Secondary Education Society's

Arts & Science College, Bhalod,

Course Outcome

2021-22

T.Y.B.Sc Courses	Course Outcomes
Physical chemistry CH501	To orient and acquaint the students towards the basic concepts of Quantum Chemistry, To acquire knowledge about rates of chemical reactions and distinguishing the reaction of different order and their characteristics. To understand the basic principles of phase rules and phase diagrams. To learn the underlying principles of electrode reactions, electrochemical cells and applications of EMF.
Physical Chemistry CH601	To learn the basics of molecular spectroscopy and rotational spectra. To understand the basic principles and applications of nuclear chemistry. To learn the consequences of light absorption by atoms and molecules and photochemical reactions. To learn the laws of crystallography and basics of crystal structure.
Inorganic Chemistry CH 502	To describe the VSEPR theory to predict shape of molecules from electron pairs. To describe the bonding in simple compounds using VBT. To describe the principles of VBT to predict hybridization of orbitals. To understand how CFT explains electronic structure, colour and magnetic properties of co-ordination compounds. To introduce the basic principles of MOT and electronic geometry of molecule
Inorganic Chemistry CH 602	To describe basic principles of nanomaterial's. To describe basic synthesis of nanoparticles. To describe composition and technological importance o of inorganic solids. To describe composition of cement, lime and alloys. To describe manufacture.
Organic Chemistry CH 503	Students will learn organic reactions like nucleophilic substitution, electrophilic substitution, nucleophilic addition, electrophilic addition and elimination. Students will be able to write/ explain mechanisms of those types of reactions. Students will understand how a reaction takes place in one or more steps. Students will understand the types of intermediates formed in different reactions. Students will learn how reagent attacks the substrate molecule and accordingly how bonds break and formed. Students will learn how change in structure of substrate, reagent and solvent changes the product formed and its stereochemistry
Organic Chemistry CH 603	To study principle of spectroscopy and to understand wave parameters and terms involved in spectroscopy. To study different types of spectroscopy. To understand principle, concept and the terms used in each type of spectroscopy. Interpretation of UV, IR, NMR spectra. Use of spectral data for determination of structure of unknown organic compounds.

	To study different applications of each type of spectroscopy
Industrial Chemistry CH504	To produce graduates with enhanced skills, applied knowledge, aptitude to carry out higher studies or research and development in the various industrial areas. To make the student cognizant about important aspects of Chemical Industries, Industrial work culture and environment. To prepare the students for immediate entry to the workplace with sound theoretical knowledge and some basic experimental concepts in the area of various industries viz. Sugar Industry, Fermentation Industry, Petroleum and Petrochemicals. To offers the synergism between basic concepts of Chemistry with Industrial applications. To equip the students with knowledge of some industrial organic synthesis as requirement of diverse chemical industries. Empower the students to understand the concepts in chemical processing, engineering and industrial development.
Industrial Chemistry CH604	To make student perceptive about various commodity industries viz. Cosmetics and Perfumes, Dyes and Pharmaceuticals, Pesticides, Soaps and Detergents, related diversified and multidisciplinary fields of chemical industry. To produce graduates with enhanced skills, knowledge and research aptitude to carry out higher studies or research and development in the various industrial areas. To equip students with advance knowledge about various industrially important products. To makes students ready for immediate entry to the workplace with sound theoretical and basic experimental knowledge in the areas of various industries. To engender the substantial interest in the students to understand the concepts in chemical processing, engineering and industrial development of present era viz. Cosmetics and Perfumes Industry, Dyes and pharmaceuticals, Pesticides, Soaps and Detergents, related multidisciplinary and diversified fields of chemical industry. To describe the industrial production of a number of important organic and inorganic compounds / chemicals and products of end use. To gain comprehensive knowledge of cutting-edge developments in a field of different chemical industries by discussions and exchange of experiences and knowledge. To develop proficiency in application of current aspects of industrial chemistry.
Analytical Chemistry CH 505	Explain the fundamentals of analytical methods and instruments for qualitative and quantitative Analysis. Acquire knowledge of different spectrometry like AAS FES, IR Spectrometry. Plasma emission spectrometry Express the role of analytical chemistry in science. To understand and establish the role of chemistry in quantitative analysis through Potentiometric and pH-metric.
Analytical Chemistry CH605	Compare the Instrumental methods and non-instrumental methods and there advantages. Understand principle, Instrumentation and applications of thermo gravimetric methods like TGA, DTA and DSC. Understand the application of Ion Exchange

	Chromatography, Gas Chromatography, HPLC, and Understand the process involved in solvent extraction.
Biochemistry CH506(A)	Students will study biomolecules like carbohydrates, amino acids, proteins, enzymes, lipids and nucleic acids. Students will understand definitions, classifications and examples of these biomolecules. Students will learn the detailed structure of these biomolecules along with types of bonds or linkages present in their molecules. Students will learn the chemical properties of these biomolecules and the action of some reagents on them in the form of reactions or graphical presentation. Students will understand biochemical energetics of common energy rich compounds along with hydrolytic reactions. Students will learn metabolisms like Glycolysis, TCA cycle, Transamination, deamination and β- oxidation through reactions, enzymes involved, outlines and energetics.
Polymer chemistry CH 606 (A)	Define terms like monomer, polymer, polymerization, polydispersity index, etc., classify polymers based on their origin, native backbone chain, and thermal response. Know glass transition temperature and its determination, various ways to express molecular weights of polymers and polydispersity index. Identify different mechanisms of polymerizations viz. free radical, ionic, and condensation polymerizations. Distinguish techniques of polymerization based on physical conditions required for the preparation of polymers in laboratory or industry. Familiar with preparation, properties, and applications of industrially important selected polymers.
Physical Chemistry Practical CH 507	To develop skills required in chemistry such as the appropriate handling of apparatus, instruments and chemicals. The student will learn the laboratory skills needed to design, safely conduct and interpret chemical research. To expose the students to an extent of experimental techniques using modern instrumentation. The student will develop the ability to effectively communicate scientific information and research results in written and oral formats.
Inorganic Chemistry Practical CH 508	To analyze the inorganic mixtures. To determine metal from ore and alloy analysis. Using colorimetric analysis to determine amount of metal.

	To determine metal from gravimetric estimations. To determine amount of metal by volumetric analysis. To determine preparation /synthesis of co-ordination compound. To study separation techniques of metals. To use colorimetric analysis of m
Organic Chemistry Practical CH 509	To develop skills required in chemistry such as the appropriate handling of apparatus and chemicals. The student will learn the laboratory skills needed to design, safely conduct and interpret chemical research. To expose the students to an extent of experimental techniques using modern instrumentation. The student will develop the ability to effectively communicate scientific information and research results in written and oral formats.
S.Y.B.Sc Physical & Inorganic Chemistry CH 301 & CH 401	Physical and Inorganic chemistry contain two section first physical chemistry and second Inorganic chemistry In Physical Chemistry four chapter include Electrochemistry, Solution, Colligative Properties of Solution and Chemical Thermodynamics. In Electrochemistry to learn about Cell, Cell Reaction, Oxidation Potential, Reduction Potential, Different type of cells etc. In Chapter Solution to learn about Ideal and Non Ideal solution, Different type of solution, Azeotropic mixture, solubility of partially miscible liquid pairs etc. In Chapter Colligative Properties of Solution learn about Concentration of solution Colligative property of solution etc. In Chapter Chemical Thermodynamics learn about Gibbs Energy, Helmholtz free energy and Relation between Gibbs and Helmholtz free energy, Fugacity, Activity etc. In Inorganic Chemistry Include the study of Transition Element, Electronic Configuration, Oxidation State, Catalytic Properties etc. and study of Metal complexes and their IUPAC name, Conductor, Insulator, Semiconductor etc.
Organic & Inorganic Chemistry CH 302	Understand the basic concept of stereochemistry. Study of reactivity, preparation and reactions of heterocyclic compounds Study of synthesis and reaction of 5, 6 member's heterocyclic systems. Understand the concept of solvents, solutions acids and bases.
Organic & Inorganic Chemistry	To understand preparation and synthetic applications of synthetic reagents, study of organometallic compounds preparation uses and types of bonding. Study of s-s, s-p, p-p,

CH-402	p-d and d-d combination of orbitals. Molecular orbital treatment for Hetero nuclear diatomic molecules.
S. Y. B.Sc. Chemistry Practical CH 303 &CH 403	Understand techniques chromatography for separation of components in the mixture, Volumetric method of analysis, Determination of standard electrode potential of Cu/Cu+2 or Ag/Ag+ , Zn/Zn+2 electrodes potentiometrically.Determine molecular weight by depression of freezing point method and elevation in boiling point method. Preparation of derivatives,
S. Y. B.Sc. Chemistry Practical CH- 403	To understand the gravimetric estimation of Nickel and Barium. Procedure for preparation of various inorganic complexes. Test involved in qualitative analysis of organic compounds. Determination of normality and strength of HCl titrating with standard NaOH Potentiometric ally.
Skill Enhancement Course Basic analytical Chemistry SEC I	Introduction to analytical chemistry Students should understand about Acid base titrations Applications of acid base titration. Precipitation titration etc.
Skill Enhancement Course Basic analytical Chemistry SEC II	In Analytical chemistry students should learn Volumetric analysis, redox, titrations, Gravimetric analysis & Chromatography technique.
F.Y.BSc Physical Inorganic CH 101	To learn the electrolytic conductance, variation at conductance with concentration, adsorption, different types of adsorption, and some mathematical concepts related to Chemistry. Inorganic chemistry students learn about periodic properties such as atomic and ionic size, ionization energy, electron affinity and electronegativity and the study of S-block elements which contain electronic configuration, atomic radii, ionization energy, colour of flame, wrap around complexes with polydentate ligand. Complexes of Ca, Mg with EDTA
Organic & Inorganic 102	To learn properties of organic compounds. Huckel rule , Aromacity, Nomenclature, IUPAC system for alkane , alkene, Students know the Classification Nomenclature of Alcohol Phenol and ethers. Strong and weak acids and bases
Chemistry Practical CH 103 &CH 203	To learn the apparatus calibrations, eudiometric method for determination of equivalent weight. Determination of solubility by conduct metric method. Preparation of standard solutions, titrations. Inorganic qualitative analysis

Physical & Inorganic chemistryCH 201	Physical Inorganic Chemistry contains the fundamentals of physical chemistry including Gaseous States, liquid states and second laws of Thermodynamics. In gaseous state to learn kinetic gas equations, Vander wall equation and its applications. Liquefaction of gases. In liquid state to learn surface tension of liquid, determination of surface tension viscosity and measurement of viscosity. In inorganic chemistry include study of metals and metallurgy and P block elements. In metals and metallurgy to learn occurrence of metals, various steps involved in metallurgical process. In P block elements to learn electronics configurations, variations in properties, acidic and basic character of hydroxide, bonding and shape of molecule
Organic & Inorganic Chemistry CH202	Understand the properties, reactions and preparations of aldehyde and ketone. Students should know nomenclature, preparation and reactions of carboxylic acids. Reactions of amine classification and nomenclature. Students should know volumetric analysis, types of bonds and types of overlaps and valence bond theory.

M.Sc(Organic Chemistry)	
Programme Outcome (PO)	1)Determine molecular structure by using UV,IR and NMR. 2)Solve the reaction Mechanisms and assign the final product. 3)Determine the aromaticity of different compounds. 4)Determine the stereochemistry of different types of compounds. 5) The understanding and mechanism of oxidation and reduction the generation and reaction of organic reaction intermediate.
Programme Specific Outcome (PSO)	1) Students will be able to qualified competitive examination like NET,SET,GATE ,etc. 2)Understanding the various type of aliphatic, aromatic, nucleophilic substitution reaction. 3)Study of organometallic reaction. 4)Understands good laboratory practices and safety. 5)Understand and apply principles of Organic Chemistry for understanding the scientific phenomenon in reaction mechanism.
Course Outcomes (CO): CH-110: Physical Chemistry - I	Apply the quantum mechanical principles to simple systems of chemical interests Differentiate between the nature of chemical bond concept from MOT and VBT To identify and write the different types of equilibriums in a given nuclear decay process To explain the concept of Radiation dose measurement and its practical applications To be able to calculate the ionic strength and activity coefficients by using the basic concepts underlying.
CH-130: Inorganic Chemistry - I	Apply the fundamental knowledge about the synthesis, structure, bonding and properties of some selected main group elements which are very important in different fields

	Apply fundamental knowledge about molecular symmetry, MOT, organometallic compounds, ionic solids and bioinorganic compounds. Explain various concepts and theories of various topics from inorganic chemistry
CH-150: Organic Chemistry – I	Apply the fundamental concepts of organic reaction mechanism in theoretical and practical work, may be in academic, research laboratories, and industries Understand the importance and types of organic reactions and their applications. Acquire knowledge of important characteristics of organic compounds.
CH-190: Industrial Safety and Good Laboratory Practices	Understand the importance of laboratory safety. Aware and follow healthy laboratory practices. Acquire the knowledge about personal protective equipment.
AC-101: Practicing Cleanliness	Identify need at of cleanliness at home/office and other public places. Plan and observe cleanliness programs at home and other places Practice cleanliness practices in day-to-day life.
CH - 210: Physical Chemistry - II	Students will gain an understanding of Joule-Thomson effect, third law of thermodynamics, absolute entropy, standard entropy and residual entropy and partial molar quantity and its significance. Students should understand the importance of statistical thermodynamics and concept of partition functions. Students should able to understand core study of chemical kinetics and spectroscopy.
CH-230: Inorganic Chemistry - II	Understand the concept of microstates, spectroscopic terms and orgel diagram of inorganic compounds. Gain knowledge about magnetic properties and charged transfer spectra of transition metal complexes. Students are able to analyse structure reactivity and reaction mechanisms of metal complexes.
CH - 250: Organic Chemistry - II	Students will learn the basic name reactions and rearrangement reactions. Students will understand the applications of reagents in organic synthesis. Students will apply the basic knowledge about core study of spectroscopy and stereochemistry
CH - 290: Instrumentation and Analysis	Explain various theoretical concepts of analytical chemistry. Build up ability to solve the numerical problems Apply theoretical principles, working of various classical and modern instrumentation techniques.
AC-201(A): Soft Skills	Grasp soft skills and communication skills Apply life skills to manage the situations.
CH-P-1: Physical Chemistry Practical-I	Students will understand the preparation for each experiment. Setup and standardize the potentiometer, PH meter and conductometer. Identify thermodynamics and kinetics of simple systems. To know Safety requirements and lab skills to perform physico-chemical experiments. To apply the principles and techniques to different systems.
CH-I-1: Inorganic Chemistry Practical-I	Students will understand the process of ore analysis. Students able to apply their knowledge for binary mixture separation of inorganic compounds using quantitative analysis Students can analyse contents present in drug Students able to evaluate the lattice energy of binary salt

	Students are able to synthesize and evaluate the complex and also able to determination of complex purity Students understand the techniques of chromatography and its application in analysis. Students able to handle and perform the instrumental analysis techniques.
CH-O-1: Organic Chemistry Practical-I	Students understand the important of safety techniques and handling of chemicals. Students are made aware of carrying out different types of reactions and their workup methods. Students able to perform purification techniques in organic chemistry like recrystallization, distillation, steam distillation and extraction. This practical course is designed to make student aware of green chemistry and role of green chemistry in pollution reduction. Students are able to apply their knowledge for development of experiment involve green chemistry.
AC-201(C): Practicing Yoga	Perform different yoga. Perform different asana.
M.Sc-.II	
CH-350: ORGANIC REACTION MECHANISM	Study of carbanion formation, stability and related name reaction, enemies and its applications. Understand the NGP. Learn the carbines and nitrenes. Study of free radicals: generation of radicals, Nucleophilic electrophilic radicals, inter and intra molecular C-C bond formation via mercuric hydride. Study of oxidative coupling and SN^{Ar} reaction.
CH-351 Spectroscopic methods in structure determination	Study 1H NMR Spectroscopy: Chemical Shift, deshielding, correlation for protons bonded to carbon and other nuclei. Study of 13C NMR spectroscopy: FT- NMR, type of 13C NMR spectra, proton decoupled , off resonance, APT, INEPT, DEPT, Chemical shift, nuclear and hetero nuclear coupling constant 2D NMR techniques: COSY, homo and hetero nuclear 2D resorts spectroscopy, NOESY and the applications Study of mass spectrometry: Instrumentation, various methods of ionization, SIMS, FAB, MALDI. Different detectors rules of fragmentations of different functional groups.
CH-352 Organic stereochemistry	Study of stereochemistry of six member ring. Learn the stereochemistry of rings other than six members. Understand fused bridge and Caged rings. Learn resolution of racemic modification, stereochemistry of organic compound using NMR. Determine geometrical isomerism and stereochemistry of olefins.
CH-353 Photochemistry, Pericyclic reaction and heterocyclic chemistry	Study of photochemistry: Carbonyl compounds, alkenes, dienes, polyenes and aromatic compounds. Study photo rearrangement Barton reaction, application of photochemical reaction. Learn Pericyclic reaction: Electro cyclic, Cycloaddition, analysis by correlation diagram, FMO approach and ATS concept. Study of heterocyclic chemistry: Five and six member heterocyclic with one or two hetero atoms.

	Understand condensed five and six member's heterocyclic. Study the synthesis, reactivity, aromatic character and importance of heterocyclic compounds.
CH-450 Chemistry of natural product	Study structure and stereochemistry of hardwickiic acid, camptothecin and podothyllotoxin. Study the synthesis of taxol, estorne and mifepristone, fredericamycin A. Learn biogenesis terpenoides, alkaloids and shikimmte pathway
CH-451 Sythetic methods in Organic Chemistry	Study of transition metal complexes in organic synthesis. Advance synthetic organic chemistry. Learn C=C formation reaction, multi compound reaction, ring formation reaction. Study of sharpless azides Cycloaddition, use of boron and silicon in organic synthesis.
CH-452 Heterocyclic Chemistry ,chiron approach, and medicinal chemistry	Study of carbohydrates: Introduction of sugar, structure of triose tetrosa, pentose, hexose, stereochemistry of glucose. Understand the chiral approach, concept of chiral templates, and utilization of the basic concept for retrosynthetic strategy. Study of chiral drug. Learn medicinal chemistry, the action and discovery. Study the structure activity and drug targets. Study of anticancer drugs, anti-inflammatory, antidiabetics, antibiotics, antihypertensive etc.
CH -O-2: Ternary mixture separation	Student should know the technique separate the ternary mixtures
CH -O-3: Three stage preparations	Student should learn three stage preparation
CH -O-4: Short Research Project	Student should perform a small research project he should interpretate IR , NMR, Spectra.

DEPARTMENT OF BOTANY		
Course Outcomes		
F.Y. B.Sc		
	BOT:101. MICROBIAL DIVERSITY, ALGAE AND FUNGI	1. Diversity among Microbes. 2. Life cycle pattern of Bacteria, Viruses , Algae & Fungi 3.Systematic ,morphology and structure of Bacteria, Viruses Algae and Fungi 3. Useful and harmful activity of Bacteria, Viruses, Algae & Fungi.
	BOT:102 PLANTS TAXONOMY.	1. Understand the diversity of angiosperms. 2. Understand the comparative account among the families of angiosperms.

		3. Know the economic importance of the angiosperm plants. 4. Understand the distinguishing features of angiosperm families.
	BOT: 201 DIVERSITY OF ARCHEGONIATES	1. Know the salient feature of Archegoniates. 2. Student know economic and ecological importance of Archegoniates.. 3. Life cycle pattern of selected genera.. 4. To make student aware of the status of higher cryptogams & Gymnosperm as a group in plant Kingdome..
	BOT.202. PLANT ECOLOGY	1 Know the scope and importance of the discipline. 2.To highlight the conservation of biodiversity 3. Student know plant communities and ecological adaptions in plant. 4. Awareness of the botanical region of Indian and vegetation type of Maharashtra.
	BOT 103 & 203: PRACTICAL COURSE (BASED ON BOT.101, BOT.102 & BOT.201, BOT.202)	1. Understand the morphological diversity among Bacteria , Viruses, Algae and Fungi. 2. Observe vegetative and reproductive parts of various life forms of Bacteria, Viruses, Algae and Fung 3. Know botanical source/s, characteristics and utilities of Plants/ plant products. 4. Learn about the industrial applications of various plants and plant products.
S.Y. B.Sc.		
	BOT.301: PLANT ANATOMY	1. Understand the Various plant tissue system. 2. Know Primary structure of Dicot and Monocot Plants. 3.Understand the Scope and importance of plant anatomy 4. Understand normal secondary growth in plants and their causes. 5. Know the Protective tissue system..

	BOT.302: PLANT PHYSIOLOGY	1. Understand the plants and plant cells in relation to water. 2. Learn about the movement of sap and absorption of water in plant body. 3. Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways. 4. Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.
	BOT.304: MUSHROOM CULTIVATION TECHNOLOGY	1.Know the history ,scope and importance of mushroom technology. 2.Understand and nutritional and medicinal values of edible mushroom. 3.Know about the storage ,making and various food preparations of mushroom. 4.Understand the economic importance of mushroom cultivation
	BOT.401: PLANT EMBRYOLOGY	1. Know the scope and Importance of plant Embryology. 2. Understand the structure of Micro and Mega sporangium. 3. Know the pollination, fertilization, Endosperm and Embryology. 4. Give exposure of techniques in embryology. habit of the angiosperm plant body.
	BOT.402: PLANT METABOLISM.	1. Know the scope and Importance of Plant Metabolism. 2. Understand the properties, mechanism and classification of enzymes. 3. Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways. 4. Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.
	BOT.404: NURSERY AND GARDENING.	1. Know the concept of Nursery and Gardening.. 2. Give to improve the skill for growing fresh and safe vegetables.

		3.Give to create awareness about home gardening 4.Understand to the develop different skills regarding the gardening operations among the student
	BOT:303 and 403 : PRACTICAL COURSE (BASED ON BOT.301, BOT.302 & BOT401,BOT. 402)	1. Understand the Various plant tissue system 2. Observe to the Various Photographs and Slide T.S.in plant stem, Root and Leaf. 2. Know the physiological techniques. 3. Develop practical skill among the students.

Department of Zoology	
Course Outcomes	
F.Y.B.Sc.	
Semester -I	
ZOO 101 **Animal Diversity I**	• Student will learn about general taxonomic rules on animal classification • Student will learn the identification of non-chordates. • Student will come know anatomy and physiology of non-chordates animals. • Student will develop the knowledge of Classification of animals, fossils study and geographical distribution of animals. • Student will develop the skill of Microscope handling & care.
ZOO 102 **Animal Diversity II**	• Student will learn about general taxonomic rules on animal classification. • Student will learn the identification of Chordates. • Student will come know anatomy and physiology of Chordates animals. • Student will develop the knowledge of Classification of animals, fossils study and geographical distribution of animals. • Student will develop the skill of Microscope handling & care.
ZOO 103 **Zoology Practical based on** **Animal Diversity I & II**	• Student came to knowing the rules of taxonomy and the principle of animal classification. • Student identified the taxonomic status of the entire chordates and discussed the evolutionary model of the group. • Student understood the diversity morphology, biological characters and taxonomical importance some selected museum specimens of different animal groups.

Semester -II	
ZOO 201 **Comparative Anatomy of Vertebrates**	• Student Compare the functioning of organ systems across the animal world. • Learn more about human physiology and anatomy. • Students will demonstrate a fundamental knowledge of comparative vertebrate animal physiology and anatomy. • Student Gains knowledge of functional anatomy of vertebrates from fishes to mammals
ZOO 202 **Developmental Biology of Vertebrates**	• Student will learn Basic concepts of developmental biology. • Student understood the process of development of animals. • Student understood the process of organogenesis of selected organs, development of extra embryonic membrane and the nature and physiology of placenta. • Student came to know the inducer and inductor role in embryogenesis and knowledge about metamorphosis and the process of regeneration.
ZOO 203 **Zoology Practical based on** **Comparative Anatomy & Developmental Biology of Vertebrates**	• Student familiar with various stages involved in the developing embryo. • Student acquired knowledge of principles and working mechanisms of microscopes. • Preparation, direct observation and appreciation of sperm motility and types of placenta of animals. • Student familiarize with the principle of developmental biology. • Student familiarize with various Techniques and tools of Embryology. • Student came to know about internal skeletons and osteology of different bone structures.

Department of Zoology	
Course Outcomes	
S.Y.B.Sc.	
Semester -III	
ZOO 301 **Physiology**	• Understand the Importance of physiology and branches of it. • Understand the terms-Osmosis, diffusion, pH and Buffer. • Understand the Digestion and Excretion process, by studying the Organs of it. • Understand the process of Metabolism. • Students gain fundamental knowledge of animal physiology.

	• Students will gain skill to execute the roles of a biology teacher or medical lab technicians with training as they have basic fundamentals • Understood about the composition of food and mechanism of digestion absorption and assimilation. • Attained knowledge of respiration and excretion and understood the mechanism of transport of gages and urine formation. • Described the mechanism of circulation and composition of blood • Knowledge of neuromuscular coordination and the mechanism of osmoregulation in animals and endocrine system and their function are attained.
ZOO 302 **Biochemistry**	• Understand about the agencies responsible for Production of various products using Biochemistry. • Understand the term pH, Buffer. • Understand the structure and function of carbohydrate, amino acids, proteins, and lipids. • Understand the concept Enzymes and also Vitamins and minerals. • Understand the Principle role of Vitamins in metabolism and Deficiency diseases.
ZOO 303 **Physiology & Biochemistry**	• Understand about the agencies responsible for Production of various products using biochemistry • Understand the structure and function of carbohydrate, amino acids, proteins, and lipids. • Understand the terms- acidosis, alkalosis, asphyxia, hypoxia, anoxia and cyanosis. • Understood the enzyme reaction and influence of temperature on enzyme action. • Understood the working principle and applications of physiological instruments. • Skill development for the observation of blood cells and haemin crystals.
SEC I **Apiculture**	• The learner will be able to manage beehives for honey production and pollination. • The learner will be able to understand the marketing of various bee products. • The learner will be able to understand the basic life cycle of the honeybees. • The learner will be able to learn and handle honey bees' colony. • The learner will be able to understand the basics about beekeeping tools, equipment, and managing beehives. • The learner will be able to understand bee enemies & various types of bee diseases. • The learner will be able to understand pollination conservation methods. • The learner will be able to learn the process of feeding & honey extraction methods & management of bee diseases • The learner will be able to understand the marketing of various bee products • The course will be useful for providing self-employment to the learner.

Semester -IV	
ZOO 401 **Genetics**	• Understood the Mendel's principle, its extension and chromosomal basis. • Determination of gene action from genotype to phenotype including penetrance and expressivity, gene interaction, epistasis, pleiotropy; nature of the gene and its functions. Gene action from genotype to phenotype including penetrance and expressivity, gene interaction, epistasis, pleiotropy; nature of the gene and its functions. • Understood the theories of classical genetics and blood group inheritance in man. Understood the genetic variation through linkage and crossing over, chromosomal aberrations and sex determination. • Understood the genetic defects and inborn errors of metabolism and genetic counseling and role of inbreeding and outbreeding. • Understood the molecular structure of genetic materials. • Understood the mechanism of gene expression and regulation character formation. • Capability to perform gene mapping using 3- point test cross in Drosophila, gene mapping in humans by linkage analysis in pedigrees. • Imparting knowledge regarding gene mutation, types of gene mutations, methods for detection of induced mutations, P- element insertional mutagenesis in Drosophila, DNA damage and repair.
ZOO 402 **Evolutionary Biology**	• Create curiosity for learning the scientific way of the origin of life, first cell and eukaryotic-prokaryotic origin. • Understand the basics of prehistoric time periods and events, fossils and extinction. • Understand the advanced approaches in evolutionary biology and molecular level of evolutionary pathways. • Create scientific temper and rational thoughts by observing the evidences for evolution. • Analyze the ideas of human evolution and thus acquiring knowledge about the basic scientific findings about our origin. • Expose students to the basics and advances in ethology, and generate an interest in the subject in order to understand the complexities of both animal and human behavior.
ZOO 403 **Genetics & Evolutionary Biology**	• Appreciate the contribution of great scientists. • Understanding of Mendel's principle, its extension and chromosomal basis. • Determination of gene action from genotype to phenotype including penetrance and expressivity, gene interaction, epistasis, pleiotropy; nature of the gene and its functions. • Depicting the mechanism of sex determination & developing skills in human genetics with capability for karyotyping and nomenclature of metaphase chromosome bands. • Distinguish Classical Genetics and Molecular Genetics. • Familiar with the tools and techniques of Genetics. • Distinguish different chromosomal aberrations in man.

	• Develop a holistic appreciation on the phylogeny and adaptations in animals. • Understanding on the process and theories in evolutionary biology. • Develop an interest in the debates and discussion taking place in the field of evolutionary biology • Apply the knowledge to collect various Biological data. • Understand the unity of life with the rich diversity of organisms and their ecological and evolutionary significance. • Explain the role and impact of different environmental conservation programmes.
SEC II **Medical Diagnostics**	• Understood knowledge related to the techniques involved in detection of various diseases. • Pathology associated with various diseases. • Practical skills of conducting basic clinical lab experiments. • Application of knowledge of clinical science and pathology to one's own life • Understands about composition of blood, blood born diseases, autopsy and biopsy. • Understands techniques of microscopy, microtomy, biopsy, autopsy and immunological techniques. Understands types of immunity, antigens-antibodies and their properties. • Understanding of pathology of diseases caused by various microorganisms such as bacteria, virus, parasites and fungus. • Increase awareness for the health in students. • Understand the various disease causing vectors like Mosquitoes.

Dept. of Physics (Year-2021-22)		
Class	**Subject**	**Course Outcome**
F.Y.B.Sc	PHY-101 Basic Mechanics	Understand fundamental theory of different physical properties Understand the set of physical laws, describing the motion of bodies, under influence of system of forces.
	PHY-102 Dynamics and Elasticity	Demonstrate a rigorous understanding of core theories and principle of physics which include Static and Dynamics. Learn the concept of laws in physics.
	PHY-103 LAB –I and PHY-203 LAB –II	The students should study physics with keen interest, develop their experimental skill and problem solving ability. Develop practical, analytical and mathematical skills in Physics.
	PHY-201 Electricity and Electrostatics	Learn the concept of laws in physics. Specialized knowledge and expertise to identify, formulate, investigate, analyze and implement on the problems in physical sciences.
	PHY-202 Magnetism and Electromagnetism	Provide knowledge about materials properties and its application for new developing technology Acquire a comprehensive knowledge and sound understanding of fundamentals of Physics.

Department of Mathematics			
Class	Semester	Course Name	Course Outcomes
		MTH-101 Matrix Algebra	After learning this course a student will be able to: 1) understand concepts on matrix operations and rank of the matrix. 2) understand use of matrix to the system of linear equations. 3) understand the method to find eigen values and eigen vectors. 4) apply Cayley-Hamilton theorem to find the inverse of the matrix. 5) know the matrix transformation and its applications in rotation, reflection, translation.
		MTH-102 Calculus	After learning this course a student will be able to: 1) understand basic concepts of limits and

F.Y.B.Sc.	SEM I		continuity. 2) understand use of differentiation in various fields. 3) know the Mean value theorems and its applications. 4) apply Taylor's and Maclaurin's theorems. 5) know reduction formulae and their application to evaluate specific definite integrals.
		MTH-103 (A) Co-ordinate Geometry	After learning this course a student can 1) visualize geometrical concepts and can understand two dimensional figures 2)find standard forms of equations of two dimensional structures by using equations of translation and rotation. 3) understand three dimensional figures and their equations particularly Sphere, Cone and Cylinder.
Class	Semester	Course Name	Course Outcomes
S.Y.B.Sc.	SEM III	MTH-301 Calculus of Several Variables	After successful completion of this course a student will be able to understand : a) limit and continuity of functions of several variables b) how to find series expansion of functions. c) methods of finding extreme values of a function of two or more variables. d) concept of double integral, methods of evaluation and its application to find area e) how to solve triple integrals and to use them to find volume of a solid region.
		MTH-302(A) Group Theory	After successful completion of this course a student will be able to : a) understand different operations in a Group and its Subgroup. b) understand Lagrange, Euler and Fermat theorems.

			c) understand concepts of homomorphism, isomorphism and automorphism d) understand operations in rings, integral domains, fields and Boolean ring and to know some of the applications of these abstract structures.
		MTH-303 Practical Course Based on MTH-301 and MTH-302	After completion of the Practical Course a student will be able to understand and solve several problems on Calculus of Several Variables and Algebra by himself
Class	**Semester**	**Course Name**	**Course Outcomes**
F.Y.B.Sc.	SEM II	MTH 201 Ordinary Differential Equations	After successful completion of this course a student will be able to 1) understand basic concepts in Differential Equations 2) understand different methods of solving Differential Equations 3) understand use of differential Equations in different fields
		MTH 202 Theory of Equations	After successful completion of this course a student will be able to 1) find out roots of any equation og degree less than or equal to 4 2) use concepts of Theory of Equations in different fields of Mathematics like Algebra, Linear Algebra, Calculus, Ordinary and Partial Differential Equations
		MTH 203(A) Laplace Transforms	After successful completion of this course a student will be able to 1) understand basic concepts of Laplace Transforms and

			Inverse Laplace Transforms 2) understand the Convolution Theorem and its applications to find the Inverse Laplace Transforms of product of two functions 3) understand use of Laplace Transform in solving Differentiaal Equations

Class	Semester	Course Name	Course Outcomes
S.Y.B.Sc.	SEM IV	MTH 401 Complex Variables	After successful completion of this course a student will be able to 1) understand concepts of functions of complex variables and analytic functions 2) understand the concepts of Cauchy Riemann Equations and harmonic functions 3) understand complex integration and contour integration
		MTH 402(A) Differential Equations	After successful completion of this course a student will be able to 1) understand the of Lipschitz condition and Existence and uniqueness Theorem for the initial value problem 2) the method of variation of parameters to solve second order linear differential equations 4) understand the Pfaffian Differential Equations and their method of solving 5) understand Difference Equations and their methods of solutions

		MTH 403 Practical Course Based On MTH 401 and MTH 402	After completion of the practical course a student will be able to understand and solve several problems on Complex Variables and Differential Equations by himself.

Department of Computer Science	
Course Outcomes (COs)	F. Y. B. Sc. Computer Science Semester: I
Course Name: Essentials of Computer Course Code: CS 101	To learn History, Generations and types of computer, various Input, Output and Auxiliary devices, Primary and Secondary Memories, Hardware, Software, Firmware, Interpreter and Compiler, Various programming languages e.g., High, Middle and Low level Languages. Computer Network and Types of Networks LAN, WAN and MAN, Wired and wireless network etc. Information about web browser and Search Engines. Various type of Computer Viruses their indication of Virus infections. They learn the computer ethics: Hacking, software piracy, Spamming and Phishing, various types of Operating Systems and their functions: Batch operating system, Time sharing Operating System, Distributed operating System, Network operating System and Real Time operating System.
Semester: I Course Name: C Programming Language-I Course Code: CS 102	Students are able to write, compile and debug programs in C language, different data types in a computer program, design programs involving decision structures, loops and functions.
Semester: I Course Name: LAB Course on Essential of Computer and C programming Course Code: CS 103	To learn the various input, output devices, able to install various software, various Dos Commands, web browsers and their functions, able to create an email account, sending an email and receiving an email, how LAN working in laboratory, sharing of computer and printer in Network.
Course Outcomes (COs)	F. Y. B. Sc. Computer Science Semester: II
Course Name: Internet Computing Course Code: CS 201	To learn Website, its Types Site Structure, Site Organization Model, Site Planning and Testing, Web Design, Web Design Pyramid, Web Process Model, Modified Waterfall Model, Joint Application Development Model. Page Types, Page Size and Margins, Navigation and types of Navigation, HTML programming, Structure of HTML Document, Text Formatting Tags and Character Entity References, List Tags, Image and Anchor Tag, Media Elements: Audio tag, Video tag, Table Tags, Frame and Form Tag with Form

	elements, CSS, Types of Style sheet (Internal, External, and Inline), Syntax of CSS with Example, Selectors (Class, ID, Group, Element).
Course Name: C Programming Language-II Course Code: CS 202	Students should be able to explain the difference between call by value and call by reference, understand the dynamics of memory by the use of pointers, and use different data structures and create/update basic data files.
Course Name: LAB Course on Internet Computing and C Programming Course Code: CS 203	Students should be able to understand the programming language C, learns to understand the logic of a problem and write structure of C program. Known the concepts of HTML.
Course Outcomes (COs)	S. Y. B. Sc. Computer Science Semester: III
Course Name: Data Structure – I Course Code: COMP 211	Students are familiar with Data structures, its types and significance in computing. Explore about Abstract Data types and its implementation.
Course Name: Programming in C++-I Course Code: COMP-212	Students are familiar with Basics of C++, Structure of C++ Program, keywords in C++,Data types hierarchy in C++, Operators in C++, Scope resolution operator, Insertion and Extraction operator, New and Delete operators, reference operators. Manipulators: endl, setw, setfill, set precision, Classes, object, specifying a class, Access specifies, Class members defining member functions: Inside and Outside the class definition Creating objects. Array of objects, Pointer and object, Array of pointer to object. Basics of function and its need, Functions Prototype. Call by value, Call by reference with object. Functions with default arguments. Inline function. Friend function, friend class. Concept of Polymorphism. Function overloading, Function overloading with arguments. Scoping rules & features of function overloading. Operator overloading, rules of operator overloading, Unary and binary operators, Comparison, arithmetic, assignment operator, Overloading new & delete operators.
Course Name: Software & Hardware Installation Skills Course Code: CS SEC-I (Skill Enhancement Course-I)	Students are familiar with Operating system, Types of Operating systems, System files FAT and NTFS Dos 6.22, Windows 7 and Red Hat Linux and Multi Boot Operating System, Various types of Software Installation 6 L MS-Office 2010, Photoshop 7 and CS5, Tally 7.0 and ERP, Acrobat Reader X, Java, Visual Studio, C & C++, Multimedia software's, and Internet Browsers like- IE9, Google Chrome, Mozilla Firefox, Device, Installation 6 L Graphics Card, Sound Card, LAN Card, Wireless LAN Card, SCSI Card, External Drive, Flash Cards, Web Camera, CCTV Camera, Mobile Devices, Fire wire Cards, Modem, Plotter, Wireless LAN, Access Point, Diagnostic Tools & PC Maintenance 6 L Introduction, Virus and its types, Effect of Virus for Computer System, Scanning and Antivirus remover tools, Antivirus Utilities for Diagnostic, Safety and Preventive Maintenance Tools, Data Recovery, Troubleshooting PC Hardware: O/S Troubleshooting issues in computer System, Basic Network Introduction & Installation 6 L Introduction About Network, Installing Network Operating System Server and Windows 2008

	Server, Cable Crimping, Network Sharing and user Permission, Internet Connection, E-Mail, Cloud Networking, Google Drive, Sky Drive, Drop box etc.
Course Name: PRACTICAL COURSE Course Code: COMP 213	Students are able to develop programs by using various data structure and write extensible and efficient program.
Course Outcomes (COs)	S. Y. B. Sc. Computer Science Semester: IV
Course Name: Data Structure – II Course Code: Comp-221	Students are able to use various data structures and various forms of its implementation in various applications using Array.
Course Name: Programming in C++-II Course Code: COMP-222	Students are familiar with concept of Constructor, Types of Constructor: Default Constructor, Parameterized Constructor, Copy Constructor, Overloaded Constructors in a class, Constructor with default arguments, Destructors, Inheritance, Types of Inheritance, Derived Class Constructors, Benefits of inheritance in C++, this pointer, Abstract class, pure virtual function, Concept of Exception Handling mechanism, Concept of try, throw and catch, Multiple catch statements, Standard Exception in C++, Basic of templates, Function templates, Class templates, Templates with multiple parameter, Introduction to STL, Components of STL, Containers, Hierarchy of File Stream Classes, Opening and Closing Files, File modes, File Input/output with fstream class.
Course Name: Network Security Course Code: CS SEC-II (Skill Enhancement Course-II)	Students are able to understand need of Security, Security approaches, Principles of Security, Anti-virus Software, Access Control, Firewall, Smart cards, Biometric, Encryption, Physical Security Mechanisms. Types of Malicious Software, Viruses, Virus Counter measures, Worms, Distributed Denial of Service, Attacks. Snooping, Eavesdropping, Interception, Denial of Service attack, Hacking Techniques – Open Sharing, Bad Passwords, Programming Flaw, Sniffing Switch Network, IP Spoofing. The Need for Firewalls, Firewall Characteristics, Types of Firewalls , Firewall Basing , Firewall Location and Configurations .Introduction; IDS limitations – teardrop attacks, counter measures; Host based IDS set up. Operating system hardening, general steps for securing windows operating system, Hardening, Unix/Linux based operating system, updates: hot fix, patch, service pack.
Course Name: PRACTICAL COURSE Course Code: COMP 223	Students are able to develop programs by using C++ based on Object oriented concepts.
Course Outcomes (COs)	T. Y. B. Sc. Computer Science Semester: V
Course Name: System Programming	Students are able to understand details about system software. To do basic system program like development of editors lexical analyzers etc. Students are familiar with language processing activities- functions of translators, loader and linkers.

Course Code: UG-CS-501	
Course Name: Database Management System Course Code: UG-CS-502	Student will be able to Solve real world problems using appropriate set, function, and relational models. Design E-R Model for given requirements and convert the same into database tables. Use SQL.
Course Name: Software Engineering Course Code: UG-CS-503	Students are able to perform the E-R Diagram, DFD, Data dictionary, Decision tree about software. They can also design the software in learned language using the course content. Get the knowledge of types of testing & how testing is performed in industry.
Course Name: Computer Aided Graphics Course Code: UG-CS-504	Students are able to differentiate between interactive and non-interactive graphics. Study line Drawing and Circle Drawing techniques and algorithms. Perform 2D and 3D transformation on different images. Know about detail working of 2D and 3D clipping and windowing. Understand raster graphics and hidden surface elimination.
Course Name: Python Programming-I Course Code: UG-CS-505	Students are able to explain basic principles of Python programming language. Construct and apply various filters for a specific task. Apply the best features of mathematics, engineering and natural sciences to program real life problems.
Course Name: JAVA Programming-I Course Code: UG-CS-506 B)	Get knowledge of JDK environment. Explore polymorphism using method overloading and method overriding. Understand the different aspects of hierarchy of classes and their extensibility. Understands the concept of streams and files. Write programs for handling run time errors using exceptions.
Course Name: Lab on Python Programming – I Course Code: UG-CS-Lab-507	Students are able to explain basic principles of Python programming language. Implement object oriented concepts, database applications.
Course Name: Lab on Computer Aided Graphics Course Code:UG-CS-Lab-508	Students are able to understand Graphics Concept Practically. Hands on of using standard graphics library. Hands on of implementation of DDA, Bresenham's Line and Circle Drawing Algorithm. Hands on of implementation of 2D Transformation: Translation, Scaling and Rotation. Hands on of implementation of Cohen-Sutherland line clipping algorithm.
Course Name: Lab on JAVA Programming –I Course Code: UG-CS-Lab-509 B)	Get knowledge of JDK environment. Explore polymorphism using method overloading and method overriding. To understand the different aspects of hierarchy of classes and their extensibility, understands the concept of streams and files. Write programs for handling run time errors using exceptions.
Course Outcomes (COs)	T. Y. B. Sc. Computer Science Semester: VI
Course Name: Operating System	Students should familiar with Operating System Services. Understand CPU scheduling algorithms, memory Management Techniques, Disk Drum

Course Code: UG-CS-601	Scheduling algorithms, Deadlock preventions and avoidance. Introduction to android operating systems – its architecture, applications and uses.
Course Name: Relational Database Management Systems Course Code: UG-CS-602	Students will be able to design E-R Model for given requirements and convert the same into database tables. Use database techniques such as SQL & PL/SQL. Explain transaction Management in relational database System. Use advanced database Programming concepts.
Course Name: Computer Network Course Code: UG-CS-603	Students are able to understand the information exchange done across the network with the help of OSI & TCP/IP models. Student understands how errors are captured & handled in network, various attack & its prevention techniques.
Course Name: Theoretical Computer Science Course Code: UG-CS-604	Students are able to understand the use of Sets, Relations and Graphs. Understand Languages in TCS. Introduction of Regular Languages and Expressions. Understand Pumping Lemma and its applications. Explore the knowledge of Pushdown Automata. Understand Normal Forms with Examples. Understand Turing Machine.
Course Name: Python Programming – II Course Code: UG-CS-605	Students will be able to explain basic principles of Python programming language. Implement object oriented concepts, database applications. Construct regular expressions for pattern matching and apply them to various filters for a specific task. Design and implement Database Application and Content providers. Apply the best features of mathematics, engineering and natural sciences to program real life problems.
Course Name: JAVA Programming-II Course Code: UG-CS-606 B)	Students will be able to program using graphical user interface with Swing classes. Handle different kinds of events generated while handling GUI components. Create programs using menus and dialog boxes. Program to create applets. Understand advanced java concepts like JDBC, Java Beans.
Course Name: Lab on Python Programming – II Course Code: UG-CS-Lab-607	Students will be able to design and implement Database Application and Content providers. Apply the best features of mathematics, engineering and natural sciences to program real life problems.
Course Name: Lab on RDBMS Course Code: UG-CS-Lab-608	Students will be able to use SQL & PL/SQL. Perform advanced database operations. Create database tables in postgre SQL. Write and execute simple, nested queries.
Course Name: Lab on JAVA Programming II Course Code: UG-CS-Lab-609 B)	Students will be able to program using graphical user interface with Swing classes. Handle different kinds of events generated while handling GUI components. Create programs using menus and dialog boxes. Program to create applets. Understand advanced java concepts like JDBC, Java Beans.

Department Of Psychology

Course Outcomes (COs)

FYBA (Semester : I)

Name of the Course (Subject) : Foundations Of Psychology

1. To impart knowledge of the basic concepts and modern trends in Psychology.
2. To relate the fundamental principles of Psychology in everyday life.
3. To make the students aware of the applications of Psychological concepts in various fields.
4. To create interest in the subject of Psychology.

FYBA (Semester : II)

Name of the Course (Subject) **: Introduction To Social Psychology**

1. To understand the basics of social psychology and to understand the individual in the social world.
2. To make the students aware of the applications of the various concepts in Social Psychology in the Indian context.

To develop social behavior and interpersonal skills.

SYBA (Semester : III)

Name of the Course (Subject) : **Human Developmental Psychology- Early Life**

1. To equip the learner with an understanding of the concept and process of human development across the life span.
2. To impart an understanding of the various domains of human development.

SYBA (Semester : IV)

Name of the Course (Subject) : **Human Developmental Psychology- Later Life**

1. Introduce students to the concepts, theories, and research which define this discipline of psychology.
2. Develop the students' capability for connecting discipline content to personal values and behavior.
3. Provide an understanding of the explain issues underlying lifespan development.

TYBA (Semester : V)

Name of the Course (Subject) : **Management of Interpersonal Relations**

1. To develop the skills of positive interpersonal communication.
2. To impart an understanding of the various domains of human relationships and process of adjustment.
3. To develop the good decision making to career choice.

TYBA (Semester : VI)

Name of the Course (Subject) **: Adjustment in Life Span**

1. To impart an understanding of the self-concept and self-esteem.
2. To develop the skills of coping with stress.
3. To understanding the effect of habit to lifestyle.

DEPARTMENT OF ECONOMICS		
Course Outcomes		
F.Y. B.A		
	DSC-Eco G 101(A): Sem.-I-& II Principles of Micro Economics –I & II	After completing the Course, 1) A student will be acquainted about the basic principles of Micro Economic Theory. 2) Student will be well known about the behavior of consumer, producer in Economy, Price determination in market and factor pricing. 3) Student will be known about how to Micro Economic Concept can be applied to analyze real life situation.
S.Y. B.A		
	DSC-Eco 231 C & DS C Eco 241 D [Sem.- III & IV] Indian Economy Since 1980-I & II	After completing the course, 1) A student will be able to understand various issues of Indian Economy. 2) A student will be quite capable to analyze current Indian Economic problems 3) A student will be quite prepare to appear the MPSC, UPSC and other competitive Examinations.
	DSE –Eco 232 (A) & DSE Eco 242 (B) Sem.-III & IV Agricultural Economics I & II	After completing the course, 1) A student will be able to understand various issues of Indian Agriculture. 2) A student will be quite capable to analyze current Indian Agricultural Problems. 3) A student will be quite prepare to appear the MPSC , UPSC and other competitive Examinations .
	DSE –Eco 233 (A) & 243 (B) Sem.-III & IV Advanced Macro Economics I & II	After completing the course, 1) A student will be acquainted about the knowledge of Macro Economics concept and theories. 2) A student will be acquainted about the knowledge of Macro Economics Problems and Policies.

		3) After completing the course analyzing capacity of the student in applying theories to real life situation will be developed.
	SEC- Sem -III & IV Research Methodology for Economics I & II	After completing the course a student will be acquaint about the Research Methodology for Economics .
T.Y. B.A.		
	Eco 351 & 361 Sem - V & VI Indian Economy Since 1980-III & IV	After completing the course, 1) A student will able to understand the various issues of the Indian Economy. 2) Analyzing capability of students in the context of current Indian Economic problems will be developed. 3) A student will be quite Prepare to appear the MPSC, UPSC and other competitive Examinations.
	Eco.352 (A) & 362 (A) Sem. V- & VI Economics of Public Finance –I & II	After completing the course, 1) A student will able to understand the various issues of the Public Finance and Policies. 2) Analyzing capability of students in the context of current Public Finance and Policies 3) A student will be quite prepare to appear the MPSC,UPSC and other competitive Examinations
	Eco.353 (A) & 363 (A) Sem. V- & VI Theory of International Trade I & II	After completing the course, 1) A student will able to understand the various issues of the International trade and Practices. 2) Analyzing capability of students in the context of International Trade and Practices 3) A student will be quite prepare to appear the MPSC,UPSC and other competitive Examinations
	SEC-EC0 354- 364 Modern Banking and Indian Banking System Sem- V & VI	After completing the course 1) The Knowledge of student in banking and financial market will be improved.

		2) The Knowledge of student about new changes and technology in banking will be upgraded. 3) A Student will be able to know more about Indian banking system. 4) About the relevance of banking practices to modern competitive world
	GE- ECO355&365 Indian Economic Environment I&II Sem- V & VI	After completing the course, 1) A student will be acquainted about Economic Environment for Business. 2) The knowledge of the student about new reforms in Indian Economy will be upgraded 3) The student will be partially Prepare to face competitive Examination

DEPARTMENT OF HISTORY		
Course Outcomes		
F.Y. B.A		
	HIS. DSC: - Sem.: I A1 History of India (1857-1950) HIS. DSC:- Sem.: II A2 History of India	**After completing the Course,** 1.To Introduce various perspectives of the Indian Freedom Movement 2.To develop the spirit of Nationalism among students. 3.To bring an awareness among the students as responsible citizen of the country 4.To inculcate Liberty, Equality and Fraternity among the students.
S.Y. B.A		
	DSC-HIS:-231, Sem.: III History of Marathas (AD1605-AD 1750) DSC-HIS:-241, Sem. :IV History of Marathas (AD1605-AD 1750)	**After completing the course,** 1. To Create and enhance interest about regional History among the students. 2. To acknowledge students how Shivaji Maharaj 3. created the empire in adverse circumstances 4. To motivate students for the research work of the Marathas History 5. Useful for the preparation of the competitive examinations
	SEC-HIS :-234, Sem. :III Research Methodology in History SEC-HIS:-244, Sem. :IV An Introduction of Archives in India	**After completing the course,** 1.The paper is designed to provide adequate conceptual base, bring better understanding of History and its forces, help interrogate existing paradigms and challenge the outdated help in developing critique, help research in terms of formulating hypotheses & develop broad frames of

		interaction with other social sciences and attain certain level of Interdisciplinary approach 2 To create awareness among the students about the role o Archives in the preservation of Heritage 3 To introduce the importance of Archives in study of History 4 To create awareness to conserve the historical records in their local areas. 5 To encourage students to visit Archives. 6 To crate interest of students to pursue career in the field of Archives.
T.Y. B.A.		
	HIS:-351, A Sem. :V History of Modern World (1789-1900) HIS:-361, A Sem. VI History of Modern World (1901-1945)	**After completing the course,** 1. Syllabus covers the competitive Examinations 2. Career & Job oriented syllabus 3 .To make awareness about World History 4 .To Develop the Skill and opportunities among the students

Arts and Science College Bhalod, Dist. Jalgaon. Department of Marathi			
Sr. No	Class	Name of the Subject	Course Outcome(S)
1	F.Y.B.A. -I	Study of literary Genre,short story.	Story concept & form/plot,charectrization,conflict/narrative& language style,introduction to story styps.
	F.Y.B.A. -II	Study of literary Genre,poetry.	Poetry concept& form,element translation,sound,rhythim,symbol,image composition poetic language.
2	S.Y.B.A.-G.2.I	Study of speculative prose	Coneptual prose form,concept/life and work of mahatma phule/understanding of farmers and agriculture system.
	S.Y.B.A.-G.2.II	Study of Biografhy,Autobiografhy	Literary qualitis of Biography and Autobiographical essays,truth vision,lingastic skills.
3	S.Y.B.A.-S.1,I	Modern literary type;Novel	Novel form and features/progress of Marathi novel events.village life,language style,conflict etc.in the novel introduction to.
	S.Y.B.A.-S.1.II	Modern literary type:poetry	Nature and charactaristics of poetry/progress of Marathi poetry/introduction to Marxism,labor

			word,metropolitan consciousness in my university collection.
4	S.Y.B.A.-S.2,I	Indian and western literary thouguts.	Introduction to Indian poetry charectristics/Introduction to western literature/purposes reasons of literature.
	S.Y.B.A.-S.2,II	Indian and western literary thouguts	Figures of speech form and style/pleasure and test in literature.
5	S.Y.B.A.-SEC.I	Writing skill,Print media	Typography formate and process/Typography application,punctuation rules importanceof punctuation.
	S.Y.B.A.SEC.II	Writing skill; creative writing	Creative writing style,comprehention,story writing,play writing,plot,character,atmosphere.
6	S.Y.B.A.MIL.I	Writing for print media	Nwspaper origin and Development uses.techniques of news writing,languas/comprehension of colums or writing Audio media.
	S.Y.B.A.MIL.II	Writing and communication for Audio media	Nature and introduction/ Nabhovani origin and Development/daily functioning of Akasvani,uses.
7	T.Y.B.A.G-3,I	Study of one act writing	One act form and concept charectristics of dalit one act writing theme,plot,charecters.
	T.Y.B.A.G-3,II	Study of Fine prose writing	Marathi fine prose form,special,short essay,thoughtfulness women philosophy,etc.
8	T.Y.B.A.S-3,I	History of mediavel Marathi language.	History mediavel Marathi vadmay forms,feactures.mahanubhava sect philosophy and prose-verse literetuare introduction.shahiri,powada,lavani introduction.
	T.Y.B.A.S-3,II	History of mediavel Marathi language	Varkari sect philosophy/Bakhar writing motivation And role.Introduction to selected test typs
9	T.Y.B.A.S-4,I	Linguistic study of marathi	Fungtion and importance of language.theory of language origin,tools/language concept of Marathi.
	T.Y.B.A.S-4,II	Linguistic study of marathi	Temporal and regional difrences of Marathi,proportional language and dialect correlation linguistic misunderstanding Dominance of Sanskrit,parsi English on Marathi.
10	T.Y.B.A.GE-I	Marathi folk theatre	Form and feactures of folk theatre.kirtan,bharud ,vahi,dashawtar forms and roles.
	T.Y.B.A.GE-II	Marathi folk theatre	Traditional and modern folk theater.Tamashya,loknatya,pathnatya etc.forms and roles.
11	T.Y.B.A.MIL-I	Writing for Audio visual media	Form,fungtion and usefulness of writing and dialogue for audio visual media,writing

			code and writing techniques for serial,dialogue.
	T.Y.B.A.MIL-II	Writing for modern social media	Writing for social media and consultation,usefulness of website,e-mail,blog fecebook,writing skills etc.
12	T.Y.B.A.SEC-I	Writing skill:essay writing.	Essay concept and formet,types of essay writing,Applications of essay writing.
	T.Y.B.A.SEC-II	Writing skill : Book revied writing	Book revied concept,comprehension,revied of book qualitive revieoo.
13	S.Y.B.Sc.-I	Science story and notification writing.	Science fiction and notification writing.
	S.Y.B.Sc.-II	Humorous story and Science writing.	Humorous story form,special/plot,characterization,dialogue language styl.introduction/communication skills,format and application.
14	F.Y.B.Sc.	Study of story and communication skills.	Characterise languge communicate skill: scope of uses.

T.Y.B.A. Political Science, Semester V Paper Code : DSE-3A Western Political Thinker Part – I

Corse outcomes:-

The Course gives and introduction to political thought process and theory making in the west from the Greek political thinkers to down the ages including Utiitarians,these course introduce the student to the richness and variations in the political perceptions of western thinkers it provides a foundation to students of political science in familiarizing themselves to the thought and theory of western philosophy it particularly focuses on the evolution of idea and institution of state in the west it covers ancient medieval and early modern thinkers . Analyzing the thought of aristotal,maciyavally,& ruso.

T.Y.B.A. Political Science, Semester V Paper Code : DSE-4 A Political Sociology Part – I

Course outcomes:-

1. Studying the concepts of political sociology, political system, political culture, political socialization, political participation , political leadership.

2. Evaluating the political culture .

3. Classifying the different types of Political systems.

T.Y.B.A. Political Science, Semester V Paper Code : DSC-1 E Indian Political Thinker Part - I

Course outcome-

1- Tracing the evolution of Indian political thought from ancient India to modern India.
2- Analyzing & Discussing the nationalist thought of dadabhai navroji, lokmanya tilak, mahatma gandhi
3- Analyzing the Gandhian Movements such as the Khilafat, Non Cooperation, Civil Disobedience movements.

T.Y.B.A. Political Science, Semester V Paper Code : SEC- 3 Journalism and Mass Communication

Course outcome-

Students would be able to relate to the emerging trends in the field of journalism. Students would be able to analyze the various aspects of journalism with objectivity. : Students would be able to identify, assess, and analyze the ideological issues related to journalism.

T.Y.B.A. Political Science Semester V Paper Code : GE 1A: Indian Civil Services

Course outcome-

Main intent of civil services is **to strength the administrative capacity to perform important government functions**. These reforms raise the quality of services to the citizens that are essential to the advancement of supportable economic and social development. student are knowing function of mpsc & upsc .

T.Y.B.A. Political Science Semester VI Paper Code : DSE-3 B Western Political Thinker Part – II

Course outcome-

1. Providing an insight into the dominant features of Ancient Western Political Thought: Ancient Greek political thought with focus on john stuart mill, karl marks, Harold laski,
2. Evaluating the the views on women liberty,state of clasess & stateless society.
3. Critically examining John Stuart Mill's views on liberty and representative government.
4. Examining the varieties of non-Marxist socialism: Fabianism, Syndicalism, Guild Socialism, German Revisionism.

T.Y.B.A.Political Science Semester VI Paper Code : DSE-4 B Political Sociology Part – II

Course outcome-

1. Studying the concepts of Power, Authority and Legitimacy in the context of society.
2. Evaluating the concept of public development & modernization.
3. Discussing the concept of political communication & public opinion .
4. Assessing the approaches to political influence & political legitimacy.

T.Y.B.A. Political Science, Semester VI Paper Code : DSC-1 F Indian Political Thinker Part - II

Course outcome-

1. Tracing the evolution of Indian political thought from ancient India to modern India.
2. Analysing the nationalist thought of vinayak damodar savarkar.
3. Assessing the nationalist thought of dr babasaheb ambedkar & pandit neharu.
4. Describing the movements against caste and untouchability, Ambedkar's views on Social Justice and the depressed classes.
5. Discussing the roots of communalism- Savarkar and Hindu Nationalism and Jinnah and the two nation theory.

T.Y.B.A.Political Science, Semester VI Paper Code : SEC- 4 Political Journalism

Course outcome-

- Describes political journalism.
- Explains the key concepts in political journalism.

- Explains the role of political journalism in a democratic regime.
- Describes the methods of political journalism.
- Discusses the role of political journalism during leadership delopment.
- Discusses the role of political journalism in awareness.

T.Y.B.A.Political Science, Semester VI Paper Code : GE 1B: Management and Good Governance

Course outcome-

Course Learning Outcomes are **specific and measurable statements that define the knowledge, skills, and attitudes learners will demonstrate by the completion of a course**. Learning Outcomes are written with a verb phrase and declare a demonstrable action within a given time frame, such as by the end of the course. Student are knowing silent features of good governance,function of management (POSDCORB),functions of administrative leadership.

S.Y.B.A. Political Science, Semester III Paper Code : DSE – 1A Reading Mahatma Gandhi

Course outcome-

After the completion of this course, the student-learners would be able to:

- Draw a link between the life and work of Gandhi particularly the nature of the continuity between his experiences and encounters in South Africa and his spearheading of India's freedom struggle.
- Explain the central tenets of Gandhi's thought and political practice such as satyagraha, ahimsa, and Swaraj and their significance against the backdrop of the political imagination of both his and the present time.
- Develop an appreciation of Gandhi's contribution to India's freedom struggle and the influence of his ideas and thought around the globe particularly relating to peace and non-violence movements for justice and equality.

S.Y.B.A. Political Science,

Semester III Paper Code : DSE – 2A Government and Politics of America

Course outcome-

Upon completion of this course, the student will be able to:

1. Demonstrate in writing a basic knowledge of the functions of American government.

2.Discuss in writing the constitution, federalism, civil liberties, and foreign policy in American government from development to the present.

3. Recall elements of the constitution, civil liberties, federalism, the functions of the three branches of government, and the expansion of the role of government in American life.

S.Y.B.A.Political Science Semester III Paper Code : DSC – 1C Introduction to Administration of Maharashtra

Course outcome-

Course Learning Outcomes are **specific and measurable statements that define the knowledge, skills, and attitudes learners will demonstrate by the completion of a course**. Learning Outcomes are written with a verb phrase and declare a demonstrable action within a given time frame, such as by the end of the course. student are knowing history of estsblishment in Maharashtra, role of chief secretary of state,districr collector role & functions.

S.Y.B.A. Political Science Semester III Paper Code : SEC 1 Introduction of Research Methodology in Political Science

Course outcome-

- Able to do research, including the problem analysis, setting goals and objectives, defining the research subject, selecting research methods including its quality control.
- Able to solve professional problems based on synthesis and analysis
- Able to identify scientific subject
- Student is capable of posing research problems relevant to the study of political phenomena and political processes; setting particular research tasks; and putting together a research design
- Student is capable of choosing research methods appropriate for resolving the professional tasks
- Student is capable of retrieving, collecting, processing and analysing information relevant for achieving goals in the professional field.

S.Y.B.A.Political Science, Semester IV Paper Code : DSE – 1B Reading Dr.Ambedkar

Course outcome-

After completion of this course, the students would be able to:
a) Gain general familiarity with the life and works of Dr Bhimrao Ambedkar;
b) Get some understanding of Ambedkar's critique of caste;
c) explaining the thought of political parties,freedom of press.
d) Appreciate Ambedkar's contributions to the making of India's Constitution.

S.Y.B.A. Political Science Semester IV Paper Code : DSE – 2B Government and Politics of China

Course outcome-

On successful completion of this module a student will be able to:

- Demonstrate a knowledge of the key themes of continuity and change in Chinese politics from the Republican period to the present
- Understand the key problems of governance in a state as large and complex as China
- Student are knowing silent features of chinas constitution, military administration ,political parties in china.

S.Y.B.A.Political Science, Semester IV Paper Code : DSC – 1D Introduction to Local and District Administration of Maharashtra

Course outcome-

- An understanding of the problems and issues that are faced in the rural areas, especially of Maharashtra is generated through this course.

- Some of the most effective debates are seen to emerge from these topics. Learners' viewpoints and maturity of thoughts are usually found to be commendable.The course creates learners with a wholesome understanding of administration urban grassroots.

- Evaluation and analyses of the issues discussed in this course in fact help learners realistically analyse the extent of urban challenges at hand.

- student are knowing constitutional & legal board of Maharashtra.

S.Y.B.A. Political Science, Semester IV Paper Code : DSC – 4 D Minor Research Study Project

Course outcome-

A fully engaged student shall be able to get exposure to undertake a short research project. Also, able to communicate and demonstrate the learning through structured thesis and oral presentation

S.Y.B.A.Political Science, Semester IV Paper Code : SEC – 2 Election Management

Course outcome-

1. student are knowing election commission structure,power,function
2. discussing the election process & compaign.
3. Explaining the election methods & political participation

F.Y.B.A. POLITICAL SCIENCE - General Paper C.C. POL - G 101 - A - (Semester I) Indian constitution

Course Outcomes:-

1. Outlining the basic values and philosophy of Indian Constitution as expressed in the Preamble
2. Studying Fundamental rights , duties and Directive Principles of State Policy.
3. Examining Indian constitutional bodies & amendment process.

F.Y.B.A. POLITICAL SCIENCE POL - G - 201 - B - (Semester II) Indian Government

Course outcome-

1 .Analyse the Indian political system, the powers and functions of the Union, State and Local Governments in detail

2.student are knowing judiciary & constitutional commission process, centre –state relation & civil services.

Department of Hindi

Class	Subject	Cos
F.Y B.A	DSC-HIN A-1 Sem I &II Hindi Story – I -111 Hindi Porty – II - 121	After Completing the Course. 1. Students have been introduced to Hindi story mode. 2. Faith in human values has been built in the umbrellas. 3. Students linguistic ability has been developed though various stories . 4. Students are made aware of Social empathy through various stories.
S.Y.B.A	MIL- I Hindi 235 Sem III Writing Social : Media & literature (Short Story) MIL- II Hindi 245 Sem IV Writing Social : Media literature (Geet Navgeet)	After Completing the Course. 1. Student are introduced to the theory of creative writing. 2. Demonstrates the creative process of creative writing through Hindi short stories. 3. Human Values are promoted and protected through Hindi stories. 1. Introduced Student to Media writing skills. 2. Introduced student to varioes types of media writing skills. 3. Introduced student to Hindi Songs & New Songs.
S.Y.B.A	GEN- DSC-1 (C) A Hindi 231 Sem – III Non_ prose Streams GEN- DSC – 1 (D) A Hindi 241 Sem- IV Best Hindi Singal	After Completing the Course. 1. Introduced the Student to the classic works of "kathetar gadya vidya" 2. To nature students through non-finction prose. 1. Develomental introduction of one act play. 2. General introduction of major playwrights. 3. Explained the theatrical effect through ane act plays.
S.Y.B.A	SKILL SEC-I Hindi 234 Sem- III Linguistic Communication SKILL SEC-II Hindi	After Completing the Course. 1. Introduced Student to the theory of linguistic communication. 2. Introduced to the student the major typs of communication. 3. Introduced varies forms of written communication to the student.

S.Y.B.A	SPL- S 1 DSE – I (A) Hindi 232 Sem - III Poetry SPL S 1 DSE – I (B) Hindi 242 Sem - IV Poetry	After Completing the Course. 1. General Introduction to poerty. 2. Introduced various genres of poetry. 1. General introduction to poerty. 2. Introduced various power of words. 3. Introduced "Shabdhashaktiyo". 4. Introduced Varses & rhymes.
S.Y.B.A	SPL- S 2 DSE - II (A) Hindi 233 Sem – III Hindi Novel Mode (Time of Gamut) Spl- S-2 DSE – II (B) Hindi	After Completing the Course. 1. Introduced visasatmak of Hindi novel. 2. General introduction of leading Hindi novelists. 1. Gave developmental introduction to Hindi drama lore. 2. Introduced students to tribal literatutr & culture. 3. Highlights the interrelationship between Hindi drama & theater.
Class	Subject	COs
T.Y B.A	MIL – III Hindi 356 Sem – V Editing writing & literature (Print Media) MIL IV Hindi 365 sem – VI Movie & literature (Electronic media	After Completing the Course. 1. Students will be exposed to editorial art. 2. Students will become familiar with the qualification , responsibilities & importance of an editor . 3. Students will be gain knowledge of the principles and methodology of editorial writing . 1. Students will be aware of the history of Hindi cinema. 2. Students will be get information about the reiationship between huindi movies & indian.
T.Y.B.A	G – 3 DSC –E (A) Hindi 351 Sem – V Special Mode – Travel Literature	After Completing the Course. 1. After reading this course students will get the theoretical knowledge of travel literature. 2. After get theoretical knowledge of travel literature. 3. Students will imbibe the art of writing travel literature work. 1. Students will be familiar with indian saint poetry 2. Culture of different states of india students willngain knowlwdge of surroundings & traditions.

T.Y.B.A	Skill DEC – III Hindi 354 Sem - V Hindi grammar & expretion Expression Distionary Skill – DEC –IV Hindi 364 Sem – IV Hindi Standardization & Inaccuracy of Hindi Language	After Completing the Course. 1. The standard form of Hindi language will be understood because of grammer students . 2. wil be an understandingof the structural structure . 3. Its usefulness will be proved in the competitive examination (written & oral). 1. By developing theability pure writing ability, it's will be easier for the students to get employment opportunitis in the fields like jounalisum , publishing department literature writing ets. 2. The prrsonality of the students will be developed by studying this course .
T.Y.B.A	SPL – S-3 DSE –III Hindi 352 Sem- V History of Hindi Literature (Aadikal, Bhaktikal & Ritikal) SPL - S-3 DSE- III (B) Hindi 362 Sem- VI History of Hindi Literature (Morern period)	After Completing the Course. 1. Students will become familiar with the time division & homenclature of Hindi literature. 2. Student will gel the knowledge of major sotuations, trents & Major work of primitive literature. 3. Student will be acquainted with the major circumstance, trends & works of major composers of bhakti 1. Students will get knowledge of the main features of Bharatendu period poetry. 2. Student will get an introduction to literay debates . 3. Students will be familiar with the poetry & prose works of modern times .