentiator, integrator and comparator. • CO7: Represent POS and SOP expression on K-map and design of half adder, full adder, half subs tractor, full subs tractor using K-map. • CO8: Explain applications of LED, photodiode, vector, power amplifiers, FET, UJT, counters, registers and solve the problems such as write the output for given circuit, design the circuit from given data.
MSc I (Paper-IV)	PHOT (114)-CBOP-1: XXXB2 Physics of Nanomaterials	• CO1: Introduction and identify the Nonmaterial • CO2: Effect of reduction of dimension. • CO3: Physical and Chemical vapor deposition method • CO4: Hydrothermal method to synthesis of Nano materials • CO5: Sol gel and Biological Method • CO6: mechanical Properties and Application of Nano materials • CO7: Thermal, Electrical, Optical properties of Nano materials and Magnetic Properties of Nano materials • CO8: Grapheme, Carbon Nan tubes and their application • CO9: Mechanical and Biomedical Application • CO10: Optoelectronic Application.
MSc I (Paper-V)	PHCP-115 Physics Laboratory-I (Electronics)	• CO1: Describe the underlying theory of experiments in the course. • CO3: Follow instructions to perform laboratory experiments in Electronics. • CO4: Performing the Experiment by collecting theory related to the practical their results, using correct procedures and protocols. • CO5: Calculate permissible standard error. Study of errors in electrical measurement. • CO6: Derive conclusions from the Experimental results and make analysis of it. • CO7: Study of power amplifier.
MSc I	Course –I Introduction to	• CO1: To understand the basic concept of human values.

Class	Course code and title	Outcome
	human rights and Duties	• CO2: To understand the meaning and significance of human rights education. • CO3: To understand the perspectives of rights and duties. • CO4: To understand terminology of various legal instruments. • CO5: To understand the final provision (art30)
MSc I	Cyber Security-I	• CO1: To study cyber security laws. • CO2: To study ethical hacking. • CO3: To study cyber security protection. • CO4: To study week /Strong password and password cracking. • CO5: To study cyber security management.

Semester II

Class	Course code and title	Outcome
MSc I (Paper-I)	PHCT-121: Electrodynamics	• CO1: Define the Biot-savart law, Amperes law, Coulombs law, Electric field, Electric susceptibility, Magnetic field &Faradays law. • CO2: Explain method of electrical images, equation of continuity, Magnetic vector potential, B.H curve, Maxwell's equation &wave equations. • CO3: Solve numerical problem on coulombs force, magnetic induction, magnetic permeability and induced voltage, magnitude of electric &magnetic vectors. • CO4: Determine work done by charges, total charge, force on the wire in different symmetry. • CO5: Summarize pointing vector, polarization, reflection &refraction. • CO6: Apply Biot-Savart law in different symmetry problem. • CO7: List the applications of Amperes law, Biot-Savart law, Poynting theorem. • CO8: Elaborate magnetic properties of the material.
MSc I (Paper-II)	PHCT-122: Atomic and Molecular Physics	• CO1: Derive the formulae for total energy of an atom so that energy level diagram can be drawn and able to obtain the expression for spin orbit interaction energy. • CO2: State laws, postulates in atomic and molecular Physics and able to compare various models of atomic structure. • CO3: Calculate quantum state of electrons in an atom, spectral notation and electronic configuration of atom. • CO4: Obtain formulae for Zeeman shift, wavelength of emitted X-ray s, Raman shift, rotational and vibrational energy for diatomic molecule and apply it. • CO5: Explain origin of line spectra and able to compare continuous spectra, characteristic spectra and can differentiate between rotational, vibration and electronic spectra. • CO6: Explain application of Duane and Hunt's rule, Moseley's law and its importance, applications of X-rays, Raman Effect and Auger effect. • CO7: Draw and explain X-ray spectra, spectrum with and without magnetic field (Zeeman Effect), Raman spectra and molecular spectra using quantum treatment • CO8: Explain experimental arrangement to produceX-ray to observe Raman Effect and Zeeman Effect.

Class	Course code and title	Outcome
		• CO9: Explain the Spectroscopic Techniques like IR Spectroscopy, Microwave Spectroscopy, Raman Spectroscopy • CO10: Discus the ESR and NMR Spectroscopy
MSc I (Paper-III)	PHCT-123: Quantum Mechanics	• CO1: Outline the historical aspects of development of quantum mechanics; • CO2: Explain the differences between classical and quantum mechanics; • CO3: Describe matter waves, wave function and uncertainty principle; • CO4: Describe Schrodinger's equation and its steady state form; • CO5: Solve Schrodinger's steady state equation for simple potentials to obtain Eigen functions and Eigen values.
MSc I Paper IV	PHOT4A: Physics of Thin Films	• CO1: Know the difference between thin and thick films. • CO2: Explain nucleation, condensation, capillarity model, atomistic model. • CO3: Understand various thin film deposition techniques such as Physical Vapor Deposition, Chemical Vapor Deposition, Molecular Beam Epitaxial, Sputtering, Spray paralysis, Dip coating and Spin coating, Photolithography, Electron –beam deposition, Pulsed Laser Ablation. • CO4: To take measurement of thickness of thin film using toLansky technique, Talystep (styles) method, Gravimetric method, Quartz crystal microbalance. • CO5: Know the applications of thin films in resistors, capacitors, solar cells, thin film sensors, thin films for information storage, electro acoustics and telecommunication.
MSc I Paper V	PHCP-125 Physics Laboratory-II (General Lab)	• CO1: To study the electron spin resonance and to determine Lande's g factor. • CO2: Perform the Frank-hertz experiment to study discrete energy level by using frank hertz experiment. • CO3: To perform Millikan oil drop experiment. To measure the rise and fall times of the oil droplets at different voltages having different charges. • CO4: To study determine wavelength of Michelson's interferometer experiment. • CO5: To study of counting statistics by using GM counter. • CO6: To study of temperature variation and band gap of Ge semiconductor by using four probe methods. • CO7: To perform understand of Stefan's constant by using black body radiation • CO8: To study absorption spectra of iodine molecules and determine its dissociation energy using spectrometer.
MSc I	Course –II- Introduction to human rights and Duties	• CO1: To understand the meaning and concept of vulnerable and this advantage. • CO2: To understand the socioeconomic and cultural problems of vulnerable and dis advantage group. • CO3: TO understand social status of human and children in national and international level. • CO4: To understand human rights of vulnerable group such as stateless persons, • Migrant workers, HIV /AIDS victims
MSc I	Cyber security-II	• CO1: Overview of cyber security. • CO2: Overview of security threads and vulnerabilities

Class	Course code and title	Outcome
		• CO3: To study Cryptography / Encryption / • CO4: To Study security managements. • CO5: To study server management and firewalls.

Semester III

Class	Course	Outcome
MSc (Paper-I)	PHCT-231 Statistical Mechanics	• CO1: Describe transport phenomena and compute coefficient of thermal conductivity, viscosity and diffusion in terms of mean free path • CO2: Define and discuss the concepts and roles of thermodynamic functions from the view point of statistical mechanics • CO3: Derive Binomial distribution and Gaussian probability distribution using random walk problem and calculate mean values for a statistical system • CO4: Discuss the concepts of microstate and macro state, basic postulates and behavior of density of states for model system and calculate the number of microstates for different statistical systems • CO5: Differentiate thermal, mechanical and general interaction between statistical system • CO6: Derive and compare Maxwell Boltzmann, Bose-Einstein and Fermi-Dirac distributions; state where they are applicable and explain the connection between Classical • CO7: Derive probability distribution formula for micro canonical, canonical ensemble and calculate mean values in canonical ensemble • CO8: Discuss applications for canonical ensemble.
MSc (Paper-II)	PHCT-232 Solid State Physics	• CO1: Understand characteristic physical properties of different categories of solid materials, with an emphasis on the crystalline state. • CO2: How a wide spectrum of theoretical approaches to model the mechanical, thermal and electrical properties of solid materials. • CO3: Do quantitative calculations based on established theoretical models to describe the properties of materials. • CO4: Use of Fourier Transform methods, including reciprocal space, as an analytical tools to perform and analyze basic diffraction experiments to gain information about atomic scale structures. • CO5: Analyze solid-state problems using mathematical and numerical methods. • CO6: Account for the role of solid-state physics for technology and society as well as links between solid state physics and other main branches of physics.
MSc (Paper-III)	PHCT-233 Experimental Techniques in Physics-I	• CO1: Students are able to know signal and signal Analysis. • CO2: Student will able to take measurement errors and analysis. • CO3: Explain the Optical Tweezers (basic principle, force detection and applications). • CO4: what is vacuum? Important and fields applications of vacuum.

Class	Course	Outcome
		• CO5: Principles of pumping concept, Types of vacuum pumps: Rotary, Molecular drag, Diffusion, Cryogenic, Getter, Titanium sublimation, Sputter ion, Orbiton. • CO6: Explain Vacuum Measurements and Low Temperature Technique. • CO7: What Vacuum Gauges: Mc Leod, Thermocouple (Pirani), Penning, Hot cathode ionization (triode type), Bayard-Alpert Leak detection, Vacuum system design. • CO8: Discuss the concepts of Low temperatures techniques: Refrigeration principle (including thermos dynamical aspects) and low temperature production techniques (Throttling process)
MSc (Paper-IV)	PHOT 234 H2: Energy Studies-I	• CO1. Students become capable of conducting energy audits and give consultancy in that field. • CO 2. Students can design different types of solar heaters for small domestic as well as large scale community level applications. • CO3. Students acquire skills to implement solar P-V systems at domestic levels as well as for office premises and educational institutions. Students become able to start their own enterprise in net metering. • CO4. Students get ideas and hence become self-employed in the field of design, production, commissioning and implementation of bio-mass energy sources, bio-gas plants, gasifiers, wind mills, hybrid systems etc. • CO5. Students can go for research in the fields of super-capacitors, battery technologies, fuel cells and material synthesis for implementation of these technologies. • CO6. Students become successful entrepreneurs in the energy field. Students strive to make the regions where they live and work self-sufficient in generating and fulfilling their own energy needs using different energy solutions.
MSc (Paper-IV)	PHOP 234H2: Energy Studies-I	• CO1: To study of Determination of Calorific value of Wood/Cow dung. • CO2: To Study of Optical Properties of selective coatings. • CO3: Determine the I-V and P-V characteristics of PV module with varying intensity of solar radiation. • CO4: To Study of Study of power versus load characteristics of Solar Power Photovoltaic Systems. • CO5: To Study of Study of Series and Parallel Combination of Solar Photovoltaic panels. • CO6: To Study of Study of Solar Collector (Efficiency versus $\Delta T/I$).
MSc (Paper-V)	PHCP-235 Physics Laboratory III	• CO1: Describe the underlying theory of experiments in the course. • CO2: Perform derivations of theoretical models of relevance for the experiments in the course. • CO3: Document their results, using correct procedures and protocols. • CO4: Perform a quantitative analysis of experimental data including the use of computational and statistical methods where relevant. • CO5: Interpret relationships in graphed data and develop an intuition for alternative plotting methods and communicate results from laboratory experiments, orally or in a written laboratory report. • CO6: write a project report with literature review.

Class	Course	Outcome
		• CO7: defend the outcome of project work in scientific
MSc (Paper-VI)	Skill Development-I	• CO1: To understand the basic concept of human values. • CO2: To understand the meaning and significance of human rights education. • CO3: To understand the perspectives of rights and duties. • CO4: To understand terminology of various legal instruments. • CO5: To understand the final provision (art30)
MSc (Paper-VII)	Cyber Security III	• CO1: To study cyber security laws. • CO2: To study ethical hacking. • CO3: To study cyber security protection. • CO4: To study week /Strong password and password

Semester IV

Class	Course	Outcome
MSc (Paper-I)	PHCT -241 Nuclear Physics	• CO1: Define threshold voltage, dead time and recovery time in GM counter, threshold energy, nuclear fission, nuclear fusion, critical size, critical mass. • CO2: Determine the basic properties of nucleus. • CO3: Classify nuclear radiations, elementary particles and nuclear states, nuclear detectors. • CO4: Compose baryons and mesons with Quark model. • CO5: Derive expression for energy of ions and frequency of RF signal in cyclotron, Q- value equation, threshold energy, and decay constant. • CO6: Estimate binding energy from fission • CO7: Justify nuclear reactions using conservation laws • CO8: Explain the different processes by which energetic particles interact with matter, kinematics of various reactors and decay processes.
MSc (Paper-II)	PHCT 242 Experimental Techniques in Physics-II	• CO1: What are Sources of Electromagnetic Radiations and what are Different types of radiations (-rays, X-rays, UV-VIS, IR, microwaves and nuclear) and their sources. • CO2: What are Detectors: -rays, X-rays, UV-VIS, IR, microwaves and nuclear Detectors. • CO3: what are Structural Characterization and Thermal Analysis have been studied like what is x-ray and production of x-rays and its types • CO4: Explain Techniques used for XRD like Laue's method, rotating crystal method, Powder (Debye-Scherrer) method, • CO5: Explain Neutron Diffraction: Principle, Instrumentation and Working • CO6: What is Morphological and Magnetic Characterization have been studied. • CO7: what is Optical Microscopy and electron Microscopy? • CO8: Explain Electron Microscopy: Principle, Instrumentation and Working of Scanning Electron Microscope (SEM), Field Emission Scanning Electron Microscope (FESEM) Advantages over SEM, Transmission Electron Microscope (TEM), Selected Area Electron Diffraction (SAED). • CO9: What is Probe Microscopy and its Principle, Instrumentation and Working of Scanning Tunneling Microscope (STM) and Atomic Force Microscope (AFM) have been explained.

Class	Course	Outcome
		• CO10: What is Magnetic Characterization and its Principle, Instrumentation and Working of Vibrating Sample Magnetometer (VSM), Analysis of Hysteresis loop, SQUID Technique: Principle, Instrumentation and Working and Numericals has been studied. • CO11: What is Spectroscopic Analysis and Spectroscopic characterization (principle, instrumentation and working): Infra-Red (IR), Fourier Transform Infra-Red (FTIR), Ultraviolet-Visible (UV-VIS), Diffused Reflectance Spectroscopy (DRS), X-ray Absorption (XPS), Electron Spin Resonance (ESR), Nuclear Magnetic Resonance (NMR). Numerical has been explained.
MSc (Paper-III)	PHOTC2-244: Laser and Applications	• CO1: Explain the interaction of radiation with matter, Quantum behavior of light, thermal equilibrium, and population inversion. • CO2: Illustrate the absorption, spontaneous and stimulated emission with appropriate diagrams. • CO3: Derive the Einstein's relation, conditions for large stimulated emission and light amplification. • CO4: Distinguish between ordinary light and laser light. • CO5: Define the characteristics of laser light. • CO6: Classify between lifetime broadening, collision and Doppler broadening. • CO7: List the types of lasers. • CO8: Discuss the applications of lasers in various fields.
MSc (Paper-III)	PHOPC2-244: Laser and Applications	• CO1: To determine wavelength of He-Ne laser using grating element. • CO2: To determine wavelength of He-Ne laser using measuring scale. • CO3: To determine spot size of laser using knife edge. • CO4: To determine divergence of laser beam. • CO5: To determine energy and power of laser beam. • CO6: To determine diameter of wire using laser. • CO7: To measure contamination in liquid sample using laser beam. • CO8: Use of laser in optical fiber communication.
MSc (Paper-IV)	PHOT-244 Energy Studies II	• CO1. Students become capable of conducting energy studies. • CO2: Explain the concept of Solar Dryer and Solar Still. • CO2: Explain basic principle of wind energy conversion, Vertical axis wind mills and Horizontal axis wind mills (Performance, Merits and Demerits). • CO3: Explain the application of street light, water pumps, Radio/TV, Small capacity power generation SPV Systems • CO4: To Designing the load estimation, selection of inverters, battery sizing, array sizing. • CO5: Hydrogen Fuel: Importance of Hydrogen as a future fuel, Sources of Hydrogen. Production of Hydrogen by various • methods (Direct electrolysis of water, Direct thermal decomposition of water).
MSc (Paper-IV)	PHOP-244 Energy Studies II	• CO1: To study of determination of overall heat Loss Coefficient in Evacuated Tube Collector. • CO2: To study of determination of overall heat Loss Coefficient in Flat Plate Collector. • CO3: To study of Solar Dryer. • CO4: To Study of Solar Still. • CO5: To Study of Performance Evaluation of Box Type solar cooker.

Class	Course	Outcome
		• CO6: To Study of Parabolic Type Solar Cooker. • CO7: To Study of determination of Energy content in wind using anemometer. • CO8: To Study of evaluate the performance of Fresnel lens solar concentrator.
MSc (Paper-V)	Cyber security-IV	• CO1: Overview of cyber security. • CO2: Overview of security threads and vulnerabilities • CO3: To study Cryptography / Encryption / • CO4: To Study security managements.

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Department of Hindi- Academic Year 2020-21

Program outcome: M.A. (Hindi)	
PO 1	छात्रों को आधुनिक काव्य से अवगत कराना I
PO 2	छात्रों को कविता का विकासात्मक अध्ययन कराना।
PO 3	छात्रों में आधुनिक काव्य अध्ययन की दृष्टि विकसित करना।
PO 4	काव्य मूल्यांकन दृष्टि विकसित करना।
PO 5	काव्य-संवेदना एवं शिल्पगत अध्ययन से छात्रों को अवगत करना।
PO 6	छात्रों में काव्य-सर्जन कला का विकास करना। कविता में जिन समस्याओं दिखाना चाहता है उसे समझाना।
PO 7	महाकाव्य तथा खंडकाव्य की जानकारी देना। आधुनिक कवियों का परिचय देना।

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Course Outcomes: M.A. Hindi

Class	Course	Course Outcomes
M.A. I (Sem I)	मध्ययुगीन काव्य	• साहित्य और समाज में भक्ति पंथ के कवियों द्वारा निभाई गई भूमिका को समझना। • संत कबीर के प्रगतिशील स्वरूप और उनके लेखन का वर्णन करना। • सूरदास की कृष्णलीला काव्य का वर्णन करते हुए उसे अपने दर्शन से जोड़कर वास्तविक जीवन को देखना। • भक्ति के दर्शन के साथ तुलसीदास की राम भक्ति कविता का वर्णन करना। • कृष्ण भक्ति कविता के संदर्भ में मीरा की दृष्टि को समझना। • सामाजिक संदर्भ में बिहारी के लेखन की सामग्री और कौशल का वर्णन करना उनके काल की सांस्कृतिक स्थिति का चित्रण करना।
M.A. I (Sem I)	कथा साहित्य	• प्रेमचंदपूर्व उपन्यास का विकासक्रम को समझना। • बीसवीं सदी के हिंदी कहानी का विकासक्रम समझना। • अलग अलग उपन्यासों का तात्विक विवेचन करना। • आपका बँटी उपन्यास का संवेदना एवं शिल्पगत अध्ययन करना। • गुलेरी जी के कहानी साहित्य का अध्ययन करना। • जयशंकर प्रसाद, अज्ञेय, प्रेमचं, कृष्णा सोबती के कहानियों का शिल्पगत अध्ययन करना। • सूरपाल चौहान, अंकुश्री, मुक्तिबोध, नासिर शर्मा, यशपाल की कहानियों का शिल्पगत अध्ययन करना।
M.A. I (Sem I)	भारतीय काव्यशास्त्र	• भारतीय काव्यशास्त्र विकासक्रम को अच्छी तरह से समझना। • रस सिद्धांत के स्वरूप, अंग, विविध आचार्यों का अध्ययन करना। • अलंकार सिद्धांत तथा भेद की चर्चा करना। • वक्रोक्ति सिद्धांत तथा भेद की चर्चा करना। • औचित्य सिद्धांत तथा भेद की चर्चा करना।
M.A. I (Sem I)	नाटककार मोहन राकेश	• भारतीय हिंदी नाटक के विकासक्रम को अच्छी तरह से समझना। • नाटक के संरचना को जानना। • रंगमंच की विभिन्न शैलियों को जानना। • पारसी थिएटर के रंग भाषा से अवगत होना। • आषाढ का एक दिन नाटक का कथ्यगत,रंगमंचीय तथा तात्विक मूल्यांकन करना।

Class	Course	Course Outcomes
		• लहरों के राजहंस नाटक का कथ्यगत,रंगमंचीय तथा तात्विक मूल्यांकन करना। • आधे अधूरे नाटक का कथ्यगत,रंगमंचीय तथा तात्विक मूल्यांकन करना।
M.A. I (Sem II)	कथेतर गद्य साहित्य	• आत्मकथा साहित्य के विकासक्रम तथा मुर्दहिया आत्मकथा का आलोचनात्मक/ भाषात्मक अध्ययन करना। • निबंध साहित्य के विकासक्रम तथा विविध निबंधों का आलोचनात्मक/ भाषात्मक अध्ययन करना। • रेखाचित्र साहित्य के विकासक्रम तथा विविध रेखाचित्रों का आलोचनात्मक/ भाषात्मक अध्ययन करना। • व्यंग्य साहित्य के विकासक्रम तथा विविध व्यंग्य साहित्य का आलोचनात्मक/ भाषात्मक अध्ययन करना।
M.A. I (Sem II)	शोध प्रविधि	• शोध के स्वरूप को समझते है। • शोध की विभिन्न परिभाषाएं, उनका विश्लेषण करते है। • शोध के उद्देश्य, शोध की विवेचन पद्धति को समझते है। • शोध के मूलतत्व की जकरी प्राप्त करते है। • शोध के विविध भेद स्पष्ट करते है। • शोध प्रक्रिया को समझते है। • शोध प्रबंध लेखन प्रणाली की जानकारी बताते है। • युनिकोड, पुस्तक समीक्षा, साहित्तिक चोरी का जानकारी प्राप्त होती है।
M.A. I (Sem II)	पाश्चात्य काव्यशास्त्र	• प्लेटों तथा अरस्तू के अनुकरण सिद्धांत एवं त्रासदी, विरेचन सिद्धांत का विश्लेषण करना। • वर्ड्सवर्थक का काव्यभाषा सिद्धांत, कॉलरीज का कल्पना सिद्धांत,उदात्त सिद्धांत का विश्लेषण करना। • इलियट का निरवैयक्तिकता का सिद्धांत की आलोचना करना। • रिचर्ड्स के मूल्य सिद्धांत, सम्प्रेषण सिद्धांत, काव्यभाषा सिद्धांत का विश्लेषण करना।
M.A. I	हिंदी उपन्यास साहित्य	• हिंदी उपन्यास साहित्य का विश्लेषण करना एवं उपन्यासों के आस्वादन, अध्ययन की क्षमता विकसित करना। • पाठ्य रचनाओं में प्रयुक्त साहित्तिक मूल्यों का सम्प्रेषण तथा विश्लेषण करना। • मूल्यांकन की दृष्टि का विकास करना।
M.A. II	आधुनिक काव्य (आदर्शवादी, छायावादी तथा अन्य काव्य)	• आधुनिक काव्य के अध्ययन से खड़ी बोली के विकसित होते रूप को समझ पाएगा। • आदिकाल एवं मध्यकाल के बाद आधुनिक काल तक आते-आते हिंदी साहित्य कविता एवं काव्य लेखन शैली में आए हुए परिवर्तनों को समझ पाएंगे। • मैथलीशरण गुप्त, जयशंकर प्रसाद के काव्य का अध्ययन से महिलाओं की स्थिति एवं उनके योगदान को समझ पाएगा। • तत्कालीन धार्मिक, सामाजिक, राजनीतिक, सांस्कृतिक परिस्थितियों को समझते हुए वर्तमान परिप्रेक्ष्य में समाज के प्रति अपने दायित्व एवं कर्तव्यों को समझने में सक्षम होगा। • कवि द्वारा उपस्थित विविध समस्याओं को समझना। • बच्चे, गरीबी, दलित, महिला शोषण के बारे में अधिक जानना।

Class	Course	Course Outcomes
M.A. II	भाषाविज्ञान	• भाषा की संरचना को छात्र पहचानना| भाषा की परिभाषा को याद रखना। भाषा की विशषताओ को स्पष्ट करना। भाषा के विविध रूपों को सारणीबद्ध करना। • भाषा के वैज्ञानिक अध्ययन का प्रयोग करना। भाषा के विविध रूपों जाँच करना। भाषा के उच्चारण को व्यवस्थित बनाना। • भाषाविज्ञान का अन्य ज्ञान-विज्ञान की शाखाओं से सबंध जोड़कर विश्लेषण करना। भाषाविज्ञान की शाखाओं के भेद को स्पष्ट करना। वर्णनात्मक भाषाविज्ञान, तुलनात्मक भाषाविज्ञान आदि की व्याख्या करना। भाषाविज्ञान के अंगों तथा भाषाविज्ञान की शाखाओं का आकलन होना। • भाषा के प्रमखु अंग ध्वनि, शब्द, अर्थ,वाक्य और प्रोक्ति से अवगत वर्गीकृत करना। स्वर तथा व्यंजनों को स्पष्ट करना। उच्चारण अवयवों का अनुमान करना। • अर्थ परिवर्तन की दिशाओं को जाँचना। भाषा के वैज्ञानिक अध्ययन की दृष्टि को प्रदर्शित करना। भाषा के अंगों को वर्गीकृत करना। शब्द के अर्थ का सही अनुमान लगाना। • अर्थ परिवर्तन की दिशाओं के निष्कर्ष निकालना। शब्द के भेदों का मूल्यांकन करना। भाषा का मानकीकरण करना। वाक्य के भेदों का परीक्षण करना। • भाषाविज्ञान की नवीन परिभाषा का आविष्कार करना। भाषाविज्ञान के प्रमखु अंगों को निर्दिष्ट करना। अर्थ परिवर्तन की दिशाओं को संशोधित करना। स्वर और व्यंजन आदि के उच्चारण की वैज्ञानिकता और उनके स्थानों को संश्लेषित करना और लिखना। • भाषाविज्ञान की शाखा स्वन विज्ञान, स्वनिम विज्ञान, वाक्य विज्ञान, रूप विज्ञान की जानकारी देना।
M.A. II	हिंदी साहित्य का इतिहास	• छात्रों को हिंदी साहित्य के इतिहास से अवगत करना। आदिकाल की पृष्ठभूमि का विश्लेषण करना। रासो साहित्य की विशषताओ को उद्धरत करना। आदिकालीन रचनाकारों का परिचय देकर उनके रचनाओं को सारणीबद्ध कर बताना।
M.A. II	संचार माध्यम : सिद्धांत और स्वरूप	• संचार माध्यम और सम्प्रेषण अवधारणाओं का परिचय देना I • संचार माध्यम की अवधारणा और स्वरूप का परिचय देना। • संचार माध्यम की बहुआयामी भूमिका का परिचय देना। • संचार माध्यम कौशल विकसित करना।
M.A. II	आधुनिक कविता	• छात्र प्राचीन, मध्यकालीन और आधुनिक कविता के विशेषताएं समझते है। • भारतेन्दु युगीन काव्य शैली से 21 वीं सदी के काव्य साहित्य का परिचय होता है। • नागार्जुन का कविताओं का समीक्षा करते है। • मुक्तिबोध की कविताओं में आए समस्याओं का चित्रण करते है। • अज्ञेय की कविताओं का शिल्पगत अध्ययन करते है। • धर्मवीर भारती की कविताओं का संवेदना एवं शिल्पगत अध्ययन करते है। • आदिवासी कवयित्री निर्मला पुतुल के काव्य में व्यक्त आदिवासियों की समस्याओं का विवेचन करते है। • अनामिका की कविताओं में चित्रित महिला समस्याओं को चित्रित करते है। • लीलाधर मंडलोई की कविताओं में व्यक्त प्रकृति का चित्रण तथा शिल्पगत अध्ययन करते है। • जयप्रकाश कर्दम की कविताओं में दलित पीड़ा का चित्रण करते है।

Class	Course	Course Outcomes
M.A. II	हिंदी भाषा का विकास	• हिंदी भाषा की एतिहासिक पृष्टभूमि को समझते है। • प्राचीन भारतीय आर्य भाषाओं को स्पष्ट करते है। • मध्यकालीन आर्य भाषाओं की जानकारी प्राप्त होती है। • आधुनिक भारतीय आर्य भाषाओं की समीक्षा करते है। • हिंदी की स्वनिम व्यवस्था को समझते है। • हिंदी ध्वनियों का वर्गीकरण करते है। • हिंदी शब्द रचना को समझते है। • हिंदी की रूप रचना की जानकारी प्राप्त होती है।
M.A. II	हिंदी साहित्य का इतिहास (आधुनिक काल)	• हिंदी गद्य की एतिहासिक पृष्टभूमि को समझते है। • भारतेन्दु पूर्व गद्य की जानकारी प्राप्त होती है। • 1857 की क्रांति और सांस्कृतिक पुनर्जागरण की चर्चा करते है। • 19 वी शताब्दी की हिंदी पत्रकारिता जानकारी प्राप्त होती है। • द्विवेदी युग के साहित्य से परिचित होते है। • हिंदी नवजागरण और सरस्वती पत्रिका का ज्ञान होता है। • राष्ट्रीय काव्यधारा के कवियों का परिचय होता है। • स्वच्छंदतावाद और उसके कवियों का अध्ययन होता है। • छायावादी कवि और उनके साहित्य का परिचय होता है। • प्रयोगवाद और नई कविता की विशेषताओं की जानकारी प्राप्त होती है।
M.A. II	भारतीय लोकसाहित्य	• छात्र लोकसाहित्य के स्वरूप को बताते है। • लोकसाहित्य के महत्व को स्पष्ट करते है। • लोकसाहित्य का इतिहास बताते है। • लोकगीत के प्रेरणा स्त्रोत बताते है। • लोकगीतों का परिचय तथा वर्गीकरण करते है। • लोकगाथा का सामान्य परिचय बताते है। • लोककथा का सामान्य परिचय बताते है। • लोकनाट्य का इतिहास बताते है। • महाराष्ट्र के लोकनाट्य का स्वरूप, इतिहास, भेद बताते है। • प्रकीर्ण लोकसाहित्य को समझते है। • लोकसाहित्य के कलापक्ष को स्पष्ट करते है।

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