Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

INTERNAL QUALITY ASSURENCE CELL (IQAC)

AY: 2023-24

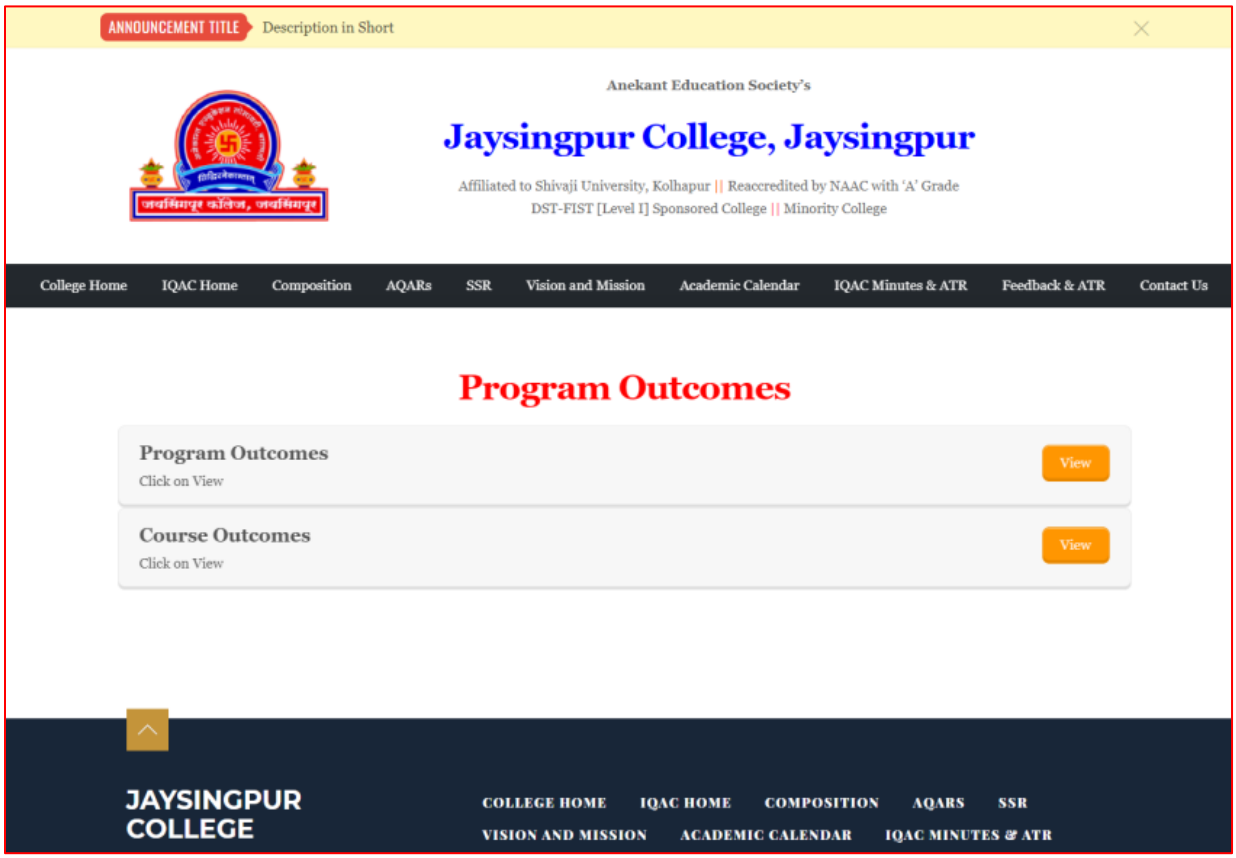
2.6
Student Performance and Learning Outcome

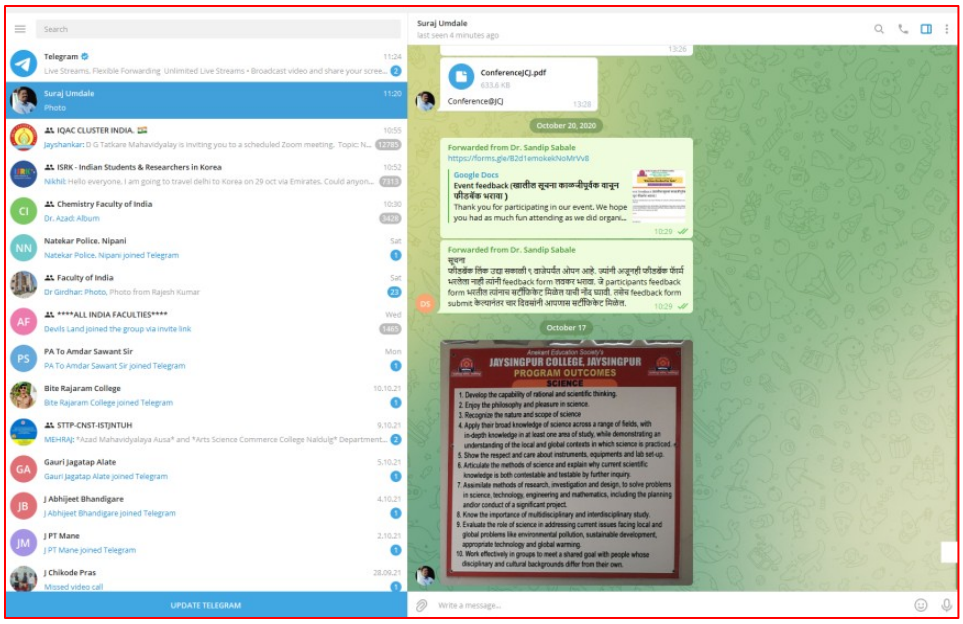
2.6.1.
Programme and Course Outcomes

AY: 2023-24

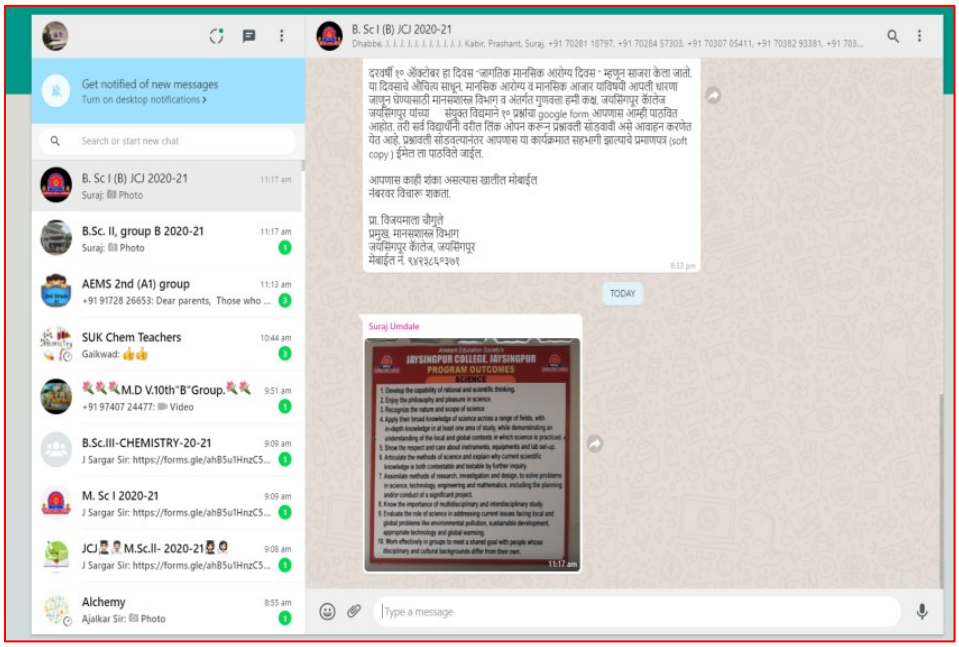
POs and COs are Disseminated by Following Ways

1. Displayed on Website



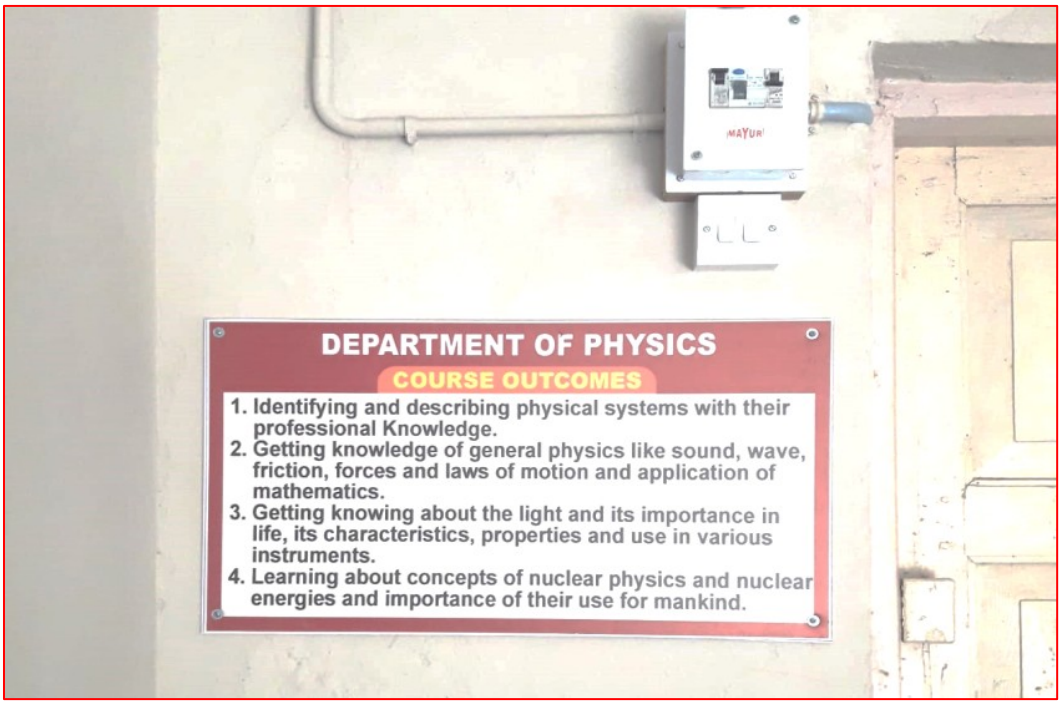


On Telegram



On WhatsApp

POs displayed in Campus



COs in premise ....

Course Outcomes

B.Sc.-I: Semester-I

Inorganic Chemistry: (Paper- I)

Course Outcomes	After successful completion of three year degree program in Chemistry students are;
CO-1	Getting to know the structure of atoms and their principles, details of periodic table.
CO-2	Knowing various types of ionic bond and ionic compound study.
CO-3	Knowing study of Molecular orbital Theory.

Organic Chemistry: (Paper-II)

Course Outcomes	After successful completion of three year degree program in Chemistry students are;
CO-1	Understanding the fundamentals of Organic Chemistry.
CO-2	Imparting the knowledge of stereochemistry of different organic compounds among the students.
CO-3	Studying aromaticity, electrophilic substitution reactions and their mechanism
CO-4	Knowing various method of preparation and chemical reaction of cyclo alkane, cyclo alkene and alkadiene.

COs in the form of Flyers

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

Programme and Course Outcomes

(POs and COs)

AY: 2023-24

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF CHEMISTRY

AY: 2023-24

Master of Science (M. Sc.)

PROGRAM SPECIFIC OUTCOMES (PSO)

After completing M.Sc. Chemistry programme, students will be able to:	
PSO1	Demonstrate and apply the fundamental knowledge of the basic principles in various fields of Chemistry
PSO2	To impart knowledge of Chemistry covering all the aspects such as Inorganic, Organic, Physical and Analytical Chemistry.
PSO3	Create awareness about environment responsibilities and apply knowledge to resolve the problems associated to Environmental pollution.
PSO4	This understanding to build up industry for developing endogenous product.
PSO5	Apply various aspects of chemistry in natural products, pharmaceuticals, dyes, drugs, soil, fertilizers, textiles, polymers, petroleum products etc. and also to develop interdisciplinary methodology of the topic.
PSO6	Moreover, also creating them aware of the recent border areas of knowledge and the methodologies needed for research in Chemistry.

COURSE OUTCOMES (CO)

M. Sc. I- Sem. I	
Paper I- Inorganic Chemistry	
Course outcome	**Expected learning outcome**
CO1	Students will have an understanding of the fundamental concepts in coordination chemistry of transition metals: properties of transition elements, CFT, CFSE of various complexes interpretation of electronic spectra. Students will understand the theories of chemical bonding in co-ordination chemistry
CO2	To Knowing the metal-carbonyl ligand interactions and understanding the bonding and back bonding. Also to study various miscellaneous derivatives of metal carbonyl compounds.
CO3	To Learn and understand the fundamental properties of Organometallic compound w.r.t structure, bonding, classification chemical properties. Students will understand the metal π –Complexes, π-acceptor ligands, 18 e - rule, Hepaticity, Sandwich

	compounds, etc.
CO4	Students will interpret metal ligand equilibria in solution through stepwise and overall formation constants, chelate effect, inert and labile complexes. Students will have an understanding of reaction mechanism of transition metal complexes through kinetics of octahedral substitution, acid hydrolysis, the trans effect, etc. Students will Identify and define various types of nuclear changes or processes including fission, fusion and decay reactions. Understand the interaction of radiation with matter and how it can be used for detection of radiation
Paper II- Organic Chemistry	
CO1	Learning and understanding and able to differentiate between various organic reactive intermediate. Recognize, classify, explain and apply fundamental organic reaction. Learning and understanding SN1, SN2 and SNi Reaction mechanism and their stereochemistry in different organic system.
CO2	Identification of difference between Aromatic non aromatic and anti aromatic by using huckel's rule in benzenoid and non-benzenoid compounds in three, four and five membered system. Acquiring the knowledge of electrophonic and nucleophilic substitution reaction in aromatic system.
CO3	Able to identify and differentiate between E1, E2 and E1cb elimination reaction. Acquire the knowledge about Saytzeff and Hoffman Elimination. Learning and understanding of reaction mechanism of condensation reactions involving enolates such as Benzoin, Stobbe, Robinson annulations, Nef, Dakin, Mitsunobu reactions etc.
CO4	Understanding various terminologies in stereochemistry, able to differentiate between homotopic enantiotopic and disteriotopic group and faces, able to understand racemic modification and their resolution and R, S nomenclature.
Paper III- Physical Chemistry	
CO1	Understating and learning of basic concepts: Entropy and third law of thermodynamics. Methods of determining the practical absolute entropies. Entropies of phase transition. Maxwell relations and its applications, thermodynamic equation of state.
CO2	Understanding and learning of Probability and distribution, Stirling Approximation, Weights and configurations, Partition function and its significance
CO3	Knowledge of Colloidal Systems-Sols, Lyophilic and lyophobic sols, properties of sols, coagulation. surface tension and surfactants, electrokinetic effects, micelles Adsorption, adsorption isotherms, methods for determining surface structure and composition, BET equation, surface area determination, Gibbs adsorption, equation and its verification

CO4	Learning and coherent understanding of basic concepts in Macromolecules: Mechanism of polymerization, molecular weight of a polymer (Number and mass average) viscosity average molecular weight, numerical problems. Degree of polymerization and molecular weight, practical significance of polymer molecular weight, methods of determining molecular weights
Paper IV- Analytical Chemistry	
CO1	Understating and learning of fundamental techniques for qualitative and quantitative analysis. Understanding errors treatment involve recognizing and minimizing sources of error in experiments. Statistics in analytical chemistry helps analyse data, determine accuracy and precision and assess the reliability of results.
CO2	Understanding and learning of fundamental techniques of quantitative analysis. Knowledge of various type of titrations, neutralization curves, indicators used in various titrations. Student should understand types of titration, indicator theory, gravimetric analysis, co-precipitation, post precipitation and advantages and disadvantages of these methods.
CO3	Knowledge of chromatographic separation technique and terms involved in it. Learning paper chromatography and thin layer chromatography Understanding and learning of principle and instrumentation of chromatographic techniques such as TLC, column, GC and HPLC. Student should gain knowledge of chromatographic methods and applications.
CO4	Learning and coherent understanding of basic concepts in electroanalytical techniques such as amperometry, polarography. Student should understand and learning of instrumentation, principle and applications of Amperometry and voltammetry techniques.
M. Sc. I- Sem. II	
Paper V - Inorganic Chemistry	
CO1	Students will have an understanding of the fundamental concepts in Non- Transition elements: properties of non- transition elements. Detailed knowledge of various Non – transition compounds
CO2	Students will understand the various kinds of hybridization, VSEPR theory, stereochemistry and covalent bonding in various inorganic compound. Students will learn about non-aqueous solvent and is designed to acquaint the students with detail information about solvents, other than water, which is the most familiar and known solvent
CO3	Knowing the basic aspects of oxidation spectral and magnetic properties of Lanthanides and actinides, photoluminescence properties of Lanthanides, separation methods and applications of Lanthanides and actinides

CO4	Students will acquaint the crystal structure, crystal types, crystal defects, theory of metal, semiconductor and insulator. Concept of superconductors, its optical and magnetic properties . Students will acquire foundation knowledge of the biochemistry w.r.t structure, biological processes and properties in metalloprotein, porphyrines, metalloenzymes, ferrodoxin ,iron sulphur protein, nitrogen fixation – nitrogenase and metal complexes
Paper V - Organic Chemistry	
CO1	Understanding and illustrating the mechanism of various organic rearrangement reactions such as Curtius, Lossen, Witting, Neber, Ortaon Demjanov reaction.Interpretation and learning of effect of light intensity on the rate of photochemical reactions, identification of types of photochemical reaction and photochemistry of various organic system and compounds.
CO2	Learning and understanding of various hydroborating agents their mechanism and synthetic application. Identifying borane as reducing agent. Recalling the knowledge of Formation reactivity and synthetic application of enamins. Learnign and understanding the applications of various oxidising agents.
CO3	Understanding the reduction reactions such as catalytic hydrogenation using homogeneous and heterogeneous catalyst and summarizing the different important reducing reagents in organic reactions. Learning and understanding the importance of protection of functional group in various organic reactions and interpreting the protection of alcohol, amines carbonyl and carboxyl group.
CO4	Learning and understanding the meaning of organometallic compounds, use of Lithium dialkyl cuprate and their addition to different organic compound. To know about the the basics of disconnection approach. Learning and understanding ideas of synthons retrones and functional group interconversions.
Paper VII- Physical Chemistry	
CO1	Understating and learning of basic concepts: Wave particle duality of material and De Broglie's hypothesis, uncertainty principle, Schrodinger equation, wave function, conditions for acceptable wave functions and its interpretation, properties of wave functions, Operators, particle in a box
CO2	Understanding and learning of Absorption of light, laws of photochemistry, electronic structure of molecules, molecular orbital, electronically excited singlet states, designation based on multiplicity rule, construction of Jablonski diagram,Photochemical reactions, photo-oxidation, photoreduction, photo-dimerization, photoisomerization and photosensitized reactions. Photochemistry of environment: Greenhouse effect.

CO3	Knowledge of Activity and Activity coefficients,Types of electrodes, Determination of activity coefficients of an electrolyte using concentration cells, instability constant of silver ammonia complex. Acid and alkaline storage batteries, Abnormal ionic conductance of hydroxyl and hydrogen ions. Electrokinetic phenomena
CO4	Learning and coherent understanding of basic concepts in Experimental methods of following kinetics of a reaction, chemical and physical, Ionic reaction, Catalysis
Paper VIII- Analytical Chemistry	
CO1	Understanding of electronic transitions, analysing conjugated systems, quantifying substance concentrations, applying Beer Lamberts law and its applications. Infrared Spectroscopy learning outcomes involve identifying functional groups, analysing molecular structure, distinguishing compounds, performing quantitative analysis and its applications. Structural problems based on UV-Vis and IR.
CO2	Understanding and learning of instrumentation, principle of NMR and mass spectroscopy, sample preparation, chemical shift, spin-spin coupling, Mclafferty rearrangements, fragmentation of alkanes, alcohols, ketons and applications. Simple structural problems.
CO3	Understanding of techniques like DSC, TGA and thermal conductivity measurements. Students should grasp how these method material properties and behaviour under different temperature conditions and applications.
CO4	AAS topic includes a thorough understanding of principles behind AAS, instrumentation and ability to analyse and interpret absorption spectra. Student should also gain knowledge of its elemental and environmental application.
M. Sc. II- Sem. III Analytical Chemistry	
Paper No. IX - Advanced Analytical Techniques	
CO1	Knowledge and understanding of theory behind mass spectrometry and instrumentation, Describe how ionization of molecules can take place, Explain how a mass spectrum should be used to identify unknown components. Also classification of mass spectrometry based on nature of compound to be analyzed and the ion sources.
CO2	To foundational knowledge of the Nanoscience and related fields. To make the students acquire an understanding the Nanoscience and Applications To help them understand in broad outline of Nanoscience and Nanotechnology.
CO3	To Learn and understand the principles and instrumentation and its applications of advanced equipment such as XRD, SEM, TEM, EDS, STM AFM etc. The purpose of this study was to characterise the of various organic and inorganic materials in terms of morphology, chemical composition, structure and crystalline phases.

CO4	To Learn and understand the principles and instrumentation and its applications of advanced equipment such as XFS, ESR, XPS SIMS, Auger electron spectroscopy etc. Student should understand theory of instrumental techniques analysis principle and its applications w.r.t research orientated.
Paper No. X - ORGANO ANALYTICAL CHEMISTRY	
CO1	Understanding of combining analytical methods such as GC-MS or LC-MS, IR, UV and NMR. Student should gain proficiency in instrument operation, data interpretation and applying these techniques for complex sample analysis. Structural problems based on UV-Vis, IR, Mass and NMR.
CO2	Acquiring skills in diagnostic laboratory techniques, understanding principles of clinical testing, interpreting test results and applying knowledge to identify and manage health conditions. Students should be capable of performing various clinical tests, recognizing abnormal results and analysis methods.
CO3	Drug analysis topic involves techniques such as chromatography and spectroscopic methods for drug identification and quantification. Student should develop skills in sample preparation, understand pharmaceutical analysis principle and applications.
CO4	Pesticide analysis topic involves techniques such as chromatography and spectrophotometric method for drug identification and quantification. Student should develops skills in sample preparation.
Paper No. XI - ELECTROANALYTICAL TECHNIQUES IN CHEMICAL ANALYSIS	
CO1	Understanding of analytical method voltammetry, different type of cyclic voltammetry, Practical applications in analytical chemistry and research.
CO2	Acquiring skills in Colloids solution, classification, theories of origin of charge on sol particles, Stability, Association, coagulation, kinetics of coagulation. Practical applications in analytical chemistry and research. Emulsion, Gels in practical applications in analytical chemistry and research.
CO3	Particle size analysis topic involves Low angle LASER light scattering their instrumentation, theoretical models, Dynamic light scattering, Comparison with particle size measurements using XRD, SEM and TEM.
CO4	These topic involves terminology, and different types of electrodes and applications. About paper electrophoresis and practical applications in analytical chemistry and research
M. Sc. II- Sem. VI Analytical Chemistry	
Paper No. XIII - MODERN SEPARATION METHODS IN ANALYSIS	
CO1	Understanding and learning of principle, instrumentation of Gas chromatography,. Student should gain knowledge of Gas chromatography-Mass Spectrometry, interface, instrumentation and applications. Introduction to TGA-MS/TGA-GC-MS and

	significance.
CO2	Advanced Liquid Chromatographic Techniques such as HPLC and Ultra Performance Liquid Chromatography (UPLC)-Principle, instrumentation, mobile phase, Stationary support in HPLC, detectors and applications topic involves techniques student should develop skill in sample preparation, Comparison of HPLC and GLC with SCFC.
CO3	Understanding and learning Principles, structure and characteristics of resins, eluent, supressor columns and detectors used in Ion Chromatography, commercial scope, analytical applications, environmental speciation by Ion Chromatography
CO4	Understanding and learning of Basic principles, classification of solvents extraction systems, extraction equilibria, factors affecting extraction process , application. Student should gain knowledge of extraction chromatography by solvation, extraction equilibria, nature of stationary phase in extraction chromatography, inert support, techniques in extraction chromatography, extraction chromatography with tributyl phosphate and other applications
Paper No. XIV - ORGANIC INDUSTRIAL ANALYSIS	
CO1	Understand and learning of isolation of oils from natural resources and their purification. Analysis of oils and fats: Student should gain knowledge of Classification of detergents, analysis of raw materials, separation as alcohol soluble and alcohol insoluble matter, additives in detergent formulation
CO2	Understand and learning of Food flavors, food colors, food preservatives, analysis of milk and milk products, adulterants in milk, analysis of honey, jam and their major component. Student will understand Additives in animal food stuff: Antibiotics: penicillin, chlorotetracyclin, oxytetracyclin in diet supplements; Identification and estimation of growth promoting drugs.
CO3	Students will acquire foundation knowledge Composition of creams and lotions, determination of water, propylene glycol, non-volatile matter and ash content; estimation of borates, carbonates, sulphates, phosphates, chlorides.Student should gain knowledge of Composition of face powder, Analysis of deodorants and antiperspirants-composition, analysis of fats and fatty acids.
CO4	Analysis of Paints, pigments and petroleum products topic involves test on the total coating, separation and estimation of pigments, binder and thinner of latex paints; modification of binder, flash point of paints. Student should gain the knowledge of constituents and petroleum fractionation, determination of water, neutralization value.
Paper No. XV - ADVANCED METHODS IN CHEMICAL ANALYSIS	
CO1	Understanding and learning of Fluorimetry, types of luminescence, Instrumentations, theories of fluorescence and phosphorescence, Chemiluminescence, Fluorescence sensing, Synchronous spectrum, Fluorescent nanomaterials and applications.

CO2	Understanding and learning of Theoretical basis of kinetic methods of analysis, methods of determining amount of the substance, Tangent Method, Fixed Time and Concentration method.
CO3	Students will acquire foundation knowledge of Basic principles, photoelectric effects, Photoionization process, Koopman's theorem, photoelectron spectra of simple molecules, ESCA.
CO4	Knowing the basic aspects of principle, X-Ray generation, Properties of X-radiation, X-Ray, Instrumentation, X-Ray Absorption and applications.
Paper No. XVI - APPLIED ANALYTICAL CHEMISTRY	
CO1	Students will acquaint to spectrochemical methods. Electronic spectra and molecular structure, NIR spectrometry for non-destructive testing. Solvents for spectrometry, FTIR spectrometer, fluorometry, optical sensors. Analysis of ores –bauxites, dolomites, monazites. Analysis of Portland cement.
CO2	Student obtains knowledge of foundry materials, ferroalloys, and special steels, slags, fluxes. Also to learn analysis of various types of alloys
CO3	The students are expected to gain theoretical as well as practical knowledge on different aspects of soil fertility and fertilizer use like essential nutrient elements, chemistry and transformation of nutrient elements and their management, soil test methods and fertilizer recommendations, soil test crop response.
CO4	Learn and understand analysis of explosive materials, TNT, RDX, lead azide, EDNA (ethylene dinitramine). Also analysis of conducting polymer, resins and rubber. Analysis of luminescent paints, Analysis of lubricants and adhesive.

M. Sc. II- Sem. III Organic Chemistry	
Paper No. IX- Organic reaction mechanism	
Course outcome	**Expected learning Outcomes**
CO1	Understanding and learning kinetic and non-kinetic methods to identification and determination of reaction mechanism.
CO2	Able to identify a reaction as cycloaddition, electrocyclic reaction and sigmatropic rearrangement and able to explain the electron moment in pericyclic reaction.
CO3	Learning and understanding synthesis and application of various ylides as nitrogen, sulphur and phosphorus. to study various reactions.
CO4	Identification and detection of types of free radical reactions by ESR technique and study of various synthesis involving free radical as an intermediate.
Paper No. IX- Organic reaction mechanism	
CO1	Understanding and learning kinetic and non-kinetic methods to identification and determination of reaction mechanism.
CO2	Able to identify a reaction as cycloaddition, electrocyclic reaction and sigmatropic rearrangement and able to explain the electron moment in pericyclic reaction.
CO3	Learning and understanding synthesis and application of various ylides as nitrogen, sulphur and phosphorus. to study various reactions.
CO4	Identification and detection of types of free radical reactions by ESR technique and study of various synthesis involving free radical as an intermediate.
Paper No. X - Advanced spectroscopic methods	
CO1	Understanding and learning Woodward-Fisher rule for calculation of λmax. Of dienes and carbonyl compounds. Understanding UV Spectra of various organic compounds. To develop knowledge on functional group identification using IR Spectra.
CO2	Understanding and learning the basic principle and terms, physical principles, to impart the structure of organic compounds, factors affecting chemical shift Karplus curve variation nuclear magnetic double resonance etc and Fourier transform technique.
CO3	Learning and understanding the application of mass spectroscopy in structure determination of organic compounds.
CO4	General consideration of C-13 Spectroscopy in structural determination.
Paper No. XI- Advanced synthetic methods	
CO1	Understanding the concept of reterosynthetic analysis, various terms involve in reterosynthesis.to know about different disconnection approaches with

	chemoselectivity, umpolung, protecting groupsC-C, C-X disconnections and various name reactions.
CO2	Learning and understanding the role and applications of the various reagents in organic synthesis.
CO3	To impart the knowledge of Titanium, Cerium, Thalium and silicon in organic synthesis and their application. Understanding and learning of synthesis and application of Phosphins, N-heterocyclic carbenes and Oxazolines ligands.
CO4	Learning and understanding the modern techniques and their applications in organic synthesis, such as solvent free synthesis, microwave and ultrasound technique.
Paper No. XII- Drug and Heterocyclic	
CO1	Understanding the importance of procedures in drug design, factors affecting in development of new drug, and theories. Acquiring and understanding the classification and preparation of Penicillin, V, G and cephalosporin.
CO2	Learning and understanding the synthesis and medicinal uses of Antimalarial, Analgesic, Anaesthetic, Antihistamine, Anti AIDS, Cardiovascular etc.and their side effects. Acquiring the Knowledge of recent development in cancer chemotherapy and Hormones.
CO3	Theoretical understanding of heterocyclic chemistry including alternative general methods for small ring, benzo fused five membered and six memberd heterocycles, their synthesis and chemical reactions.
CO4	Theoretical understanding of heterocyclic chemistry including alternative general methods, their synthesis and chemical reactions of Diazine and Triazine, Benzimidazole, Benzthiazole and Benoxazole.
M. Sc. II- Sem. IV Organic Chemistry	
Paper No. XIII- Theoretical Organic Chemistry	
CO1	Understanding and learning Aromaticity in Benzenoid compounds, Able to differentiate between alternant and non alternant hydrocarbon, Recognise and drawing particular MOT Diagram for the calculation of energies of orbitals, charge densities, PMO Theory and reactivity index of organic compounds.
CO2	Able to differentiate aromatic, anti-aromatic and non-aromatic concept in non-benzenoid compounds, along with physical and chemical properties.
CO3	Learning and understanding the importance of principles of green chemistry to eliminate toxic waste, reduce energy consumtion and to use ecological solvents for organic synthesis.
CO4	Able to identify the reaction is kinetically or Thermodynamically controlled by using

	their energy profile diagram and able to identify classical and non classical carbocation.
Paper No. XIV- Stereochemistry	
CO1	Understanding and learning of conformational analysis of acyclic compounds, cyclohexane derivatives and effect of conformation on reactivity of acyclic and cyclic system.
CO2	Learning and understanding stereochemical principles involved in other than six membered rings, and stereochemical aspects of fused, bridged ring system and Perhydroanthracene.
CO3	To develop the knowledge of Stereoselective addition of nucleophiles to carbonyl group by using Cram's and Felkin rule, Houk and Cram's chelate models,chiral auxiliaries,acquire the knowledge about asymmetric oxidation and asymmetric Diels-Alder reaction using chiral lewis acid.
CO4	Know the stereochemical aspects of Allenes, Spiranes and Biphenyls, Able to find their configuration, and acquire the knowledge of configuration of distereomers by using their properties, and developing the concept of ORD and CD curves.
Paper No. XV- Chemistry of Natural Products	
CO1	Able to gain the knowledge about classification of natural product and their isolation.structural elucidation and chemical synthesis of different natural terpenoids.
CO2	Illustration of structure, stereochemistry, synthesis and biosynthesis od different alkaloids.
CO3	Learning and understanding of occurrence nomenclature, basic skeleton of steroids and structural elucidation and chemical synthesis of different steroids and its physiological role in human body
CO4	Learning and understanding of occurrence nomenclature, Structural elucidation and chemical synthesis of different prostaglandins, lipids and vitamins and its physiological role in human body.
Paper No. XVI- Applied Organic Chemistry	
CO1	Knowledge helps to get placement to the students in agrochemical industries; students will get knowledge of synthesis of pesticides and their applications in agriculture, cosmetics perfumes and food flavours in day today life.
CO2	Knowledge of unit processing will be useful for automation industries.
CO3	Knowledge helps to get placement to the students in dyes industries.
CO4	Knowledge helps to get placement to the students in polymer industries.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF CHEMISTRY

AY: 2023-24

Bachelor of Science (B. Sc.)

PROGRAM SPECIFIC OUTCOMES (PSO)

After completing B.Sc. Chemistry programme, students will be able to:	
PSO1	Developing the ability to apply the principles of Chemistry
PSO2	To know the role of Chemistry in nature and in daily life.
PSO3	Develop skills in handling the instruments, apparatus and chemicals properly.
PSO4	Exposed to the different processes used in industries and their applications

COURSE OUTCOMES (CO)

B. Sc. I	
Sem. I	
Paper I- -(Inorganic Chemistry)	
CO1	to demonstrate a deep understanding of atomic structure and periodicity, as well as to analyse and predict the periodic trends in various properties of elements
CO2	to demonstrate a comprehensive understanding of the formation and characteristics of ionic bonds and ability to apply concepts such as the Born-Haber cycle and Fajan's rule to predict the energetic aspects and properties of ionic compounds.
CO3	to demonstrate a thorough understanding of the concept of hybridization and its application to predict the geometry of molecules, as well as the ability to correlate different types of hybridization with specific molecular geometries in a variety of compounds.
CO4	the capability to create and interpret molecular orbital diagrams for diatomic molecules. To predict and elucidate the electronic structure and properties of molecules based on their molecular orbital diagrams.
Paper II-(Organic Chemistry)	
CO1	students will be able to analyze and predict the reactivity and stability of reactive intermediates such as carbocations, carbanions, and carbon free radicals based on their structures and electronic effects
CO2	the ability to understand and differentiate between different types of stereoisomerism, including optical isomerism and geometrical isomerism, and to apply nomenclature rules to identify and classify stereoisomers based on their configurations
CO3	the ability to differentiate between aromatic, non-aromatic, antiaromatic, and pseudoaromatic compounds, and to understand the structure of benzene, including Kekule structure, resonance structure, and modern theory of aromaticity.
CO4	students will be able to explain the methods of formation and chemical properties of cycloalkanes, cycloalkenes, and alkadienes, including reactions such as hydrogenation,

	halogenation, and Diels-Alder reaction. They will also be able to classify and understand the chemical properties of alkadienes, including their reactions with hydrogen halide, halogens, reduction, oxidation, and polymerization.
Sem. II	
Paper III- (Physical Chemistry)	
CO1	students will possess a comprehensive understanding of the fundamental concepts, laws, and cycles in thermodynamics, enabling them to analyze and evaluate energy transformations and systems.
CO2	students will acquire a profound understanding of fundamental principles such as standard enthalpies of formation, integral and differential enthalpies of solution, and dilution. They will also develop the skills to calculate bond energies, dissociation energies, resonance energies, and analyze the temperature dependence of reaction enthalpies using Kirchhoff's equation.
CO3	students will possess a thorough understanding of the thermodynamic principles governing chemical equilibrium, including the free energy change in reactions and the derivation of the law of chemical equilibrium. Additionally, they will be proficient in applying Le Chatelier's principle and establishing relationships between equilibrium constants (Kp, Kc, and Kx) for reactions involving ideal gases, enabling them to analyze and predict the behavior of chemical systems at equilibrium.
CO4	students will have a comprehensive grasp of the postulates of the Kinetic Theory and be able to derive the kinetic gas equation. They will also gain proficiency in analyzing real gas behavior, understanding deviations from ideality, applying the Van der Waals equation, and interpreting critical phenomena such as PV-isotherms and Maxwell-Boltzmann distribution laws for molecular velocities and energies.
CO5	students will acquire a deep understanding of the factors influencing reaction rates, including the nature of reactants, concentration, pressure, temperature, and catalysts. They will also develop the ability to analyze reaction kinetics through various orders and molecularity.
Paper IV-(Analytical Chemistry)	
CO1	students will gain a comprehensive understanding of the importance of chemical analysis, become familiar with both qualitative and quantitative analytical processes, and be able to classify various methods of analysis. Additionally, they will develop proficiency in sampling techniques for solids, liquids, and gases, as well as acquire the skills to identify, analyze, and express different types of errors in measurements
CO2	students will possess a comprehensive understanding of the basic principles, terminology, and classification of chromatography techniques also gain practical skills in the methodologies of these techniques, including sample loading, solvent choice, development processes, spot detection, and the determination of Rf values.
CO3	students will develop a thorough understanding of acid-base indicators, including their theoretical basis in Ostwald's ionization theory and quinoid theory. They will also acquire the knowledge to analyze and choose suitable indicators for neutralization curves in different titration scenarios,
CO4	students will develop a comprehensive understanding of the methods and techniques involved in assessing water quality parameters, enabling them to contribute to environmental monitoring and management.
CO5	Students will develop a comprehensive understanding of different types of fertilizers, the essential qualities of good fertilizers, and gain practical skills in sampling and sample preparation

B. Sc. II	
Sem. III	
Paper V- Physical Chemistry	
CO1	Learning and understanding conductivity and transport number of the aqueous solutions with different applications.
CO2	Knowledge about surface tension, viscosity and refractive index will be gained by the student
CO3	Learning and understanding surface phenomena at heterogeneous surfaces
CO4	Learning the various Nuclear phenomena and measurement of nuclear radiations
CO5	Learning and understanding the knowledge about third order reaction and theories of reaction rates
Paper VI: Industrial Chemistry	
CO1	a. Learning and Understanding basic concepts and concentration terms b. Distinguish between classical and industrial chemistry c. Distinguish between unit operations and unit processes
CO2	Knowledge of some unit operations
CO3	Understanding the process of corrosion and Knowledge of prevention from corrosion
CO4	Knowledge of Indian paper industry
CO5	Knowledge about the chemical nature and cleansing action of soap
Sem. IV	
Paper VII: Industrial Chemistry	
CO1	Learning and Understanding basic concepts about coordination complexes
CO2	Knowledge about application of chelates in analytical chemistry
CO3	Understanding the properties of P – block elements
CO4	Student will be capable of understanding the properties of 3d series elements
CO5	Student will learn the basic knowledge about the qualitative analysis of inorganic compounds
Paper VIII: Organic Chemistry	
CO1	To impart knowledge about the synthesis, reactivity and applications of carboxylic acids.
CO2	Knowledge about classification, preparation and applications of amines and diazonium salts.
CO3	Understanding the classification, configuration and structure of carbohydrates.
CO4	Student will be capable of understanding the nomenclature and reactivity of aldehydes and ketones.
CO5	Student will learn the basic knowledge conformational analysis of organic compounds
B. Sc. III	
Sem. V	
Paper IX- Inorganic Chemistry	
CO1	Useful for the study of role of acids and bases in Chemistry. The study of non –aqueous solvents is important to learn all chemical properties of solutes and from the research point of view.
CO2	Useful to understand geometry, stability and nature of bonding between metal ion and ligand in complexes.
CO3	The topic deals with the synthesis and the applications of the semiconductors and Superconductors in electrical and electronic devices.

CO4	The structure, method of preparation and the applications of organo metallic compound in various fields are explained
CO5	The classification, types, mechanism and applications of catalyst in industrial fields is explained
Paper X- Organic Chemistry	
CO1	Understanding of energy associated with electromagnetic radiation and its use in analytical technique.
CO2	Knowledge of chromophore, auxochrome and calculation of λmax.
CO3	Knowledge of vibrational transitions, regions of IR spectrum, functional group recognition.
CO4	Understanding of magnetic-non magnetic nuclei, shielding-deshielding, chemical shift, splitting pattern
CO5	Knowledge of molecular ion, fragmentation pattern and different types of ions produced.
CO6	Student will predict the structure of organic compound with the help of provided spectral data.
Paper XI- Physical Chemistry	
CO1	Learning and understanding quantum Chemistry, Heisenberg's uncertainty principle, concept of energy operators (Hamiltonian), learning of Schrodinger wave equation. Physical interpretation of the ψ and ψ2. Particle in a one dimensional box
CO2	Knowledge about spectroscopy, Electromagnetic spectrum, Energy level diagram, Study of rotational spectra of diatomic molecules: Rigid rotor model, Microwave oven, vibrational spectra of diatomic molecules, simple Harmonic oscillator model, Raman spectra: Concept of polarizability, pure rotational and pure Vibrational Raman spectra of diatomic molecules, related knowledge will be gained by the students.
CO3	Learning and understanding photochemical laws, reactions and various photochemical phenomena.
CO4	Learning the various types of solutions, relations vapour pressure, temperature relations.
CO5	Learning and understanding the knowledge of emf measurements, types of electrodes, different types of cells, various applications of emf measurements.
Paper XII- Analytical Chemistry	
CO1	Learning and understanding the techniques of gravimetric analysis.
CO2	Knowledge of instrumental analysis of alkali and alkaline earth elements.
CO3	Understanding, working and applications of optical methods as an analytical tool.
CO4	Understanding theory and applications of potentiometric titrations.
CO5	Understanding the basics of ion exchange and column adsorption chromatography, Quality control practices in analytical industries / laboratories.
Sem. VI	
Paper XIII- Inorganic Chemistry	
CO1	The topic focused on the mechanism of the reactions involved in inorganic complexes of transition metals. The students can understand the thermodynamic and kinetic aspects of metal complexes.
CO2	The generation of nuclear power with the help of nuclear reactions is highlighted. Role of radio isotopes in medicinal, industrial and Archaeology fields is explained.
CO3	The characteristics, properties and separation of lanthanides and Actinides are discussed. Synthesis and IUPAC Nomenclature of trans uranic elements (TU) explained.

CO4	The techniques involve in ore dressing and extraction of cast iron from its ore are discussed.
CO5	Role of various metals and non-metals in our health are discussed.
Paper XIV- Organic Chemistry	
CO1	Knowledge of reagents used in organic transformations and various reactions used in organic synthesis.
CO2	Knowing basic terms used in retrosynthetic analysis, retrosynthesis of some organic compounds.
CO3	Student will learn addition reaction across >C=C< bond w.r.t. hydrohalogenation, hydration hydroxylation, ozonolysis and addition of halogen, halogen acid, hydrogen, water, etc. across −C≡C−bond.
CO4	Knowledge of terpenoids and alkaloids w.r.t. occurrence, isolation, characteristics and classification. Analytical and synthetic evidences of Citral and Nicotine.
CO5	Understanding classification of drugs, Qualities of ideal drug. Synthesis and uses of some representative drugs and Drug action of sulpha drugs.
Paper XV- Physical Chemistry	
CO1	Learning and understanding of phase rule, learning of One component, Two component and Three component systems phase diagrams with suitable examples.
CO2	Knowledge about basic concept of Thermodyanamics, free energy, Gibbs-Helmholtz equation and its applications, problem related with it.
CO3	Learning and understanding Space lattice, lattice sites, Lattice planes, Unit cell. Laws of crystallography, Weiss indices and Miller indices, Cubic lattices and types of cubic lattice, planes or faces of a simple cubic system, Diffraction of X-rays, Derivation of Bragg's equation. Determination of crystal structure by Bragg's method. Crystal structure of NaCl and KCl on the basis of Bragg's equation.
CO4	Learning of kinetics, Simultaneous reactions such as i)opposing reaction ii)side reaction iii)consecutive reactions: iv) chain reaction v) explosive reaction
CO5	Learning and understanding the knowledge of distribution law, its modifications, applications of distribution laws, process of extraction, determination of solubility, distribution indicators, and molecular weights.
Paper XVI- Industrial Chemistry	
CO1	Learning and understanding the whole process of manufacture of sugar and by-products of sugar industry.
CO2	Learning and understanding of physicochemical principles of production of ammonia, sulfuric acid, nitric acid and sodium carbonate along with its manufacturing plant.
CO3	Understanding and learning the classification, synthesis and applications of various polymers.
CO4	Understanding the petroleum Industry, fuels and need of use of eco-friendly fuels.
CO5	Understanding and learning of nanotechnology including classification, optical properties, synthesis routes, characterization techniques and applications of nano-materials.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF PHYSICS

AY: 2023-24

Bachelor of Science (B. Sc.)

PROGRAM SPECIFIC OUTCOMES (PSO)

Physics is the basic science and it is applied and used in all sciences. The applications of Physics are versatile and can be used in biology, chemistry and zoology and mathematical science. The PSO's are identified in such a way that it can cover all basic branches of physics. The PSO's are adherent to observations in day today life and applicable to society.

PSO 1	Identifying and describing physical systems with their professional Knowledge.
PSO 2	Getting knowledge of general physics like sound, wave, friction, forces and laws of motion and use of mathematics.
PSO 3	Getting knowing about the light and its importance in life, its characteristics,Properties and use in various instruments.
PSO 4	Learning about concepts of nuclear physics and nuclear energies and importance of their use for mankind.

COURSE OUTCOMES (CO)

B. Sc. I	
SEMESTER-I	
PAPER I: DSC- A1 MECHANICS- I	
CO1	Students are able to understand and identify scalar and vector physical quantities in mechanics Students are able to understand and apply vector algebraic methods to elementary exercises in mechanics.
CO2	Students are able to understand and identify degree and order of given differential equations Students are able to solve second order, homogenous ordinary differential equations in mechanics
CO3	Students are able to understand the conceptual evolutionof conservation laws of momentum and energy for both single and system of particles
CO4	Students are able to understand and apply basic concepts of rotational motion . In general, students are capable of correlating above concepts and methods in mechanics to both theoretical and experimental domains revealing analytical as well as numerical skills.
PAPERII: DSC- A2 MECHANICS- II	
CO1	Students are able to understand and apply Newtons Law of Gravitation to celestial objects Students are able to understand geometry of planetary orbits under the action of central force

	Students are able to derive elastic constant (eta) of a wire under torsional oscillations (Searle's Method)
CO2	Students are able to solve numerical problems based on Kepler`s Laws of planetary motion Students are able to understand simple concepts like weightlessness, Geosynchronous satellite and GPS Students are able to explain the phenomenon of surface tension on the basis of molecular forces.
CO3	Students are able to setup differential equation for simple harmonic motion and its allied cases Students are able to calculate time averages of KE, PE and TE Students are able to derive the relation between surface tension and excess pressure.
CO4	Students are able to revise basic concepts such as stress, strain and elastic constants of elasticity. Students are able to derive elastic constants for beamsupported at both ends and at one end Students are able to perform an experiment to determine ST by Jaeger`s method Students are able to discuss and state the factors affecting the ST In general, students are capable of correlating above concepts and methods to both theoretical and experimental domains revealing analytical as well as numerical skills.
SEMESTER-II	
PAPER III: DSC-B1 ELECTRICITY AND MAGNETISM-I	
CO1	Students are able to understand the physical significance of gradient, divergence and curl Students are able to apply concepts in vector calculus such as gradient, divergence and curl related to vector and scalar fields using Gauss, Stokes and green`s Theorem.
CO2	Students are able to understand and apply concepts of electrostatic field, potential to point charges, electric dipole and geometrically regular charged bodies. Students are able to understand and apply concept of capacitor to isolated conductor, parallel plates, cylindrical and spherical capacitors and allied modifications in it.
CO3	Students are able to understand and apply concept of energy density in electric field.
CO4	Students are capable of applying above concepts to solve numerical exercise in electrostatics
APERIV: DSC- B2 ELECTRICITY AND MAGNETISM-II	
CO1	To understand the principles and working of AC. circuits.
CO2	To understand the principles network theorems.
CO3	To understand the principles and working of ballistic galvanometer.
CO4	To understand the magnetism, magnetic materials and magnetic properties.
B. Sc. II	
SEMESTER-III	
PAPER V: DSC-C1 THERMAL PHYSICS AND STATISTICAL MECHANICS-I	
CO 1	Highlights different types of gas molecules.
CO 2	Acquire Knowledge of Maxwell's distribution of gas molecules.
CO 3	Visualize Merits and drawbacks of thermometers.
CO 4	Apply knowledge of thermodynamic processes in design of heat engine.
PAPER VI: DSC-C2 WAVES AND OPTICS-I	

CO 1	Apply superposition principle to develop mathematical model of harmonic oscillators.
CO 2	The develop the mathematical model for coupled oscillations.
CO 3	Understand the ultrasonic waves and their applications.
CO 4	Use of Basic principles of sound in context of acoustics of buildings.
SEMESTER-IV	
PAPER VII: DSC-D1 THERMAL PHYSICS AND STATISTICAL MECHANICS-II	
CO 1	Develop Conceptual clarity of thermodynamic functions and Clausius-Clapeyron equation.
CO 2	Appreciate the problem associated with the black body radiation spectrum.
CO 3	Know, how the problems can be solved by using Planck's law of radiation.
CO 4	Acquire preliminary knowledge of classical and quantum statistical mechanics.
PAPER VIII: DSC-C2 WAVES AND OPTICS-II	
CO 1	Draw ray diagrams to demonstrate Cardinal points.
CO 2	Determine the resolving power of prism and grating by making use of Rayleigh criterion.
CO 3	Qualitatively study phenomenon of polarization of light.
CO 4	Apply phenomenon of interference of light for determination of its wavelength.
Practical	
CO 1	Acquire skills in setting up of optics experiments.
CO 2	Develop the practical skills and techniques for accurate measurements.
CO 3	Acquire observational skills.
CO 4	Determine Least counts of different measuring instruments.
B. Sc. III	
SEMESTER-V	
PAPER - IX DSE-E1 MATHEMATICAL PHYSICS	
CO 1	Understanding micro and macro canonical ensembles, phase space, state.
CO 2	Knowing about how to distinguish between Mathematical Physics.
CO3	Improving the mathematical skills to solve to problems in physics.
CO4	Understanding different types of differential equations &their solutions.
PAPER – X DSE-E2 Quantum Mechanics	
CO 1	Understanding the idea of wave function &uncertainty relations.
CO 2	Getting some concepts of physics by quantum mechanics.
CO 3	Solving problems on barrier potential well, one and three dimensional potential well.
CO4	Understanding the Schrodinger's equation for hydrogen atom.
PAPER - XI DSE-E3 CLASSICAL MECHANICS AND CLASSICAL ELECTRODYNAMICS	
CO 1	Understanding the concept of force, constraints, Newton's laws of motions.
CO 2	Knowing about Formulation of Langrangian equation of motion and solution of problems.
CO 3	Understanding the difference between Classical and electrodynamics.
CO4	Understanding Euler's Theorem and its equation of motion.

PAPER- XII DSE-E4 DIGITAL AND ANALOG CIRCUITS AND INSTRUMENTATION	
CO 1	To understand the digital electronics.
CO 2	To understand the transistors amplifier and sinusoidal oscillators.
CO 3	To understand in detail Cathode Ray Oscilloscope.
CO4	To understand Operational Amplifier and Timer.
SEMESTER-VI	
PAPER- XIII DSE-F1 NUCLEAR AND PARTICLE PHYSICS	
CO 1	Understanding the size of nucleus and all its properties.
CO 2	Knowing various method of accelerating various types of particles.
CO 3	Understanding the construction &working of Nuclear Detectors.
CO 4	Understanding the different Nuclear Energy Levels.
PAPER- XIV DSE-F2 SOLID STATE PHYSICS	
CO 1	Developing a clear concept of the crystal classes and symmetries.
CO 2	Understanding the relationship between the real and reciprocal space. Acquiring ability of Calculating the Braggs conditions for X-ray diffraction in crystals.
CO 3	Understanding of electronic and vibrational properties of solid state systems.
CO4	Understanding Band theory of solids and use in different physical phenomenon.
PAPER- XV DSE-F3 ATOMIC AND MOLECULAR PHYSICS AND ASTROPHYSICS	
CO 1	Developing a basic understanding of physics of atoms and molecules: definitions, units, laws and rules.
CO 2	Identifying atomic effect such as Zeeman effect, Paschen-Back effect and Raman effect.
CO 3	Understanding of basic concepts of Astronomy &Astrophysics.
CO 4	Analyzing the spectra of diatomic molecules such as electronic, rotational, Vibrational spectra.
PAPER- XVI DSE-F4 ENERGY STUDIES AND MATERIALS SCIENCE	
CO 1	Understanding basics of renewable energy sources.
CO 2	Understanding Physics and mathematics of wind turbine generator.
CO3	Understanding conversion of solar energy into electric energy, photovoltaic cell, solar PV system and solar potentials.
CO4	Understanding different types of disorder in the crystalline solids and it's important.
CO5	Gaining basic knowledge of superconductivity.

JAYSINGPUR COLLEGE SR. COLLEGE JAYSINGPUR

Head
Department of Physics (Sr.)

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF BOTANY

B. Sc. (2023-24)

PROGRAM SPECIFIC OUTCOMES (PSO)

In life science, plant science is one of the most important basic and applied subject. Plants synthesises their own food material and provides the food and oxygen to all living organism. Most of the basic requirements are fulfilled by the plants. This course has been designed to give the fruitful knowledge and to develop the commercial soft skills in the various aspects of plant science.

PSO 1	Understanding the classification of all higher and lower plants, plant diseases and their management.
PSO 2	Understand the structure and function of different cell organelles and the role of cell membrane, plant anatomy, taxonomy and ecology.
PSO 3	Understand the skills for the production of Bio fertilizers and mushroom culture techniques.
PSO 4	To understand the various aspect of plant systematics and anatomical features of higher plant.
PSO 5	To understand the basics of genetics and molecular biology.
PSO 6	To understand the plant ecology, phytogeography, centre of origin of cultivated plants and utilization of plants.
PSO 7	To understand vital physiological processes in plants and skills of nursery and garden technique.

COURSE OUTCOMES (CO)

B. Sc. I

SEMESTER-I	
PAPER I: DSC-13 A: MICROBES, ALGAE AND BIOFERTILIZERS	
CO1	Students will able to recognize the structure, types and multiplication of viruses.
CO2	Students will able to understand the bacterial types, structure and mode reproduction
CO3	Students will able to identify the different types of algae and their importance in day to day life.
CO4	Students will able develop the skills for the production of different type of Bio fertilizers
PAPER II: DSC-14 A: CELL BIOLOGY AND ANALYTICAL TECHNIQUES	
CO1	Students will able to distinguish the prokaryotic and eukaryotic organisms and acquire the knowledge of different plant cell organelles and its role in the plant body.
CO2	Students will able to understand the different types of cell division and it's phases.
CO3	Students will able to handle all types of microscope.
CO4	Students will able to develop a skill in the chromatography techniques.

SEMESTER-II	
PAPER III: DSC-13B: MYCOLOGY, PHYTOPATHOLOGY AND MUSHROOM CULTIVATION	
CO1	Students will able to identify and classify the different fungi and also realize the economic importance of fungi.
CO2	Students will able to identify the lichens on the basis of morphology and to know the medicinal value of the lichens
CO3	Students will be able to recognize the different plant diseases and their management.
CO4	Students will able to develops the soft skill technique in the Mushroom Cultivation and realize the commercial status of the mushrooms.
PAPER IV: DSC-14B: ARCHEGONIATE (BRYOPHYTES, PTERIDOPHYTES AND GYMNOSPERMS)	
CO1	Students will able to identify the bryophytes their importance.
CO2	Students will able to recognize the characters and ecological importance of Pteridophytes.
CO3	Students will be able to identify, classify the gymnosperms and understand the Economic importance of gymnosperms

B. Sc. II

SEMESTER-III	
PAPER V: DSC C13: PLANT SYSTEMATICS AND ANATOMY	
CO 1	To know the scope and importance of the plant systematics.
CO 2	To understand plant morphology, nomenclature and classification
CO 3	To prepare and demonstrate herbarium and to understand importance of Botanical gardens.
CO 4	To examine internal organization of plant organs.
CO 5	To differentiate and understand plant tissue systems.
CO 6	To analyse the composition of different parts of plant.
PAPER VI: DSC C14: GENETICS AND MOLECULAR BIOLOGY	
CO 1	To understand the principles of Mendelian inheritance and gene interaction.
CO 2	To differentiate between structural and numerical variations in chromosomes.
CO 3	To analyse and solve genetic problems on linkage and crossing over.
CO 4	To know the composition and significance of nucleic acids.
CO 5	To summarize concept of central dogma and genetic code.
SEMESTER-IV	
PAPER VII: DSC D13: PLANT ECOLOGY AND ECONOMIC BOTANY	
CO 1	To understand core concepts of biotic and abiotic components.
CO 2	To gain and insight in to the diverse ecosystem, related food web and ecological pyramids.
CO 3	To prepare map of Phytogeographical regions of India.
CO 4	Know importance of plants and plant products and their utility.
CO 5	To know the centre of origins of different crop plants.
CO 6	To understand importance and conservation of Germplasm.

PAPER VIII: DSC D14: PLANT PHYSIOLOGY, NURSERY AND GARDENING TECHNIQUES	
CO 1	To understand various physiological processes in plants.
CO 2	To understand significance and mechanism of photosynthesis.
CO 3	To know the process of respiration in higher plants.
CO 4	To design outlines of landscaping and home gardening.
CO 5	To propagate plants by seed and vegetative propagation.
CO 6	To prepare different types of gardens and to know garden equipment's.

B. Sc. III

SEMESTER-V	
PAPER - IX DSE –E25 GENETICS AND PLANT BREEDING	
CO 1	Students will able to demonstrate their understanding of relevant course theories and concepts Students able to Mendelian and Neo-Mendelian genetics
CO 2	Understand the techniques of plant breeding
PAPER - X DSE –E26 MICROBIOLOGY, PLANT PATHOLOGY AND MUSHROOM CULTURE TECHNOLOGY	
CO 1	Acquiring the basic procedure in the field of microbiology and plant pathology.
CO 2	Understand the techniques of mushroom cultivation.
PAPER - XI DSE –E27 CYTOLOGY AND RESEARCH TECHNIQUES IN BIOLOGY	
CO 1	Acquainted the techniques of micrometry, chromatography and other laboratory techniques used in the field of life science.
PAPER- XII DSE–E28 HORTICULTURE AND GARDENING	
CO 1	To develop skills in of horticulture including nursery, landscaping, gardening, floriculture and pomology
CO 2	Students will be able to demonstrate their knowledge, skills and attributes to be successful contributing members of the horticulture profession.
SEMESTER-VI	
PAPER- XIII DSE –F25 PLANT BIOCHEMISTRY AND MOLECULAR BIOLOGY	
CO 1	Understand the of carbohydrates, lipids, proteins
CO 2	Understand the structure of Nucleic acids (DNA & RNA)
PAPER- XIV DSE –F26 BIOINFORMATICS, BIOSTATISTICS AND ECONOMIC BOTANY	
CO 1	Students are acquainted with basic as well as recent knowledge in the field of molecular biology, biotechnology and bioinformatics
CO 2	Aware about the Spices, Beverages and Fibres, Cereals, Legumes and Oils.
PAPER- XV DSE –F27 PLANT BIOTECHNOLOGY AND PALEOBOTANY	
CO 1	Acquaint the student with the comprehensive knowledge in the bio fertilizers, herbal drug technology and Paleobotany
CO 2	Understand the methods of Plant Biotechnology, Protoplast culture and Recombinant DNA Technology.

CO 3	Acquainted the scope of Paleobotany in the present scenario and understand the fossil genera
PAPER- XVI DSE –F28 BIO-FERTILIZERS AND HERBAL DRUG TECHNOLOGY	
CO 1	Students become familiar with the use of organic manure and understand the concept of Organic farming
CO 2	Students know the various Herbal Medicines, concept of Herbal cosmetology and Pharmacognosy.

B. Sc. Zoology (2023-24)

PROGRAM SPECIFIC OUTCOMES (PSO)

In life science, animal science is one of the most important basic and applied subjects. Animals provide various products and by-products for the betterment of mankind. However there are some organisms which have negative economic importance. Hence, this course has been designed to give the fruitful knowledge and to develop the commercial soft skills in the various aspects of animal science and as well various aspects of human body.

PSO 1	Insight to the theory and practical on classification of Non-chordates, understanding of animal model Rat with reference to anatomy and understating various insect vectors.
PSO 2	Understanding theoretical and practical knowledge in Cell Biology, Evolution and Genetics.
PSO 3	Insight to the theory and practical on classification of chordates, Biochemistry
PSO 4	To understand the various aspect of Human reproductive physiology and applied Zoology
PSO 5	To understand the basics of comparative anatomy of vertebrates, Molecular Cell Biology and Animal Biotechnology, Biotechniques and Biostatistics
PSO 6	To understand the basics of aquatic biology and endocrinology, Developmental Biology of vertebrates, Immunology
PSO 7	To understand details of applied Zoology, Insect vectors and histology

COURSE OUTCOMES (CO)

SEMESTER-I	
PAPER I: DSC-15 A: ANIMAL DIVERSITY- I	
CO1	Students will able to understand basic characters and special phenomenal characters of phylum Protista to Nemathelminthes
CO2	Students will able to understand basic characters and special phenomenal characters of phylum Annelida to Echinodermata
PAPER II: DSC-16 A: CELL BIOLOGY AND EVOLUTIONARY BIOLOGY	
CO3	Students will able to distinguish the prokaryotic and eukaryotic organisms and acquire the knowledge of different animal cell organelles and its role in the animal body
CO4	Students will able to understand various evolutionary events with reference to history, theories of evolution, evidences and extinction theories.

SEMESTER-II	
PAPER III: DSC-15B: ANIMAL DIVERSITY AND INSECT VECTORS	
CO5	Students will able to comprehend anatomical aspects of key animal model Rat
CO6	Students will be able to recognize the knowledge of insect vectors with reference to causative agent, life cycle and symptoms of various insect borne diseases.
PAPER IV: DSC-16B: GENETICS	
CO7	To understand the principles of Mendelian inheritance and gene interaction.
CO8	To differentiate between structural and numerical variations in chromosomes.
CO9	To analyze and solve genetic problems on linkage and crossing over.
CO10	Students will be able to proverbial with Mutations and Sex determination.
SEMESTER-III	
PAPER V: ANIMAL DIVERSITY II	
CO 1	To understand the basic and special characteristics of Protochordata, Agnatha, Pisces and amphibia
CO 2	To understand the characteristics of reptiles and
CO 3	Students able to identify venomous and non-venomous snakes.
CO 4	Students will able to know characters of aves and mammals
PAPER VI:BIOCHEMISTRY	
CO 1	To know the composition and significance of nucleic acids with reference to DNA and RNA
CO 2	To understand the metabolic role of carbohydrates in the energetic
CO 3	Students will able to know about the role of lipid in the metabolic activities
CO 4	Students will able to know about the role of protein in the metabolic activities
CO 5	To understand the concept of Enzyme and its role in the metabolic activities.
SEMESTER-IV	
PAPER VII: REPRODUCTIVE PHYSIOLOGY	
CO 1	Students will understand the nature of human and rat female reproductive system with special reference to physiology especially, menstrual cycle, female hormones and hormonal regulation.
CO 2	Students will know about physiology of implantation, gestation, parturition and lactation

CO 3	Students will understand physiology of human and rat male reproductive system
CO 4	Students will aware of various contraceptive technologies, causes of infertility, assisted reproductive technologies, and in-vitro fertilization
PAPER VIII:APPLIED ZOOLOGY I	
CO 1	To understand basic concepts in host parasite interactions
CO 2	To understand Transmission, Prevention and control of diseases: Tuberculosis, Typhoid.
CO 3	To understand Transmission, Prevention and control of diseases: Rickettsia and Spirochaetes
CO 4	To understand Biology, Control and damage caused by *Helicoverpa armigera*, *Pyrilla perpusilla* and *Papilio demoleus*, *Callosobruchus chinensis*, *Sitophilus oryzae* and *Tribolium castaneum*
CO 5	Students will get a skill of understanding principles of poultry breeding, Management of breeding stock and broilers, Processing and Preservation of eggs.
SEMESTER-V	
PAPER - IX DSE-E29: COMPARATIVE ANATOMY OF VERTEBRATES	
CO 1	Students will acquire knowledge of comparative anatomy of vertebrate Integumentary system, Skeletal system, Digestive system and Respiratory system
CO 2	Students will acquire knowledge of comparative anatomy of vertebrate Circulatory system, Excretory system, Nervous system and sense organs
PAPER – X DSE-F29: MOLECULAR CELL BIOLOGY AND ANIMAL BIOTECHNOLOGY	
CO 1	Students will able to understand DNA replication, DNA damage and repair, regulation of gene expression and Genetic code
CO 2	Students will comprehend the Central Dogma of Protein Synthesis
CO 3	Students will able to know and get soft skills on various Molecular techniques in gene manipulation
PAPER - XI DSE-F30: BIOTECHNIQUES AND BIOSTATISTICS	
CO 1	Students will be able to understand various techniques used to raise genetically modified animals for betterment of mankind
CO 2	Students will be able to get knowledge about basics of various aspects of animal cell culture
CO 3	Students will get a soft skills on the basic Statistics used for the interpretation of various phenomenon in the field of Zoology
PAPER- XII DSE-F31: AQUATIC BIOLOGY	
CO 1	To understand aquatic biomes like freshwater, marine water and Estuaries

CO 2	To develop skills in the assessment of Freshwater (Lotic and lentic) ecosystems through various parameters
CO 3	To understand in detail about Anatomy, histology and Nature, role, regulation and disorders of selected endocrine glands of human
SEMESTER-VI	
PAPER- XIII DSE-E30: DEVELOPMENTAL BIOLOGY OF VERTEBRATES	
CO 1	To get basic knowledge about the formation of gametes, fertilization and initial cleavage
CO 2	To understand the phenomenon of early development of frog
CO 3	To avail detailed knowledge about the development of chick embryo
CO 4	To understand the concept of implantation in human, in addition, formation, types and significance of placenta
PAPER- XIV DSE-E32: IMMUNOLOGY	
CO 1	Students are acquainted with basic knowledge about the overview of immune system
CO 2	Students will able to know in detail about cells and organs involved on the immune system.
CO 3	Students will understand the concepts of antigen and antibodies and their interaction
PAPER- XV DSE-E31: APPLIED ZOOLOGY - II	
CO 1	Students will be able to understand and build skill in the field of Apiculture, Pearl culture and Prawn culture for the farming of bees, pearl oyster and prawn respectively
CO 2	Students will learn to develop skills to start animal husbandry project to enhance economical and social status in the society
CO 3	Students will inculcate skills to learn fishery and fish technology to enhance economical and social status in the society by fish culture
CO 4	To Develop skills to rear goats under goat farming and strengthen students economically to the students
PAPER- XVI DSE-F32: INSECT VECTORS AND HISTOLOGY	
CO 1	Students become familiar vectors like dipterian, flea and mosquito along with diseases, symptoms and control measures so as to aware health hygiene
CO 2	Students will able to learn histology and develop soft skills to prepare histological slides to study normal histological and histo-chemical preparations.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF STATISTICS

AY: 2023-24

Bachelor of Science (B. Sc.)

PROGRAM SPECIFIC OUTCOMES (PSO) & Course Outcomes (COs)

B. Sc. – I Sem – I	DESCRIPTIVE STATISTICS – I Paper-I	i. meaning and scope of Statistics, various statistical organizations, ii. data and types of data, various data presenting methods, iii. population, sample and various methods of sampling, iv. various measures of central tendencies and dispersion, v. moments, skewness and kurtosis.
B. Sc. – I Sem – I	ELEMENTARY PROBABILITY THEORY Paper-II	i. distinguish between random and non-random experiments ii. acquire knowledge of concepts of probability iii. use the basic probability rules, including additive and multiplicative laws iv. understand concept of conditional probability and independence of events. v. understand concept of univariate random variable and its probability distributions vi. acquire knowledge of mathematical expectation of univariate random variable
B. Sc. – I Sem – II	DESCRIPTIVE STATISTICS – II Paper-III	i. correlation coefficient and interpret its value. ii. regression coefficients, interpret its value and use in regression analysis. iii. qualitative data including concept of independence and association between two attributes iv. vital statistics and concept of mortality and fertility and growth rates.
B. Sc. – I Sem – II	DISCRETE PROBABILITY DISTRIBUTIONS Paper-IV	i. bivariate discrete distributions, independence of bivariate r.vs., Mathematical expectation of bivariate discrete random variable. ii. one point distribution, two point distribution, Bernoulli distribution, iii. Uniform distribution, Binomial distribution, Hypergeometric

		distribution, iv. Poisson distribution, Geometric distribution and Negative binomial distribution.
B. Sc. – I	Practical Paper-I	i. acquire knowledge of computations using MS-Excel. ii. represent statistical data diagrammatically and graphically. iii. compute various measures of central tendency, dispersion, moments, skewness and kurtosis. iv. compute correlation coefficient, regression coefficients. v. understand consistency, association and independence of attributes. vi. interpret summary Statistics of computer output. vii. know applications of some standard discrete probability distributions. viii. compute the various fertility rates, mortality rates and growth rates.
B. Sc. -II: SEM- III	Probability Distributions**–I** Paper-V	a) understand concept of discrete and continuous probability distributions with real lifesituations. b) distinguish between discrete and continuous distributions. c) find the various measures of random variable and probabilities using its probabilitydistribution. d) know the relations among the different distributions. e) understand the concept of transformation of univariate and bivariate continuous randomvariable.
B. Sc. -II: SEM- III	Statistical Methods-I Paper-VI	a) understand the concept of Multiple Linear Regression. b) understand the concept of Multiple Correlations and Partial Correlation. c) know the concept of sampling theory. d) understand the need of vital statistics and concept of mortality and fertility.
B. Sc. -II: SEM- IV	Probability Distributions–II Paper-VII	a) know some standard continuous probability distributions with real life situations. b) distinguish between various continuous distributions. c) find the various measures of continuous random variable and probabilities using itsprobability distribution. d) understand the relations among the different distributions. e) understand the Chi-Square, t and F distributions with their

		applications and inter relations
B. Sc. -II: SEM- IV	Statistical Methods-II Paper-VIII	a) know the concept and use of time series. b) understand the meaning, purpose and use of Statistical Quality Control, construction andworking of control charts for variables and attributes c) apply the small sample tests and large sample tests in various situations
	Practical paper- II & III	a) compute probabilities of standard probability distributions. b) compute the expected frequency and test the goodness of fit. c) understand how to obtain random sample from standard probability distribution and sketch of the p. m. f. / p. d. f. for given parameters. d) fit plane of Multiple regression and compute Multiple and Partial correlation coefficients. e) draw random samples by various sampling methods f) construct various control charts. g) understand the applications of Poisson, Geometric and Negative Binomial distributions.
B. Sc. -III: SEM- V	ProbabilityDistri butions Paper- IX	a) knowledge of important univariate distributions such as Laplace, Cauchy, Lognormal, Weibull, Logistic, Pareto, Power Series Distribution. b) knowledge of Multinomial and Bivariate Normal Distribution. c) knowledge of Truncated Distributions. d) information of various measures of these probability distributions. e) acumen to apply standard continuous probability distributions to different situations.
B. Sc. -III: SEM- V	Statistical Inference-I Paper -X	a) knowledge about important inferential aspect of point estimation. b) concept of random sample from a distribution, sampling distribution of a statistic, standard error of important estimates such as mean and proportions. c) knowledge of various important properties of estimator, d) knowledge about inference of parameters of standard discrete and continuous distributions.

		e) concept of Fisher information and CR inequality. f) knowledge of different methods of estimation.
B. Sc. -III: SEM- V	Design of Experiments Paper - XI	a) knowledge of basic terms used in design of experiments. b) concept of one-way and two-way analysis of variance. c) knowledge of various designs of experiments such as CRD, RBD, LSD and factorial experiments. d) knowledge of using an appropriate experimental design to analyze the experimental data.
B. Sc.-III: SEM- V	R-Programming and Quality Management Paper -XII	a) importance of R- programming b) knowledge of identifiers and operators used in R. c) knowledge of conditional statements and Loops used in R. d) knowledge of quality tools used in Quality management. e) knowledge of process and product control used in Quality management.
B. Sc. -III: SEM- VI	Probability Theory and Applications Paper - XIII	a) knowledge about order statistics and associated distributions b) concept of convergence and Chebychevs in equality and its uses c) concept of law large numbers and central limit theorem and its uses. d) knowledge of terms involved in reliability theory as well as concepts and measures.
B. Sc. -III: SEM- VI	Statistical Inference-II Paper- XIV	a) concept of interval estimation. b) knowledge of interval estimation of mean, variance and population proportion. c) knowledge of important aspect of test of hypothesis and associated concept. d) concept about parametric and non-parametric methods. e) Knowledge of some important parametric as well as non–parametric tests.
B. Sc. -III: SEM- VI	Sampling Theory Paper - XV	a) basic knowledge of complete enumeration and sample, sampling frame sampling distribution, sampling and non-sampling errors, principle steps in sample surveys, sample size determination, limitations of sampling etc. b) concept of various sampling methods such as simple random

		sampling, stratified random sampling, systematic sampling and cluster sampling. c) an idea of conducting sample surveys and selecting appropriate sampling techniques. d) knowledge of comparing various sampling techniques. e) knowledge of ratio and regression estimators.
B. Sc. -III: SEM- VI	Operations Research Paper - XVI	a) Concept of Linear programming problem. b) Knowledge of solving LPP by graphical and Simplex method. c) Knowledge of Transportation, Assignment and Sequencing problems. d) Concept of queuing theory. e) Knowledge of simulation technique and Monte Carlo technique of simulation.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF MATHEMATICS

B. Sc. (2023-24)

PROGRAM SPECIFIC OUTCOMES (PSO)

After successful completion of 3-year degree program in Mathematics students should be able to:

PSO 1	Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.
PSO 2	A student should get a relational understanding of mathematical concepts and concerned structures, and should be able to follow the patterns involved, mathematical reasoning.
PSO 3	Ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its solution.
PSO 4	Enhancing students' overall development and to equip them with mathematical modelingabilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
PSO 5	Ability to pursue advanced studies and research in pure and applied mathematical science.

COURSE OUTCOMES (CO)

B. Sc. I

SEMESTER-I	
PAPER I: DSC-A5: Calculus	
CO1	Students will able to evaluate the limit and examine the continuity of a function at a point.
CO2	Students will able to understand the consequences of mean value theorems for differentiable functions.
CO3	Students will able to apply Leibnitz theorem to obtain higher derivatives of product of two differentiable functions.
PAPER II: DSC-A6: Differential Equations	
CO1	Students will able to understand types of differential equations.
CO2	Students will able to solve different types of ordinary differential equations.
CO3	Students will able to understand applications of differential equations.
SEMESTER-II	
PAPER III: DSC-B5: Multivariable Calculus	
CO1	Students will able to learn conceptual variations while advancing from one variable to several variables in calculus.
CO2	Students will be able to set up and solve optimization problems involving several variables.
CO3	Students will be able to learn the concept of Jacobian of a transformation.
PAPER IV: DSC-B6: Basic Algebra	
CO1	Students will be able to use fundamental concepts in Mathematics like sets, relations and functions.
CO2	Students will be able to use fundamental concepts in Number theory.

CO3	Students will be able to solve examples on congruence.
CO4	Students will be able to determine nth roots of unity.
CO5	Students will be able to understand various properties of hyperbolic functions.

B. Sc. II

SEMESTER-III	
PAPER V: DSC-C5: Elements of Differential Equations	
CO 1	Students will able to define and classify ordinary differential equations (ODEs), including linear, nonlinear, separable, and exact equations.
CO 2	Students will able to solve first-order differential equations using methods such as separation of variables, integrating factors, and substitution techniques.
CO 3	Students understand the theory of homogeneous and non-homogeneous equations, and apply methods such as undetermined coefficients and variation of parameters .
CO 4	Students understand the role of systems of differential equations in modeling interdependent variables in real-world applications, such as population dynamics and electrical circuits.
PAPER VI: DSC-C6: Numerical Methods	
CO 1	Students will be able to understand and explain various numerical methods, including interpolation, differentiation, integration, and solving linear and nonlinear equations.
CO 2	Students will be able to apply numerical methods to solve practical engineering and scientific problems where analytical methods are impractical.
CO 3	Students will be proficient in implementing numerical algorithms using programming languages or software like MATLAB, Python, or C++, reinforcing their computational skills.
CO 4	Students will be able to choose appropriate numerical techniques based on the problem type, considering efficiency and computational cost.
CO 5	Students will be able to apply numerical techniques to various fields, including engineering, physics, finance, and data science, demonstrating interdisciplinary applicability.
SEMESTER-IV	
PAPER V: DSC-D5: Vector Calculus	
CO 1	Students will be able to perform vector operations such as dot products, cross products, and projections, as well as apply fundamental theorems like Green's, Stokes', and the Divergence theorem.
CO 2	Students will understand and analyze vector fields, compute gradients, divergences, and curls, and interpret these in the context of fluid flow, electromagnetism, and other physical applications.
CO 3	Students will be able to extend calculus to functions of multiple variables, including evaluating line, surface, and volume integrals in various coordinate systems (Cartesian, cylindrical, and spherical).
PAPER VI: DSC-D6: Integral Transform	
CO 1	Students will able to understand special functions.
CO 2	Students will able to apply special functions and multiple integrals in real life problems.
CO 3	Through practical applications, students will enhance their problem-solving skills, especially in fields requiring the modeling of physical systems and data interpretation.

B. Sc. III

SEMESTER-V	
PAPER - IX DSE-E9: Mathematical Analysis	
CO 1	Students will able to understand and learn about the integration of bounded function on a closed and bounded interval.
CO 2	Students will able to understand and learn about some of the families and properties of Riemann integrable functions
CO 3	Students will able to understand and learn about the applications of the fundamental theorems of integration
CO 4	Students will able to understand and learn about extension of Riemann integral to the improper integrals when either the interval of integration is infinite or the integrand has infinite limits at a finite number ofpoints on the interval of integration
CO 5	Students will able to understand and learn about the expansion of functions in Fourier series and half range Fourier series.
PAPER - IX DSE-E10: Abstract Algebra	
CO 1	Students will able to understand basic concepts of group and rings with examples.
CO 2	Students will able to understand identify whether the given set with the compositions form Ring, Integral domain or field.
CO 3	Students will able to understand the difference between the concepts Group and Ring.
CO 4	Students will able to apply fundamental theorem, Isomorphism theorems of groups to prove these theorems for Ring.
CO 5	Students will able to understand the concepts of polynomial rings, unique factorization domain.
PAPER - XI DSE-E11: Optimization Techniques	
CO 1	To provide basic knowledge of a range of operation research models and techniques, which can be applied to a variety of industrial and real life applications.
CO 2	Students will be able to formulate and apply suitable methods to solve problems.
CO 3	Students will be able to identify and select procedures for various sequencing, assignment, transportation problems.
CO 4	Students will be able to identify and select suitable methods for various games .
CO 5	Students will be able to apply linear programming and find algebraic solution to games.

PAPER- XII DSE-E12: Integral Transforms	
CO 1	Students be able to understand concept of Laplace Transform.
CO 2	Students be able to apply properties of Laplace Transform to solve differential equations.
CO 3	Students be able to understand relation between Laplace and Fourier Transform.
CO 4	Students be able to understand infinite and finite Fourier Transform.
CO 5	Students be able to apply Fourier transform to solve real life problems.
SEMESTER-VI	
PAPER- XIII DSE-F9: Metric Spaces	
CO 1	Students be able to acquire the knowledge of notion of metric space, open sets and closed sets..
CO 2	Students be able to demonstrate the properties of continuous functions on metric spaces.
CO 3	Students be able to apply the notion of metric space to continuous functions on metric spaces.
CO 4	Students be able to understand the basic concepts of connectedness, completeness and compactness of metric spaces.
CO 5	Students be able to appreciate a process of abstraction of limits and continuity to metric spaces.
PAPER- XIV DSE-F10: Linear Algebra	
CO 1	Students be able to understand notion of vector space, subspace, basis.
CO 2	Students be able to understand concept of linear transformation and its application to real life situation.
CO 3	Students be able to work out algebra of linear transformations.
CO 4	Students be able to appreciate connection between linear transformation and matrices.
CO 5	Students be able to work out Eigen values, Eigen vectors and its connection with real life situation.
PAPER- XV DSE-F11: Complex Analysis	
CO 1	Students be able to learn basic concepts of functions of complex variable.
CO 2	Students be able to understand concept of analytic functions.
CO 3	Students be able to concept of complex integration and basic results thereof.
CO 4	Students be able to understand concept of sequence and series of complex variable.
CO 5	Students be able to apply concept of residues to evaluate certain real integrals.
PAPER- XVI DSE-F12: Discrete Mathematics	
CO 1	Students be able to use classical notions of logic: implications, equivalence, negation, proof by contradiction, proof by induction, and quantifiers.
CO 2	Students be able to apply notions in logic in other branches of Mathematics.
CO 3	Students be able to know elementary algorithms: searching algorithms, sorting, greedy algorithms, and their complexity.
CO 4	Students be able to apply concepts of graph and trees to tackle real situations.
CO 5	Students be able to appreciate applications of shortest path algorithms in computer science.

Department of Mathematics
Jaysingpur College, Jaysingpur

ANEKANT EDUCATION SOCIETY'S

JAYSINGPUR COLLEGE, JAYSINGPUR

INTERNAL QUALITY ASSURANCE CELL (IQAC)

(AY 2023-24)

B.Sc. (Food Science and Quality Control)

Program Outcomes:

- Utilize knowledge from the physical and biological sciences as a basis for understanding the role of food, Nutrients, in food processing and preservation.
- Students will be able to deliver effective presentation of food safety, quality and hygiene to the general public.
- Students will gain ability to function as an individual as well as a member of team.
- Students will understand the impact of Food Science and Quality Control in society and Environmental context for sustainable development.
- Students will be able to carry out Nutritional evaluation of food products and shelf-life.
- Students will develop vertical progression to higher studies.
- Students will be promoted for start-up projects.

Course Outcomes:

- Expose the participant to the basic essentials of Food Technology & preservation so that they become capable of independently handling food processing units.
- Students will be able to understand the nutritional side which may help to inculcate the scientific view regarding dietary habits of population.
- Enabling the participants to keep themselves abreast of recent changes in Food Technology and Management.
- Creating necessary awareness amongst students regarding the laws affecting Food Processing and Preservation.
- Inculcating entrepreneurship attitude and self-employment attitude in students.

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Commerce

PROGRAMME OUTCOMES (POs)	
PO 1	Develop the general understanding about organization of commerce, business, trade, economics and accounting procedures.
PO 2	Learn the skill of business communication in verbal and written forms.
PO 3	Demonstrate knowledge of major theories and models in key areas of organizational behavior.
PO 4	Assimilate essential skills to become successful entrepreneurs
PO 5	Acquaint the knowledge of economic and business theories.
PO 6	Demonstrate knowledge of economic theory as it relates to markets, firms, government policy, and resource allocation.
PO 7	Able to serve in various companies, accounting firms and government offices in various capacities.
PO 8	Apply basic mathematical and statistical skills necessary for analysis of a range of problems in trade and commerce, accounting, marketing, management and finance.
PO 9	Participate in discussions, workshops and seminars regarding trade, commerce and economics.

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

Department of Commerce

COURSE OUTCOMES (CO)

B.Com I

COURSE OUTCOMES (CO)	
Financial Accounting Paper I	
CO 1	To get an idea about the basic of accounting, accounting concepts and conventions and accounting process.
CO 2	To acquaint with skill of recording transactions related to amalgamation of partnership firm.
CO 3	To apply skills of accounting for consignment transactions.
CO 4	To make use of knowledge and skill for accounting of professionals.

Management Functions and Application-Paper-I	
CO 1	To get an idea about the basic managerial process and planning works in real life
CO 2	To develop decision making skills to evaluate various alternatives and situations.
CO 3	To acquaint with the knowledge of organizing various resources.
CO 4	To understand the concepts of authority and process of delegation of authority.
CO 5	To understand importance of proper direction and to develop their communication skill.

Insurance Paper I	
CO 1	To enable the students to know the fundamentals of Insurance.
CO 2	To give exposure to the students about life insurance products,Procedural part and life insurance business in India.

Financial Accounting Paper-II	
CO 1	To acquaint with skill of recording transactions related to single entry system.
CO 2	To apply skills of accounting for Conversion of partnership firm into a limited company.
CO 3	To make use of knowledge and skill for accounting of branches.
CO 4	To understand the knowledge about computerized accounting.

Management Functions and Application-Paper-II	
CO 1	To get an idea about motivation concept and theories
CO 2	To develop their leadership skill
CO 3	To understand and utilize techniques of coordination and control
CO 4	To understand various emerging issues in management like green management and to understand concept of Change

Insurance Paper II	
CO 1	To enables the students to know the fundamentals of General Insurance.
CO 2	To give exposure to the students about general insurance, procedural part, general insurance business and FDI in insurance in India.

B.Com II

Corporate Accounting Paper - I	
CO 1	Explain the accounting entries of issue and forfeiture of shares and re-issue of For feited shares, discuss accounting treatment for redemption of preference shares and buyback of shares.
CO 2	Demonstrate accounting for issue of debentures and redemption of debentures.
CO 3	Simulate practice of preparing financial statements as per the provisions of Indian Companies Act 2013.
CO 4	Practice the fundamental accounting process on Tally ERP

Fundamentals of Entrepreneurship- Paper-I	
CO 1	To impart theoretical knowledge of Entrepreneurship
CO 2	To develop Entrepreneurship qualities and skills
CO 3	To acquaint students with Steps involved in the formation of Small Enterprises
CO 4	To enlighten students with Recent Trends and Concepts in Entrepreneurship

Money and Financial System (Paper No – 1)	
CO 1	Learners will be able to explain functions of money and measurement of money supply
CO 2	Learners will understand the banking system and its functioning in India
CO 3	Learners will understand the nature of banking business and business practices
CO 4	Learners will understand the important recent trends in banking system

Corporate Accounting Paper - II	
CO 1	Explain the accounting entries of profit/loss prior to incorporation.
CO 2	Compute the value of shares as per distinct methods and differentiate between them.
CO 3	Simulate practice of accounting for liquidation of companies.
CO 4	Practice the store accounting through Tally ERP.

Fundamentals of Entrepreneurship- Paper-II	
CO 1	To acquaint students with family business in India
CO 2	To impart conceptual knowledge of Service and Agro Entrepreneurship
CO 3	To aware students about Business Plan and Project Report
CO 4	To inspire the students through successful stories of Entrepreneurs

Money and Financial System (Paper No – 2)	
CO 1	Students will be able to use e-banking services
CO 2	Students will be able explain working of RBI in India
CO 3	Students will be able to provide consultancy and guidance for investment in financial markets
CO 4	Students will be able to explain the business practices of NBFCs and AIFI

B.Com III

Modern Management Practice Paper- I	
CO 1	To impart knowledge of modern management
CO 2	To understand concepts of CRM
CO 3	To know the concepts of emotional and social intelligence
CO 4	To understand the concept of lean and talent management

Modern Management Practice Paper II	
CO 1	To impart knowledge of total quality management
CO 2	To understand the Japanese and Chinese Management Practices
CO 3	To know the concept of Event and Performance Management
CO 4	To understand the concept of time and stress management

Business Regulatory Framework Paper I	
CO 1	To study the Business Law and its sources
CO 2	To understand Labour Laws
CO 3	To understand Basic framework of GST

Business Regulatory Framework Paper II	
CO 1	To understand Company Act- 2013
CO 2	To study Listing and Trading of Securities
CO 3	To study Cyber crimes and offences e) Penalties for cyber crimes

Cooperative Development Paper I	
CO 1	To study the meaning and principles of Co-operation.
CO 2	To study the agricultural and Non-agricultural Credit Co-operative institutions
CO 3	To study the Co-operative credit system
CO 4	To Study the important cooperative organizations

Cooperative Development Paper II	
CO 1	To study the cooperative legislations and fund management
CO 2	To understand the institutional arrangement for cooperative education and training
CO 3	To understand the nature, registration, legislation and audit of housing cooperatives
CO 4	To understand the cooperative audit system and provisions

Business Environment Paper I	
CO 1	Student should able to understand the significance and position of Indian economy at the world level.
CO 2	Students should study the scenario of agricultural and industrial sectors
CO 3	Student should aware regarding Indian economy is facing some of the fundamental economic problems. They should able to make plans and solutions to these being as a citizen
CO 4	Student should understand the correlations between economical and social problems.

Business Environment Paper II	
CO 1	Students will understand the Indian and global economic environment.
CO 2	Students will equip with proper knowledge of Indian economic planning.
CO 3	Students will enable with the knowledge of the plans and strategies toward foreign capital and multinational corporations.
CO 4	Students will get acquainted with the functions, mechanism and performance of international financial, trade and regional cooperation institutions

Advanced Accountancy Paper I	
CO 1	Practice the preparation of financial statements of banks.
CO 2	Demonstrate accounting for farms and hire purchase system.
CO 3	Simulate accounting situations of insurance claim.
CO 4	Explain the accounting process on Tally with GST.

Advanced Accountancy Paper II	
CO 1	To understand the concept and types of audit
CO 2	To identify the residential status and its implication on tax liability
CO 3	To understand the concept of exemption from income
CO 4	To know the computation of income from various sources as well as total income

Advanced Accountancy Paper III	
CO 1	Practice the preparation of financial statements of banks.
CO 2	Demonstrate accounting for farms and hire purchase system.
CO 3	Simulate accounting situations of insurance claim.
CO 4	Explain the accounting process on Tally with GST.

Advanced Accountancy (Taxation) Paper IV	
CO 1	To understand the basic concepts of income tax and basis of charge
CO 2	To identify the residential status and its implication on tax liability
CO 3	To understand the manner of computation of total income
CO 4	To know the basic concepts about GST

Advanced Banking (Banking Laws in India) Paper I	
CO 1	Learners will be able to explain Regulatory Framework for Banking in India
CO 2	Learners will understand the important laws relating banking sector
CO 3	Learners will apply the knowledge of legal provisions for banking business practices
CO 4	Learners will understand different provisions under cyber Laws

Advanced Banking (Retail and Corporate Banking) Paper II	
CO 1	Learners will be able to explain Retail and Corporate Banking systems
CO 2	Learners will understand the Retail and Corporate Banking Practices
CO 3	Learners will apply the knowledge in banking business

Advanced Banking (Bank Management Practices) Paper III	
CO 1	Learners will be able to understand the nature and Administrative Structure of Head Office
CO 2	Learners will be able to understand Duties and Responsibilities of Cashier & Role of Branch Manager
CO 3	Learners will be able to understand Principles of Banking Business and Its Importance

Advanced Banking (Financial Markets and Services Paper IV	
CO 1	Learners will be able to understand the nature and structure of Financial Market in India
CO 2	Learners will understand business practices in money market and capital market
CO 3	Learners will understand functioning of different Intermediaries in Financial Markets

Industrial Management Paper – I (Factory and Capital Management)	
CO 1	To make students familiar with the subject industrial management.
CO 2	To expose the students the importance and applicability of industry management

Industrial Management Paper-II (Human Resource Management)	
CO 1	To make students familiar with the subject human resource management.
CO 2	To expose the students the importance and applicability of human resource management

Industrial Management Paper III (Production Management)	
CO 1	To make students familiar with the subject industrial management.
CO 2	To Expose the students the importance and applicability of industrial management

Industrial Management Paper –IV (Personnel Management)	
CO 1	To make students familiar with the subject industrial management.
CO 2	To expose the students the importance and applicability of industry management

COURSE OUTCOMES (CO)

M.Com I

Business Management Paper I	
CO 1	Understand the theoretical aspects of management and strategic management Understand the contemporary issues in management
CO 2	Describe the theoretical aspects of management and strategic management
CO 3	Understand the contemporary issues in management

Managerial Economics Paper I	
CO 1	Understand the variables and components of Managerial Economics.
CO 2	Study the applications of demand analysis and concepts relate consumer behaviour
CO 3	Get awareness regarding production, price determination and pricing practices and they should able to apply these in business decision making policies.
CO 4	Understand the business cycle phenomenon and inflation for business decision making.

Advanced Accountancy I	
CO 1	Understanding concept of accounting standards and practical implication of AS-1 and AS-2
CO 2	Familiarity with preparing final accounts of service industries.
CO 3	Perfection in preparing the consolidated financial statements of holding company and its subsidiaries.
CO 4	Understanding of preparation of financial statements of Insurance companies with schedules.

Advanced Accountancy-II (Auditing)	
CO 1	Understand the basic concepts and objectives of audit
CO 2	Gain working knowledge of generally accepted auditing procedures
CO 3	Identify the skills and techniques of conducting audit of various entities
CO 4	Know the recent trends in practice of audit

Organizational Behaviour	
CO 1	Describe theoretical concepts of organizational Behaviour.
CO 2	Classify types of personalities
CO 3	Summarize types of conflicts
CO 4	Summarize adoption of organizational culture

Advanced Accountancy Paper III Research Methodology	
CO 1	Understand the basics of research.
CO 2	Design research protocol for research problem
CO 3	Prepare the instruments for data collection.
CO 4	Analyse and interpret the ata.

Advanced Accountancy Paper IV Research Project	
CO 1	Expose the students to the real life situation
CO 2	Develop an ability of critical thinking
CO 3	Analyse the problem in an organisation and suggest remedial actions
CO 4	Gain working knowledge of the job/profession to get insights of the business

I/A : Internship/Apprenticeship	
CO 1	Expose the students to the real life situation
CO 2	Develop an ability of critical thinking
CO 3	Analyse the problem in an organisation and suggest remedial actions
CO 4	Gain working knowledge of the job/profession to get insights of the business

Management Accounting Paper I	
CO 1	Understand the fundamentals of ManagementAccounting.
CO 2	Explain the analysis and interpretation of financialstatements
CO 3	Demonstrate the estimation of working capitalrequirements.
CO 4	Practice to analyze the changes in financial position

Management Accounting Paper-II	
CO 1	Understand the fundamentals of Management ControlSystem and Reporting.
CO 2	Explain the marginal costing and cost-volume-profitanalysis and practice decision making based thereon.
CO 3	Simulate the budgetary control system anddemonstrate the budgeting
CO 4	Practice to analyze the cost variances

Advanced Accountancy (Taxation) Paper V	
CO 1	To know the basic concept related to income tax.
CO 2	To acquaint with knowledge and skills of computing taxable income of different business entities.
CO 3	To practice with e-filing of income tax return and online payment.
CO 4	To gain knowledge about GST.

Advanced Accountancy Paper VI Research Project	
CO 1	Expose the students to the real life situation
CO 2	Develop an ability of critical thinking
CO 3	Analyse the problem in an organisation and suggest remedial actions
CO 4	Gain working knowledge of the job/profession to get insights of the business

Advanced Accountancy Paper VII (Costing)	
CO 1	To acquire the knowledge of elements of cost and cost sheet.
CO 2	To acquaint the knowledge and skill to prepare job cost sheet and contract account.
CO 3	To explain the costing process for processing units and service organizations.
CO 4	To understand to reconcile the cost and financial accounts.

Advanced Accountancy Paper VIII (Contemporary Issues in Accounting)	
CO 1	To acquire the knowledge of contemporary issues in accounting

Business Finance-Paper-I	
CO 1	Apply fundamental concepts of business finance and examine various finance decisions

CO 2	Compare different types of capital structure
CO 3	Compare and appraise various long-term and short-term sources of finance
CO 4	Illustrate various components of Working Capital Management

Business Finance-Paper-II	
CO 1	Become familiar with practical trading techniques in Indian stock market
CO 2	Understand how to build and evaluate the portfolio and different facets of portfolio management
CO 3	Acquire conceptual understanding of Corporate Restructuring
CO 4	Become aware of recent trends in business finance scenario with specific reference to Start-up Funding, Angel Financing and FinTech services

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF HINDI

Academic Year: 2023-24

Bachelor of Arts (B. A.)

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO 1	छात्रों को हिंदी के प्रतिनिधि गद्यकारों एवं कवियों से परिचित कराना।
PSO 2	छात्रों में हिंदी भाषा के श्रवण ,पठन एवं लेखन की क्षमताओं को विकसित कराना।
PSO 3	छात्रों में नैतिक मूल्य ,राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण करना।
PSO 4	छात्रों में राष्ट्र के प्रति प्रेम ,राष्ट्रीय ऐक्य स्थापना एवं सामाजिक प्रतिबद्धता हेतु राष्ट्रभाषा हिंदी का प्रचार -प्रसार करना।
PSO 5	छात्रों की विचार क्षमता तथा कल्पनाशीलता को बढ़ावा देना।

COURSE OUTCOMES (CO)

B. A. I	
SEMESTER-I	
PAPER I - हिंदी कविता	
CO1	छात्रों को हिंदी के प्रतिनिधि कवियों से परिचित कराना।
CO2	छात्रों में राष्ट्र के प्रति प्रेम, राष्ट्रीय ऐक्य स्थापना एवं सामाजिक प्रतिबद्धता हेतु राष्ट्रभाषा हिंदी का प्रचार -प्रसार करना।
CO3	छात्रों की विचार क्षमता तथा कल्पनाशीलता को बढ़ावा देना।
SEMESTER-II	
PAPER II – हिंदी गद्य साहित्य	
CO1	छात्रों की हिंदी साहित्य के प्रति रूचि बढ़ाना तथा छात्रों की हिंदी साहित्य की विविध विधाओं से परिचित कराना।
CO2	निबंध, कहानी, रेखाचित्र, एकांकी, रिपोर्ताज, संस्मरण, व्यंग्य आदि विधाओं के माध्यम से छात्रों का भावात्मक विकास करना।
B. A. II	
SEMESTER-III	
प्रश्नपत्र - **III: अस्मितामूलक विमर्श और हिंदी गद्य साहित्य**	
CO1	कथा साहित्य का स्वरुप, तत्व एवं प्रकारों का अध्ययन कराना।
CO2	समीक्षा मानदंडों के आधार पर कथा साहित्य का अध्ययन कराना।
CO3	कथेतर साहित्य का समीक्षात्मक अध्ययन कराना।
CO4	कथा और कथेतर साहित्य का वर्तमान प्रासंगिकता के साथ अध्ययन कराना।
प्रश्नपत्र - IV : हिंदी संतकाव्य तथा राष्ट्रीय काव्यधारा	
CO1	छात्रों की हिंदी साहित्य के प्रति रूचि बढ़ाना तथा छात्रों की हिंदी साहित्य की विविध विधाओं से परिचित

	कराना।
CO2	छात्रों को मध्यकालीन हिंदी कवियों से परिचित कराना।
CO3	छात्रों में नैतिक मूल्य ,राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण कराना।
CO4	छात्रों को आधुनिक हिंदी कविता में चित्रित विविध विमर्शों से परिचित कराना।
SEMESTER-IV	
प्रश्नपत्र - V: रोजगार परक हिंदी	
CO1	छात्रों में हिंदी में कार्य करने की विचार क्षमता, कल्पनाशीलता एवं रूचि विकसित कराना।
CO2	रोजगार उन्मुख शिक्षा एवं कौशल प्रदान कराना।
CO3	कार्यालय और व्यवसाय में हिंदी प्रयोग का कौशल ज्ञान विकसित कराना।
CO4	पत्राचार के स्वरुप का परिचय कराना। अनुवाद और व्यावहारिक लेखन का महत्त्व तथा उपयोगिता से परिचित कराना।
PAPER- VI: अस्मितामूलक विमर्श और हिंदी पद्य साहित्य	
CO1	छात्रों को हिंदी कवियों से परिचित कराना।
CO2	छात्रों में हिंदी भाषा के श्रवण ,पठन एवं लेखन की क्षमताओं को विकसित कराना।
CO3	छात्रों की हिंदी साहित्य के प्रति रूचि बढ़ाना तथा छात्रों की हिंदी साहित्य की विविध विधाओं से परिचित कराना।
CO4	छात्रों में नैतिक मूल्य, राष्ट्रीय मूल्य एवं उत्तरदायित्व के प्रति आस्था निर्माण कराना।
B. A. III	
SEMESTER-V	
Paper VII DSE E6- विधा विशेष का अध्ययन	
CO1	**नाटककार कुसुम कुमार की बहुमुखी प्रतिभा** से परिचित कराना।
CO2	**नाटककार कुसुम कुमार की** साहित्य से परिचित कराना।
CO3	**नाटककार कुसुम कुमार की विचारधारा** से परिचित कराना।
CO4	**नाटककार कुसुम कुमार के निर्धारित ग्रंथ का सूक्ष्म आलोचनात्मक अध्ययन कराना।**
CO5	**लेखिका के नाटककार के रूप में साहित्यिक स्थान को निर्धारित कराना।**
Paper VIII DSE E6- साहित्यशास्त्र	
CO1	साहित्य -निर्मिती की प्रक्रिया का बोध कराना।
CO2	साहित्य -काव्य के विभिन्न अंगो ,भेदों से परिचित कराना।
CO3	साहित्य - काव्य की नवीन विधाओं से परिचित कराना।
CO4	समीक्षा सिद्धांतों से परिचित कराना।
CO5	साहित्य - काव्य के तत्वों से परिचित कराना।
CO6	अलंकारों से परिचित कराना।
Paper IX DSE E6- हिंदी साहित्य का इतिहास	
CO1	हिंदी भाषा तथा साहित्य की विकास यात्रा से अवगत कराना।
CO2	हिंदी साहित्य की विकास यात्रा से हिंदी भाषा के माध्यम से अलग -अलग विचारधारा और प्रवृत्तियों से अवगत कराना।
CO3	छात्रों में साहित्य समझने तथा उसका आस्वादन -मूल्यांकन करने की दृष्टि को बढ़ाना।
CO4	छात्रों को साहित्य के संदर्भ में विभिन्न साहित्यिक विधाओं के विकास क्रम से परिचित कराना।
Paper X DSE E6- प्रयोजनमूलक हिंदी	
CO1	हिंदी में कार्य करने की रूचि विकसित कराना।

CO2	रोजगार उन्मुख शिक्षा एवं कौशल प्रदान कराना।
CO3	सरकारी पत्राचार के स्वरुप का परिचय कराना।
CO4	जनसंचार एवं इलेक्ट्रॉनिक माध्यमों से परिचित कराना।
Paper XI DSE E6- भाषा विज्ञान और हिंदी भाषा	
CO1	भाषा के विविध रूपों का का परिचय कराना।
CO2	भाषा विज्ञान का सामान्य परिचय कराना।
CO3	हिंदी भाषा की लिपि के उदभव और विकास का परिचय कराना।
CO4	भाषा की शुदधता के प्रति छात्रों को जागृत करना।
CO5	मानक हिंदी वर्तनी और व्याकरण से छात्रों को परिचित कराना।
SEMESTER-VI	
Paper XII DSE E6- विधा विशेष का अध्ययन	
CO1	उपन्यास के तात्विक स्वरूप का परिचय देना।
CO2	उपन्यासकार के कृतित्व एवं कृति से परिचित कराना।
CO3	रचना विशेष का महत्त्व समझने एवं मूल्यांकन करने की क्षमता को बढ़ाना।
CO4	रचना का आस्वादन एवं समीक्षा की क्षमता विकसित कराना।
CO5	पाठ्यक्रम में निर्धारित उपन्यास की प्रासंगिकता से अवगत कराना।
Paper XIII DSE E6- साहित्यशास्त्र और हिंदी आलोचना	
CO1	साहित्य -काव्य के विभिन्न अंगो ,भेदों से परिचित कराना।
CO2	साहित्य - काव्य की नवीन विधाओं से परिचित कराना।
CO3	समीक्षा सिद्धांतों से परिचित कराना।
CO4	साहित्य - काव्य के तत्वों से परिचित कराना।
Paper XIV. DSE E6- हिंदी साहित्य का इतिहास	
CO1	छात्रों को युगीन सामाजिक , राजनीतिक परिस्थितियों के परिप्रेक्ष में हिंदी से अवगत कराना।
CO2	हिंदी के प्रमुख संत कवि ,उनकी रचनाएँ और उनका समाजसुधार में योगदान से परिचित कराना।
CO3	इतिहासकारों द्वारा प्रस्तुत काल विभाजन और नामकरण को जानने के लिए प्रेरित करना।
CO4	हिंदी साहित्य के अंतर्गत गद्य - पद्य विधा और उसके भेदों ,उपभेदों से अवगत कराना।
Paper XV DSE E6- प्रयोजनमूलक हिंदी	
CO1	अनुवाद स्वरुप, महत्त्व तथा उपयोगिता से परिचित कराना।
CO2	पारिभाषिक शब्दावली से परिचित कराना।
CO3	रोजगार परक हिंदी की उपयोगिता स्पष्ट कराना।
Paper XVI DSE E6- भाषा विज्ञान और हिंदी भाषा	
CO1	हिंदी भाषा की लिपि के उदभव और विकास का परिचय कराना।
CO2	भाषा की शुदधता के प्रति छात्रों को जागृत करना।
CO3	मानक हिंदी वर्तनी और व्याकरण से छात्रों को परिचित कराना।

B.A. Part I Semester I Compulsory Marathi P. No. I

पाठ्यपुस्तक - शब्दसंहिता १. नापास मुलांची गोष्ट (निवडक लेख)

व्यक्तिमत्त्व विकास आणि भाषा उद्दिष्टे :

१. विद्यार्थ्यांची मराठी भाषा आणि साहित्याविषयी अभिरूची विकसित करणे.

२. मराठी साहित्य परंपरा, लेखक, कवी यांचा परिचय करून देणे.

३. विद्यार्थ्यांमध्ये मातृभाषा, राष्ट्रीय एकात्मता आणि उच्च मानवी मूल्यांविषयी जाणीव निर्माण करणे.

४. विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडवून विविध परीक्षा आणि स्पर्धा परीक्षांची पूर्वतयारी करून घेणे.

५. निबंधलेखनाच्या माध्यमातून भाषा उपयोजनाची कौशल्ये विकसित करणे.

B.A. Part I Semester II Compulsory Marathi P. No. II

पाठ्यपुस्तक - अक्षरबंध

चित्रपट : आस्वाद प्रक्रिया उद्दिष्टे :

१. विद्यार्थ्यांची मराठी भाषा आणि साहित्याविषयी अभिरूची विकसित करणे.

२. मराठी साहित्य परंपरा, लेखक, कवी यांचा परिचय करून देणे.

३. विद्यार्थ्यांमध्ये मातृभाषा, राष्ट्रीय एकात्मता आणि उच्च मानवी मूल्यांविषयी जाणीव निर्माण करणे.

४. विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडवून विविध परीक्षा आणि स्पर्धा परीक्षांची पूर्वतयारी करून घेणे.

५. चित्रपट आणि प्रसारमाध्यमे यांच्या लेखन आणि उपयोजनाच्या आकलनाचा अवकाश वाढविणे.

B.A. Part I Semester I & II Marathi (Opt)P. No. I & II

१. कथा - निवडक भास्कर चंदनशिव - लाल चिखल (निवडक कथा)

२. चित्रपट : आस्वाद प्रक्रिया

उद्दिष्ट्ये :

१. विद्यार्थ्यांची मराठी भाषा आणि साहित्याविषयी अभिरूची विकसित करणे.

२. मराठी साहित्य परंपरा, लेखक, कवी यांचा परिचय करून देणे.

३. विद्यार्थ्यांमध्ये मातृभाषा, राष्ट्रीय एकात्मता आणि उच्च मानवी मूल्यांविषयी जाणीव निर्माण करणे.

४. विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडवून विविध परीक्षा आणि स्पर्धा परीक्षांची पूर्वतयारी करून घेणे.

५. चित्रपट आणि प्रसारमाध्यमे यांच्या लेखन आणि उपयोजनाच्या आकलनाचा अवकाश वाढविणे.

B.A. Part II Semester III Marathi (Opt) P. No. III

काय डेंजर वारा सुटलाय! (नाटक)

उद्दिष्ट्ये:

१. नाटक या वाङ्मय प्रकाराचे आकलन करून घेणे.

२. समकालीन नाटकातून नाटककाराच्या समकालाचे प्रतिबिंब कशाप्रकारे प्रकट होते याचा अभ्यास करणे.

३. नाट्याभ्यासाद्वारे प्रयोगरूप नाटक व नाट्यक्षेत्रातील ज्ञानसंपादनास चालना देणे.

४. नाट्याभ्यासातून सभ्यता, संस्कृती, राष्ट्रीय एकात्मता व बंधुता वाढीस लावणे.

५. विद्यार्थ्यांमध्ये संवादलेखन कौशल्ये विकसित करणे.

B.A. Part II Semester III Marathi (Opt) P. No. IV

काव्यगंध

उद्दिष्ट्ये:

१. मराठी काव्यपरंपरा व प्रवाहांची ओळख करून घेणे.

२. मराठी काव्यातून प्रकट होणारे माणूस आणि समाज यातील परस्पर संबंध शोधणे.

३. कवितेच्या कलात्मक आकृतीबंधाचे मोल अभ्यासणे.

४. काव्यप्रवाहानुरूप काव्यलेखनाचे विशेष अभ्यासणे.

५. प्रात्यक्षिकाद्वारे काव्यलेखन कौशल्ये रुजविणे.

B.A. Part II Semester IV Marathi (Opt) P. No. V

साहित्यकृती : माती, पंख आणि आकाश (आत्मचरित्र)

उद्दिष्ट्येः

१. आत्मचरित्र या वाङ्मयप्रकाराची ओळख करून घेणे.

२. इतर वाङ्मयप्रकार आणि आत्मचरित्र यातील अभिव्यक्ती रूपांचा अभ्यास करणे.

३. आत्मचरित्रकाराच्या व्यक्तिमत्त्वाची जडण-घडण आणि त्याचा समकाल समजून घेणे.

४. वेगवेगळ्या भारतीय प्रांतातील व परदेशातील जीवनदर्शन समजून घेणे.

५. आत्मवृत्तपर लेखन कौशल्ये विकसित करण

B.A. Part II Semester IV Marathi (Opt) P. No. VI

साहित्यकृती : जुगाड (कादंबरी)

उद्दिष्ट्येः

१. कादंबरी वाङ्मयप्रकाराची ओळख करून घेणे.

२. समकालीन कादंबरीतील नव्या अवकाशाचा शोध घेणे व आधुनिकतेमधील अंतर्विरोध समजून घेणे.

३. मानवी मूल्यांविषयी जाणीव निर्माण करणे.

४. कादंबरीलेखनाचे विशेष अभ्यासणे.

५. वृत्तांतलेखन कौशल्ये रुजविणे.

B.A. Part III Semester V Marathi (Opt) P. No. VII

काव्यशास्त्र

- **उद्दिष्टे**

१ पौर्वात्य काव्यशास्त्राची ओळख करून देणे
२ काव्याची लक्षणे आणि प्रयोजने समजावून देणे
३ साहित्याची निर्मितिप्रक्रिया आणि स्वरूप जाणून घेणे
४ भाषेचे 'अलंकार' समजावून देणे.

B.A. Part III Semester V Marathi (Opt) P. No. VIII

भाषाविज्ञान आणि मराठी भाषा

उद्दिष्टे

१ आधुनिक भाषाविज्ञानाचा परिचय करून देणे
२ भाषाविज्ञान आणि मराठी भाषा यांचा सहसंबंध जाणून घेणे
३ भाषेची उत्पत्ती, स्वरूप, कार्य समजावून देणे
४ ध्वनिपरिवर्तनाची कारणे व प्रकारांची माहिती करून देणे
५ मराठी भाषेची वर्णव्यवस्था समजावून देणे६ मराठी भाषेबद्दलची विद्यार्थ्यांची आवड विकसित करणे.

B.A. Part III Semester V Marathi (Opt) P. No. IX

मराठी वाङ्मयाचा इतिहास

उद्दिष्टे

१ मध्ययुगीन मराठी वाङ्मय परंपरांचा व इतिहासाचा परिचय करून देणे
२ या कालखंडातील वाङ्मय रचनाप्रकारांचा परिचय करून देणे
३ या कालखंडातील वाङ्मयनिर्मितीच्या प्रेरणांचा परिचय करून देणे
४ या कालखंडातील वाङ्मयाच्या सांस्कृतिक पार्श्वभूमीचा उलगडा करणे
५ या कालखंडातील प्रमुख संप्रदाय व ग्रंथनिर्मिती यांचा अनुबंध स्पष्ट करणे
६ या काळातील मराठी भाषेचे स्वरूप स्पष्ट करणे.

B.A. Part III Semester V Marathi (Opt) P. No. X

मराठी भाषा : उपयोजन आणि सर्जन

उद्दिष्टे

१ औपचारिक आणि अनौपचारिक क्षेत्रानुसार भाषिक व्यवहार समजावून देणे,
२ विविध क्षेत्रातील भाषिक कौशल्ये आणि क्षमता विकसित करणे
३ लेखन, वाचन, भाषण या कौशल्यांचा विकास करणे
४ भाषिक उपयोजनाने विद्यार्थ्यांचा शब्दसंग्रह समृद्ध करणे
५ उपयोजित व सर्जनशील लेखनास विद्यार्थ्यांना उद्युक्त करणे
६ मराठीच्या विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडविणे.

B.A. Part III Semester V Marathi (Opt) P. No. XI

वाङ्मयप्रवाहांचे अध्ययन (ग्रामीण साहित्य)

उद्दिष्टे

१ मराठीतील विविध साहित्यप्रवाहांचा परिचय करून देणे
२ ग्रामीण साहित्यप्रवाहांची प्रेरणा, स्वरूप, वैशिष्ट्ये व विकास समजावून देणे
३ अभ्यासार्थ नेमलेल्या साहित्यकृतीद्वारे संबंधित साहित्यप्रवाहाचे आकलन करून देणे.

B.A. Part III Semester VI Marathi (Opt) P. No. XII

काव्यशास्त्र

उद्दिष्टे

१ शब्दशक्तीचे स्वरूप व प्रकार समजावून देणे२ण रसप्रक्रिया समजावून देणे
३ साहित्याची आस्वादप्रक्रिया समजावून घेणे
४ साहित्यनिर्मितीच्या आणि आस्वादाच्या आनंदाची मीमांसा करणे
५ विद्यार्थ्यांचा वाङमयीन दृष्टिकोण विकसित करणे.

B.A. Part III Semester VI Marathi (Opt) P. No. XIII

भाषाविज्ञान आणि मराठी भाषा

उद्दिष्टे

१ अर्थपरिवर्तनाच्या कारणांची व प्रकारांची माहिती करून देणे
२ मराठीचा उगमकाळ व तिच्या जनकभाषेविषयी माहिती करून देणे
३ मराठीची शब्दव्यवस्था (शब्दांच्या जाती) समजावून देणे
४ मराठी भाषेबद्दलची विद्यार्थ्यांची आवड विकसित करणे.

B.A. Part III Semester VI Marathi (Opt) P. No. XIV

मराठी वाङ्मयाचा इतिहास

उद्दिष्टे

१ मध्ययुगीन मराठी वाङ्मय परंपरांचा व इतिहासाचा परिचय करून देणे
२ या कालखंडातील वाङ्मय रचनाप्रकारांचा परिचय करून देणे
३ या कालखंडातील वाङ्मयनिर्मितीच्या प्रेरणांचा परिचय करून देणे
४ या कालखंडातील वाङ्मयाच्या सांस्कृतिक पार्श्वभूमीचा उलगडा करणे
५ या कालखंडातील प्रमुख संप्रदाय व ग्रंथनिर्मिती यांचा अनुबंध स्पष्ट करणे
६ या काळातील मराठी भाषेचे स्वरूप स्पष्ट करणे.

B.A. Part III Semester VI Marathi (Opt) P. No. XV

मराठी भाषा : उपयोजन आणि सर्जन

उद्दिष्टे

१ औपचारिक आणि अनौपचारिक क्षेत्रानुसार भाषिक व्यवहार समजावून देणे
२ विविध क्षेत्रातील भाषिक कौशल्ये आणि क्षमता विकसित करणे
३ भाषिक उपयोजनाने विद्यार्थ्यांचा शब्दसंग्रह समृद्ध करणे
४ उपयोजित व सर्जनशील लेखनास विद्यार्थ्यांना उद्युक्त करणे
५ मुलाखत, संपादन, परीक्षण अशा भाषिक आकृतिबंधांचा परिचय देणे
६ मराठीच्या विद्यार्थ्यांचा व्यक्तिमत्त्व विकास घडविणे
७ जनसंपर्क कौशल्याची आवश्यकता व तंत्रे समजावून देणे.

B.A. Part III Semester VI Marathi (Opt) P. No. XVI

वाङ्मयप्रवाहांचे अध्ययन (दलित साहित्य)

उद्दिष्टे

१ मराठीतील विविध साहित्यप्रवाहांचा परिचय करून देणे
२ दलित साहित्यप्रवाहांची प्रेरणा, स्वरूप, वैशिष्ट्ये व विकास समजावून देणे
३ अभ्यासार्थ नेमलेल्या साहित्यकृतीद्वारे संबंधित साहित्यप्रवाहाचे आकलन करून देणे.

M.A. Part I Marathi Semester I & II (P. No. I &V)

भाषिक आविष्काराची रुपे

उद्दिष्टे :

१. भाषिक आविष्काराचे स्वरुप समजून घेणे.
२. भाषेची सर्जनशील प्रक्रिया समजून घेणे.
३. भाषा आणि साहित्य यांचा संबंध समजून घेणे.
४. भाषा आणि साहित्यप्रकार यातील अनुबंध समजून घेणे.

M.A. Part I Marathi Semester I & II (P. No. II & VI)

विशेष साहित्यकृतींचा अभ्यास

उद्दिष्टे :

१. लेखक अभ्यासपद्धतीचा उपयोग कसा करावा हे समजून घेणे.
२. लेखकाचे वाङ्मयीन व्यक्तिमत्त्व आणि लेखक व त्याचा समकाल समजून घेणे.
३. साहित्यकृतीतून लेखकाच्या समकालाचे प्रतिबिंब कशा प्रकारे प्रकट होते याचा अभ्यास करणे.
४. लेखकाच्या इतर साहित्यकृती विचारात घेऊन लेखकाच्या वाङ्मयीन जडणघडणीचा विचार करणे.
५. एकूण वाङ्मयीन परंपरेत लेखकाचे योगदान समजून घेणे.

M.A. Part I Marathi Semester II (P. No. III & VII)

आधुनिक मराठी वाङ्मयाचा इतिहास (स्वातंत्र्यपूर्व काळ)

उद्दिष्टे :

१. स्वातंत्र्यपूर्व काळातील महाराष्ट्रातील सामाजिक, राजकीय, सांस्कृतिक जीवनाची पार्श्वभूमी समजून घेणे तसेच त्याचा साहित्यावरील आंतरसंबंध अभ्यासणे.
२. या काळातील विविध साहित्यप्रवाहांचा इतिहास अभ्यासताना त्या त्या प्रवाहातील वाङ्मयप्रकारांचे स्वरूप, वैशिष्ट्ये अभ्यासणे.
३. मुख्य प्रवाहातील साहित्याबरोबरच इतर समांतर साहित्यप्रवाहांची वैशिष्ट्ये समजावून घेणे.

M.A. Part I Marathi Semester I & II (P. No. IV & VIII)

लोकसाहित्य व लोककला

उद्दिष्टे :

१. लोकसाहित्य आणि लोकसंस्कृती यातील परस्परसंबंध समजून घेणे.
२. लोकसाहित्याची संकल्पना समजून घेणे.
३. लोकसाहित्याच्या परंपरेची ओळख करुन घेणे.
४. लोकसाहित्याचा उगम आणि व्याप्तीबद्दल माहिती घेणे.

M.A. Part II Marathi Semester III & IV (P. No. IX & XIII)

समाजभाषाविज्ञान

उद्दिष्टे :

१. समाजभाषाविज्ञानाचे स्वरूप समजजून घेणे.
२. समाजभाषाविज्ञानातील विविध सिद्धांत, संकल्पनांचा परिचय करुन घेणे.
३. समाज, संस्कृती आणि भाषा यामधील परस्पर संबंध समजून घेणे.
४. समाजभाषाविज्ञानाची व्याप्ती समजून घेणे.
५. भाषाव्यवहाराची विविधता समजून घेता येईल.
६. भाषासंपर्काचे स्वरुप अभ्यासता येईल.
७. भाषिक नियोजन म्हणजे काय ते समजून घेता येईल.
८. बहुभाषिक देशांतील भाषिक प्रश्नांचा परिचय होईल.
९. भाषिक नियोजनाची उद्दिष्टये जाणून घेता येतील.
१०. भाषाशिक्षणाचे स्वरूप आणि भाषाशिक्षणाच्या विविध बाजूंचा अभ्यास करता येईल.
११. मराठीच्या विविध बोलींचा समाजभाषावैज्ञानिक विचार करता येईल.

M.A. Part II Marathi Semester III & IV (P. No. X & XIV)

वाङ्मयीन संस्कृती

उद्दिष्टे :

१. वाङ्मयीन संस्कृती ही संकल्पना समजून घेणे.
२. समाज आणि संस्कृती यातील अनुबंध लक्षात घेणे.
३. मौखिक आणि लिखित परंपरेत वाङ्मयीन परंपरेला संघटित करणाऱ्या घटकांचा विचार करणे.
४. वाङ्मयीन संस्कृतीचे स्वरुप तपासणे.

M.A. Part II Marathi Semester III & IV (P. No. XI & XV)

समीक्षा सिद्धांत आणि उपयोजन

उद्दिष्टे :

१) उपयोजित समीक्षेतील काही समीक्षेचे स्वरुप माहिती करुन घेणे.
२) समाजशास्त्रीय व आदिबंधात्मक समीक्षा या समीक्षाप्रवाहांचा विचार करणे.
३) प्रत्यक्ष उपयोजित समीक्षेचे उपयोजन म्हणून निवडक साहित्यकृतींचा विचार करणे.

M.A. Part II Marathi Semester III & IV (P. No. XII & XVI)

तौलनिक साहित्याभ्यास

उद्दिष्टे :

१. तौलनिक साहित्याभ्यासाची संकल्पना व स्वरुप समजावून घेणे.

२. विश्वसाहित्य, राष्ट्रीय साहित्य व सर्वसाधारण साहित्य या संकल्पनांचे परस्परसंबंध अभ्यासणे.

३. भारतीय साहित्याबाबतचे विविध दृष्टिकोन अभ्यासणे.

४. साहित्याचे वर्गीकरण व साहित्यातील वाद-संप्रदाय यांचा अभ्यास करण

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

Department of English

AY: 23-24

BACHELOR OF ARTS (B.A.)

PROGRAM OUTCOMES (PO)

1. The students will develop acumen to appreciate literary works and arts.
2. The students will become sensitive and sensible human beings.
3. The students will develop human outlook.
4. The students will be responsible citizen in the global scenario in terms of the English language.

Course Outcomes (COs)

B. A. III

Compulsory English

Ability Enhancement Compulsory Course (CBCS)

ENGLISH FOR COMMUNICATION

Course Outcomes

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

- Communicate in English, in oral and written modes, in their day-to-day lives as well as at workplaces.
- Face job interviews confidently and efficiently.
- Acquire soft skills required at workplaces and in real life.
- Learn group behavior and team work.
- Learn to value and respect others' opinions and views and develop democratic attitude.
- Face competitive examinations confidently and efficiently with adequate linguistic confidence.

- Acquire professional skills required in media writing such as writing editorials.
- Learn to appreciate and enjoy reading poetry and prose passages.
- Acquire human values and develop cultured outlook.

B. A. Part III Special English

INTRODUCTION TO LITERARY CRITICISM

Discipline Specific Elective

Semester V (Paper VII) (DSE- E11) & Semester VI (Paper XII) (DSE- E136)

Course Outcomes

- Students are able to understand the major trends in criticism.
- Students are able to interpret critical concepts.
- Students are able to study the original contributions to literary criticism.
- Students are acquainted with literary and critical movements.
- Students are able to understand the meaning and appreciate the poems critically.

ENGLISH POETRY

Discipline Specific Elective

Semester V (Paper VIII) (DSE – E12) and Semester VI (Paper XIII) (DSE – E137)

Course Outcomes

- Students will be able to trace the development of the poetry in English from the days of Shakespeare to the contemporary India.
- Students will be able to appreciate and analyze the poems properly.
- Students will have a fairly comprehensive view of the Western and Eastern
- poetic tradition and they will be able to relate it to various literary movements.
- Students will have an insight into poetry and they will be able to make a lively and interesting reading.

ENGLISH DRAMA

Discipline Specific Elective

Semester V (Paper IX) ((DSE – E13) & Semester VI (Paper XIV)

(DSE – E138)

Course Outcomes

- Students are able to understand different forms of drama.
- Students are able to relate drama to their ideological or socio-political contexts.
- Students are able to improve their creative and imaginative faculties through the reading of drama.
- Students are able to know about various aspects of the drama.

ENGLISH NOVEL

Discipline Specific Elective

Semester V (Paper X) ((DSE – E14) & Semester VI (Paper XV)

(DSE – E139)

Course Outcomes

- Students are able to understand different forms of novel.
- Students are able to relate novels to their ideological or socio-political contexts.
- Students are able to improve their creative and imaginative faculties through the reading of novels.
- Students are able to know about various aspects of the novel.

LANGUAGE AND LINGUISTICS

Discipline Specific Elective

Semester V –Paper XI (DSE - E15) & Semester VI – Paper XVI

(DSE - E140)

Course Outcomes

- Students know the concept of communication.
- Students are familiar with varieties of the English language.
- Students know different levels of study of the English language.
- Students know basic units of grammar.

Anekant Education Society's

Jaysingpur College, Jaysingpur

Department of Geography

2023-24

Programme Outcomes & Course Outcomes (Pos & Cos)

SHIVAJI UNIVERSITY, KOLHAPUR

B. A. Part - I

GEOGRAPHY

(Syllabus to be implemented from June, 2022 onwards)

PROGRAM OUTCOMES

By the end of the program the students will be able to:

PO1: Relating to Knowledge

1.1 Provide explanation of definitions, relevant terms and concept of geography.

1.2 Provide better explanation about relevant principles, theories and models in geography.

1.3 Provide idea about detail knowledge regarding man and environmental process.

PO2: Understanding and application

2.1 Know the importance of spatio-temporal scale.

2.2 Know the relation or complex nature between physical and human environments.

2.3 Identify the importance of places, environment and people.

2.4 Understand how processes bring changes in systems and its distribution.

PO3: Students Skills

3.1 Collection, representation and Interpretation of geographical data and sources.

3.2 Presentation of geographical evidence and ideas with identifying geographical trends and
patterns.

3.3 Application of the cartographical techniques to support the inferences of geographical aspects.

3.4 Make obvious skill of analysis of geographical information.

PO4: Students Evaluation

4.1 Critically evaluate the basics of geography.

4.2 Assess the effects of geographical processes and its impact on physical and human environments.

4.3 Assess how the viewpoints of different groups of people, potential conflicts of interest and

other factors interact in the management of physical and human aspects.

4.4 Evaluate the relative success of failure of initiatives.

PROGRAMME SPECIFIC OUTCOME (PSO)

B. A. Part-I

1) The Students are known the branches of Geography and latest concepts in Physical Geography Specifically in Atmosphere, Lithosphere, Fluvial Cycle and Hydrosphere.

2) The students are understood the Human races, Population growth, Characteristics of Population and Settlements.

B.A. I Sem. I Physical Geography

Course Outcomes

1. Students will be able to understand the basic concepts in Physical Geography.
2. Students understand basic terms used to describe physical processes and landscape forms.
3. Students understand the atmosphere.
4. Students understand the concept of maps and globe.

B.A. I Sem. II Human Geography

Course Outcomes

1. Students will be able to understand the basic concepts in Human Geography.
2. Students understand basic terms used to describe population, settlements and agriculture.
3. Students understand the concept of Google Earth and Google Map.

SHIVAJI UNIVERSITY, KOLHAPUR

B.A. Part- II

Geography

NATIONAL EDUCATION POLICY (NEP-2020)

Syllabus with effect from July 2023

B.A. II Sem. III SOIL GEOGRAPHY P.No. III

Course Outcomes

CO1: Relating to Knowledge

1) By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Soil Geography, as well as its history and pedology.
2) Students will be able to explain the significance of Soil Geography in various fields, including agriculture, ecology, land use planning, and environmental management.
3) Students will have a thorough understanding of the factors that influence soil formation and the physical and chemical properties of soils.

CO2: Understanding and application

1) Students will be able to comprehend the Jenny's Factorial Model of Soil Formation and the process of soil formation.
2) Students will be able to apply the knowledge of physical and chemical properties of soils in real-world scenarios, such as soil management and conservation.
3) Students will be able to identify and classify soils based on their genetic characteristics and distribution.

CO3: Students Skills

1) By the end of the course, students will have developed practical skills related to soil profile and soil sample tools.
2) Students will have gained practical knowledge of pH and NPK soil analysis.
3) Students will be able to use GIS for studying soil ecology and planning.
4) Student will start up soil test laboratory.

CO4: Students Evaluation

1) Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Soil Geography.
2) Students will be evaluated based on their ability to apply their knowledge of soil properties, classifications, and degradation in practical scenarios.
3) Students will be evaluated on their practical skills related to soil profile, soil sample tools, soil analysis.

B.A. II Sem. III Resource Geography P.No. IV

Course Outcomes

CO1: Relating to Knowledge

1) By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Resource Geography.
2) Students will be able to explain the significance of Resource Geography in various fields, including agriculture, industry, transportation, and environmental management.
3) Students will have a thorough understanding about the distribution, utilization and problems of worldwide major resources.

CO2: Understanding and application

1) Students will be able to comprehend the sustainable resource development
2) Students will be able to apply the knowledge of resource geography in real-world scenarios, such as management and conservation of resources.
3) Students will be able to the classify of resources based on their characteristics and their worldwide distribution.
4) By the end of the course, Students will have gained knowledge of worldwide resource availability, its problems like scarcity, pollution etc. and will be able to imply measures to overcome these problems.

CO3: Students Skills

1) Students will be able to understand for the need of sustainable resource development and skills of resource management.
2) Student will be able to develop the cartographic skills.

CO4: Students Evaluation

1) Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Resource Geography.

2) Students will be evaluated based on their ability to apply their knowledge of problems of resource availability, its management and sustainable resource development in practical scenarios.

3) Students will be evaluated on their practical skills related to cartographic skills.

B.A. II Sem. IV Oceanography P.No. V

Course Outcomes

CO1. Relating to Knowledge:

1) Students will define the nature and scope of oceanography and its connection to physical sciences.

2) Students will identify branches of oceanography and their areas of focus.

3) Students will describe the factors affecting oceanic temperature, salinity, and distribution.

4) Students will recognize the types of oceanic currents and their origins in different oceans.

5) Students will understand the sources, classification, and significance of oceanic deposits.

6) Students will explain the role of the ocean as a source of food and potential future resources.

CO2. Understanding and Application:

1) Students will apply knowledge of oceanographic principles to illustrate the maps of ocean and NOAA CDR/ NESDIS sea surface temperature, Annual mean of the sea surface salinity distribution.

2) Students will apply knowledge of causes, effects of ocean pollution and propose solutions.

3) Students will utilize scientific reasoning to understand the relationships between ocean water properties and climate change.

4) Students will be able to distinguish the various marine movements.

5) Students will apply theoretical knowledge to practical exercises, such as interpreting hypsographic curves, wind roses, isohalines, and isotherms.

CO3. Student Skills:

1) Develop critical thinking skills through the analysis and evaluation of oceanographic concepts.

2) Enhance problem-solving abilities by applying oceanographic principles to real-world situations and to demonstrate the ocean currents.

3) Develop effective communication skills through oral and written presentations of oceanographic topics.

CO4. Student Evaluation:

1) Assess student knowledge and understanding through quizzes, exams, and assignments.

2) Assess the development of critical thinking and problem-solving skills through case studies.

3) Evaluate the effectiveness of student communication skills through oral examination.

B.A. II Sem. IVAGRICULTURE GEOGRAPHY P.No. VI

Course Outcomes

CO1: Relating to Knowledge

1) By the end of the course, students will be able to demonstrate knowledge of the definition, nature, and scope of Agriculture Geography, as well as evolution of agriculture over different periods in history and its impact on society.

2) Students will be able to explain the significance of Agricultural Geography in various fields, including agriculture, ecology, land use planning, and environmental management.

3) Students will have a thorough understanding of the factors that influence soil formation and the physical and chemical properties of soils.

CO 2: Understanding and application

1) Students will be able to comprehend the Jenny's Factorial Model of Soil Formation and the process of soil formation.

2) Students will be able to apply the knowledge of physical and chemical properties of soils in real-world scenarios, such as soil management and conservation.

3) Students will be able to identify and classify soils based on their genetic characteristics and distribution.

CO 3: Students Skills

1) By the end of the course, students will have developed practical skills related to soil profile and soil sample tools.

2) Students will have gained practical knowledge of pH and NPK soil analysis.

3) Students will be able to use GIS for studying soil ecology and planning.
4) Student will start up soil test laboratory.

CO 4: Students Evaluation

1) Students will be evaluated through written assignments, group activity and practical exams to demonstrate their understanding of Soil Geography.
2) Students will be evaluated based on their ability to apply their knowledge of soil properties, classifications, and degradation in practical scenarios.
3) Students will be evaluated on their practical skills related to soil profile, soil sample tools, soil analysis.

Upon completion of this course, students will be able to:

1. Explain the nature, scope and significance of agricultural geography and its relationship with other disciplines.

2. Analyze the evolution of agriculture over different periods in history and its impact on society.

3. Identify the physical and human factors that determine agricultural practices and land-use patterns in different regions of the world.

4. Evaluate the major agricultural systems and their suitability in different ecological and socio-economic conditions.

5. Analyze Von Thunen's theory of agricultural land-use and its relevance in modern times.

6. Understand agricultural regionalization and its implications for crop diversification and production.

7. Identify and evaluate the major physical and socio-economic problems affecting agriculture and food security in different regions of the world.

8. Analyze the impact of modern concepts in agriculture, such as the green revolution and organic farming.

9. Understand the distribution pattern of food and nutrition globally and its relationship with hunger and malnutrition.

10. Identify the causes and spatial pattern of hunger and evaluate strategies for its eradication.

11. Understand the relationship between nutrition and health and analyze the major challenges and opportunities for improving nutritional outcomes globally.

12. Apply basic cartographic skills to represent and analyze agricultural data using line and bar graphs, divided circle, Proportional Square, and choropleth maps.

SHIVAJI UNIVERSITY, KOLHAPUR
B.A. Part- III
Geography
CBCS PATTERN

Syllabus to be implemented from June 2020 onwards

B.A. III Sem. V Evolution of Geographical Thought P.No. VII

Course Outcomes

1) Student should be able to understand in-depth about the Evolution of Geographical Thought.
2) Students should be able to analysis the recent trends in Geography.
3) Student should be able to make use of various models of paradigms and debates in the Geographical studies.
4) Understanding of recent trends in Geography.

B.A. III Sem. V Geography of India P.No. VIII

Course Outcomes

1) In depth understanding the dimensions and physiography of India.
2) The students are fully aware about the climatic seasons in India.
3) Detailed knowledge about soils, vegetation's, drainage systems in India.
4) Understanding an importance of agriculture and industry in Indian economy.
5) Detailed knowledge about the economic setup of the India.

B.A. III Sem. V
POPULATION GEOGRAPHY P.No. IX

Course Outcomes

1) This paper would bring an understanding of population geography along with relevance of demographic data.
2) The students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population concepts.
3) The students would get an understanding of the dynamics of population.
4) An understanding of the implications of population composition in different regions of the world.
5) An appreciation of the contemporary issues in the field of population studies

B.A. III Sem. VI
Economic Geography P.No. X

Course Outcomes

1) In depth understanding about the Economic Geography.
2) Detailed knowledge about locational factors of economic activities with special reference to agriculture and industry.
3) Detailed understanding of the basics concepts related to manufacturing and major manufacturing industries (selected countries) of the world.
4) Understanding of the transport and trade.

B.A. III Sem. VI
Urban Geography P.No. XI

Course Outcomes

1) The students were known the importance of urban settlements through Urban Geography.
2) The students understood the types of Urban Settlements, Site and Situations.
3) The students were familiar with an idea of relationship between human activities and urban development.
4) Detail understanding of students regarding present urban problems and students are capable to handling of present problematic situations in urban areas.
5) The students are developed as a good urban planner and environmental conservator.

B.A. III Sem. VI
Political Geography P.No. XII

Course Outcomes

1) The students are fully aware about the Political geography as a fundamental branch of Human Geography.
2) The students are familiarized with the basics and fundamental concepts and theories of Political Geography.
3) The students are aware about resource conflicts and politics of displacement.

B.A. III Sem. VI Fundamentals of Map Making and Map Interpretation P.No. XIII (Practical Paper No I)

Course Outcomes

1) In depth understanding the map, concept of scale and projection.
2) Detailed knowledge about the analysis of landforms and its identification.
3) The students are deeply aware about basic information to the students about S.O.I. topo maps and I.M.D. weather maps and obtained the skills about map interpretation.
4) The students are deeply familiar with different cartographic techniques and methods used for representation of demographic and physio- socio-economic database

B.A. III Sem. VI Advanced Tools, Techniques & Field Work in Geography P.No. XIV (Practical Paper No II)

Course Outcomes

1) In depth understanding the importance of field work and advanced Techniques in Geography.
2) The students are trained to implement modern tool and techniques in Geography.
3) Detailed knowledge about the use of computer for analysis of Geographical data.
4) The students are deeply aware about the basics and trained in instrumental survey.
5) The students are deeply familiar with computer, GIS, GPS and Remote Sensing.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF Psychology

B. A. (2023-24)

PROGRAM SPECIFIC OUTCOMES (PSO)

Psychology is the scientific study of the mind and behaviour. Its subject matter includes the behaviour of humans and nonhumans, both conscious and unconscious phenomena, and mental processes such as thoughts, feelings, and motives. This course is intended to provide valuable knowledge and cultivate soft skills for the workplace in a variety of areas related to human behaviour and thought processes.

PSO 1	Understanding human behaviour and mental processes.
PSO 2	Apply various theories of psychology in daily living.
PSO 3	Familiar with counselling process and techniques.
PSO 4	Understanding mental disorder and treatment.
PSO 5	To develop research approach and to think critically about psychological issues.
PSO 6	To help students to develop professional competence and career –oriented abilities in their concerned fields
PSO 7	To provide community services by providing psychometric assessment, counselling and awareness programmes.

COURSE OUTCOMES (CO)

B.A. I	
SEMESTER-I	
DSC-B6 PAPER I : UNDERSTANDING PSYCHOLOGY	
CO1	To acquaint students with basic concepts of Psychology.
CO2	To make students aware with neuroscience and behavior motivation and human needs.
CO3	To make students aware with motivation, various approaches of
CO4	To understand emotions, range and the roots of emotions.
DSC-B20 PAPER II : BASIC PRINCIPALS OF PSYCHOLOGY	
CO1	To make the students aware with learning, classical conditioning and operant conditioning.
CO2	To makes the students familiar with foundations of memory.
CO3	To understand personality, various approaches, and assessment techniques of personality.
CO4	To make students aware with intelligence, theories of intelligence, Emotional intelligence, mental retardation and intellectually gifted.

B.A.II	
SEMESTER-III	
DSC – D11 Paper No.III PSYCHOLOGY FOR LIVING	
CO1	To acquaint the students with processes of Psychology for living.
CO2	To introduce students the concept of Stress.
CO3	To acquaint the students with Understanding mental disorders.
CO4	To introduce students various Psychotherapies and their uses.
DSC- D12 : Paper No.IV SOCIAL PSYCHOLOGY	
CO1	To acquaint the students with processes of Social Psychology
CO2	To introduce students the concept of Social Perception.
CO3	To acquaint the students with the Self and self -esteem.
CO4	To introduce students concept of attitude formation, persuasion and cognitive dissonance.
SEMESTER-IV	
DSC- D39 : Paper No.V MODERN SOCIAL PSYCHOLOGY	
CO 1	To acquaint the students with processes of liking (attraction) and sources of liking.
CO 2	To introduce students the concept of Social influence, Conformity and Compliance.
CO 3	To acquaint the students with Understanding Prosocial Behaviour.
CO 4	To introduce students with the concept of Aggression, its causes and control.
DSC- D40 : Paper No.VI APPLIED PSYCHOLOGY	
CO 1	To acquaint the students with processes of Personal control, Decision Making and Personal growth.
CO 2	To introduce students the work, career, play and using leisure positively.
CO 3	To acquaint the students with Making and keeping friends.
CO 4	To introduce students the concept of Love and Commitment.
Logic (IDS)	
Semester III – DEDUCTIVE LOGIC -Paper I	
CO 1	To understand the concept of deductive inferences, proposition and terms.
CO 2	To make the students familiar with classification of proposition.
CO 3	To know the immediate and mediate inference.
Semester IV –INDUCTIVE LOGIC -Paper II	
CO 1	To introduce students with the concept of inductive inferences, anology, scientific induction.
CO 2	To recognize students with grounds of induction.
CO 3	To know the concept of hypothesis, laws of nature and explanation.
B.A.III	
SEMESTER-V	
PAPER VII: DSE – E – 86 : INTRODUCTION TO COGNITIVE PSYCHOLOGY	
CO 1	To understand the key concepts and research techniques in cognitive psychology.
CO 2	To Gain an understanding of the basic processes of sensation attention and perception.

CO 3	To Gain an understanding of the memory processes.
CO 4	To understand broadening the horizons of cognitive psychology
PAPER VIII: DSE – E – 87 : CROSS-CULTURAL PSYCHOLOGY	
CO 1	To acquaint students with emerging field of Cross-Cultural Psychology.
CO 2	To make students aware of global v/s relativistic approaches to study human behaviour.
CO 3	To sensitize students recognize cultural aspects of individual development and socialization.
CO 4	To understand socio-cultural influences in development of abnormality and its treatment.
CO 5	To introduce the importance of multiculturalism in globalized world.
CO 6	To enhance understanding of indigenous psychologies.
PAPER - IX DSE – E – 88 : INTRODUCTION TO PSYCHOPATHOLOGY	
CO 1	To make the students familiar with the field of Psychopathology.
CO 2	To acquaint students with various perspectives of Psychopathology.
CO 3	To make the students understand Anxiety and Obsessive Compulsive Disorder.
CO 4	To acquaint students with Mood Disorders and Suicide.
PAPER - X DSE – E –89 : CURRENT TRENDS IN PSYCHOLOGY	
CO 1	To acquaint students with emerging new trends in Psychology
CO 2	To make students aware of health risk behaviour and their causes
CO 3	To sensitize students recognize developmental factors related to criminal behaviour
CO 4	To understand psychological, family and social influences in development of criminality
CO 5	To introduce work carried out in the field of cyber psychology
CO 6	To learn about psychological processes behind digital Usage, cyber bullying, gaming and gambling
CO 7	To make students aware of online crimes such as scams, fraud, illegal downloads etc.
PAPER - XI DSE – E –90 : PRACTICAL-EXPERIMENTS	
CO 1	To make the students familiar with Psychological experiments.
CO 2	To impart the knowledge and skills for conducting experiments and writing their reports.
CO 3	To make the students familiar with some statistical methods.
CO 4	To provide Practical experience through IT Soft ware's (e.g. Cog lab etc.)
SEMESTER-VI	
PAPER- XII DSE – E –211 : PSYCHOLOGICAL TESTING	
CO 1	To make the students familiar with the field of psychological testing in general.
CO 2	To acquaint the students with the nature, types, applications, reliability
CO 3	To make the students to understand the nature and other description of personality tests.
PAPER- XIII DSE – E –212 : COUNSELLING PSYCHOLOGY	
CO 1	To make the students familiar with the field of Counselling Psychology.
CO 2	To acquaint students with the applications of Counselling Psychology in the fields of Career, School, College Counselling and student-life services.
PAPER- XIV DSE – E –213 : DEVELOPMENTAL PSYCHOLOGY	
CO 1	To acquaint the students with processes of change and stability through about the life span

	development.
CO 2	To introduce students the process of birth.
CO 3	To acquaint the students with emotions, self - development of Infancy and intellectual development of childhood.
CO 4	To recognize students with Identity, relationship and problems of Adolescents.
CO 5	To introduce students with career, health and personality development of Adulthood
PAPER- XV DSE – E –214 : ORGANIZATIONAL BEHAVIOUR	
CO 1	Gain an understanding of key concepts in organizational behaviour.
CO 2	Gain an understanding of the idea of personality, job satisfaction and leadership.
CO 3	Gain an understanding of the group processes.
CO 4	Be able to understand the fundamental change processes of organization.
PAPER- XVI DSE – E –215 PRACTICAL- PSYCHOLOGICAL TESTS	
CO 1	To make the students familiar with Psychological tests.
CO 2	To impart the knowledge and skills for administering psychological tests and writing their reports.
CO 3	To make the students familiar with some statistical methods.
CO 4	To provide Psychological experience Testing through IT Software (e.g. Cog lab etc.)

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF ECONOMICS

B. A. (2023-24)

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO 1	Understand the multidisciplinary nature of knowledge touching all walks of life by learning history, sociology, geography, economics, psychology and political science along with languages.
PSO 2	Learn and apply the analytical skills to understand complexity and inter dependence as well as analyze the effects of various subjects on society and human behavior.
PSO 3	Develop the deep understanding regarding the importance of human values.
PSO 4	Apply an independent approach to knowledge that uses rigorous methods of inquiry and appropriate theories and methodologies that are applied with intellectual honesty and a respect for constitutional values.
PSO 5	Work effectively in groups to meet a shared goal with people whose disciplinary and cultural backgrounds differ from their own.
PSO 6	Act as well informed participants within the community of scholars, as citizens and participate in the process of discourse in development and social change.
PSO 7	Communicate effectively, read, write, listen to and speak another language with fluency and appreciate its cultural context.
PSO 8	Become socially responsible, rational and with leadership potential.

COURSE OUTCOMES (CO)

B.A. Part - I

SEMESTER-I	
Indian Economy Paper No. I	
CO1	Acquaint the students with Structure of the Indian economy and changes taking place therein.
CO2	Understanding population Problem of Indian Economy.
CO 3	Awareness regarding challenges before the Indian economy.
CO 4	Able to formulate the strategy for economic development.
SEMESTER -II	
Indian Economy Paper No. II	
CO1	Acquaint with the policies and performance of major sectors in Indian Economy.
CO2	Understanding the nature, scope, challenges and opportunities of economic reforms.
CO 3	Awareness regarding causes of agrarian distress and remedies.
CO 4	Understanding policy reforms regarding the industry and service sector .
B.A. Part - II	

SEMESTER-III	
Macro Economics Paper No. – III	
CO1	Meaning, Definitions, Nature and Scope.
CO2	Understanding the Different concepts National Income.
CO3	**Understanding the Money and Value of Money.**
CO4	Understand Output and Employment.
Money and Banking Paper No. – IV	
CO1	Understanding the Meaning and Functions of Commercial Banks .
CO2	Explaining Types and features of Bank Accounts.
CO3	Explaining Functions of RBI.
CO4	Explaining Bank Ombudsman Scheme- Meaning, Power and Duties.
Principles of Co-operation (IDS) Paper No. – I	
CO 1	Understanding the Meaning and Definition Features and Importance of Co-operation.
CO 2	Interpreting the co-operation as a form of organization.
CO 3	Analyzing the role of state in co-operation.
CO 4	Understanding the Meaning and Need of Cooperative Audit.
SEMESTER- IV	
Macro Economics Paper No – V	
CO 1	Understand Meaning, Definitions and Types of inflation
CO 2	Understand Theories of Trade Cycles.
CO 3	Understand the Meaning, Nature and Scope Public Finance
CO 4	Understand the Public Expenditure.
Banks and Financial Markets Paper No. - VI	
CO 1	Analyzing the Financial System in India.
CO 2	Analyzing the Indian Financial Institutions.
CO 3	Analyzing the Banking Reform.
CO 4	Explaining E-Banking Service.
CO-OPERATIVES IN INDIA Paper No. – II	
CO 1	Interpreting the co-operative credit in India.
CO 2	Explaining co-operative marketing in India.
CO 3	Analyzing the co-operative processing societies in India.
CO 4	Illustrate the role of national institutions in co-operation.

B.A. Part - III

SEMESTER-V	
Principles of Micro Economics- Paper No. VII	
CO 1	Explain what economics is and explain why it is important.
CO 2	Understand consumer decision making and consumer behaviour.
CO 3	Define the concept of utility and satisfaction.
CO 4	Derive revenue and cost figures as well as curves.
Research Methodology in Economics- Paper No. VII	

CO 1	Get acquainted with the basic concepts of research and its methodologies.
CO 2	Select and define appropriate research problem and parameters.
History of Economic Thoughts- Paper No. IX	
CO 1	Understand the basic economic ideas of various economic thinkers of the world.
CO 2	Understand the development of economic thoughts.
Economics of Development - Paper No. X	
CO 1	Identify the dimensions of development.
CO 2	Distinguish the fundamental and contemporary development debate.
CO 3	Know the theories of economic development.
CO 4	Realise the role of state in economic development.
International Economics- Paper No. XI	
CO 1	Explain international trade.
CO 2	Understand the measurement of gains from international trade.
CO 3	Distinguish different rates of exchange.
CO 4	Measure the terms of trade.
SEMESTER-VI	
Principles of Micro Economics- II Paper No. XII	
CO 1	Identify the market structure.
CO 2	Analyse the economic behaviour of individual firms and markets.
CO 3	Analyse a firm's profit maximising strategies under different market conditions.
CO 4	Understand the factor pricing.
Research Methodology in Economics- II - Paper No. XIII	
CO 1	Understand the sampling techniques as a method of data collection.
CO 2	Use techniques of data analysis in research.
CO 3	Write a research report and thesis.
CO 4	Write a research proposal (grants) .
History of Economic Thoughts- II- Paper No. XIV	
CO 1	Understand the economic concepts and theories of Neo-Classical and Indian thinkers.
CO 2	Understand the development of economic thoughts.
Economics of Planning - Paper No. XV	
CO 1	Get acquainted with economic planning and its importance in development.
CO 2	Get acquainted with development of planning and planning machinery in India.
CO 3	Evaluate sectorial performance of the Indian economy.
CO 4	Compare and analyse Indian models of economic development.
International Economics- II- Paper No. XVI	
CO 1	Distinguish between balance of trade and balance of payments.
CO 2	Analyse the balance of payments.
CO 3	Understand the various types of foreign capital.
CO 4	Analyse the impact of international institutions on Indian economy.

M. A. ECONOMICS

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO 1	Understand micro and macro-economic policy.
PSO 2	Knowledge of Indian public finance, Indian agriculture, cooperation.
PSO 3	Acquaintance of resources and ecology.
PSO 4	Acquired knowledge of using statistics to economic analysis.
PSO 5	Understand international trade policies.

COURSE OUTCOMES (CO)

M. A. PART - I

SEMESTER-I	
Micro Economic Analysis Paper No. I	
CO1	Learn about important microeconomic concepts.
CO2	Understand the functioning of different types of markets.
CO3	Get acquainted with pricing strategies.
CO4	Acquire the required skills to make economic decisions.
Monetary Economics Paper No. II	
CO1	Get thorough knowledge relating to the theoretical aspects of money.
CO2	Understand Keynesian and post-Keynesian economics, evolution of money, demand for money, supply of money, inflation, interest rates, etc.
CO3	Analyze the significant role of money in the economy.
CO4	Analyze new concepts as well as monetary forces, real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international level.
Agricultural economics Paper No. III	
CO1	Understand agricultural economics and theories of agricultural development, etc
CO2	Understand the economics of agricultural production analysis the factor-product, factor-factor and product-product relationship.
CO3	Understand the economics of farm management.
CO4	Analyze the economics of agricultural risk management.
Principles and Practice of cooperation Paper No. IV	
CO1	Know the meaning, principles of cooperation, cooperative credit structure, case study on cooperative banks.
CO2	Learn about cooperative consumer, housing and labour societies.
CO3	Know about agri-cooperative marketing, dairy and sugar cooperatives.
CO4	Know various cooperative institutions in India.
SEMESTER-II	
Public Economics Paper V	

CO1	Demonstrate tax systems, expenditure programs, budgetary procedures, stabilization instruments, debt issues and levels of government, etc.
CO2	Understand basic problems in use of resources and distribution of income.
CO3	Understand fiscal institutions with a careful practical analysis of the issues which underline budgetary policies.
CO4	Analyze the theory of public choice and public policy.
Economics of Resource and Ecology Paper VI	
CO1	Learn the importance of environment.
CO2	Develop a sense of responsibility towards environment.
CO3	Be aware of the methods of properly utilizing natural resources and preventing resource degradation.
Financial Institutions and Markets Paper VII	
CO1	Know the structure of financial system.
CO2	Learn about intermediaries in financial markets and All India financial institutions.
CO3	Be aware of money market, capital market and stock exchange.
CO4	Learn about risk management in financial markets.
CO5	Get to know various international financial markets and institutions.
Agriculture Development in India Paper VIII	
CO1	Understand the concept of agriculture and economic development.
CO2	Analyze the problem of agricultural technology and irrigation.
CO3	Understand agriculture finance and trade, agriculture marketing and price.

M. A. PART - II

SEMESTER-III	
Statistics in Economic Analysis Paper IX	
CO1	Be trained in use of statistical tools in economic analysis.
CO2	Acquire skills of quantifying the relationship between economic variables.
CO3	Make prediction about economic variables and phenomenon.
CO4	Know statistics in economic analysis.
Macro-Economic Analysis Paper X	
CO1	Understand facts and latest theoretical developments of macroeconomics.
CO2	Learn about national income accounting system.
CO3	Get knowledge of inflation and business cycles.
CO4	Developments in empirical analysis Analysis of macro-economic variables.
Demography Paper XI	
CO1	Analyze the issues related to tax system, expenditure programs and debt issues.
CO2	Understand deficit financing, federal finance and stabilization instruments.
CO3	Know World and Indian demographic profile and related issues.
CO4	Analyze the fertility, mortality and migration for policy purpose.
CO5	Contribute in policy framing through their research work.
Labour Economics Paper XII	
CO1	Formulate labor policies for labor development.
CO2	Provide social security & welfare services to labor.

CO 3	Demonstrate the labour market and macroeconomics.
CO 4	Understand micro and macro approaches to labour markets.
CO 5	Learn about discrimination, unemployment and labour contracts.
International Economics Paper XIII	
CO1	Understand the causes of origin of international trade.
CO2	Develop an understanding about the gains that international trade offers for participating countries.
CO3	Develop insights into the policies pertaining to international trade.
CO4	Understand the importance of balance of payments and various approaches to it.
CO5	Learn about the economic rationale behind international economic integration.
SEMESTER-IV	
Paper XIV Economics of Growth and Development	
CO1	Acquire knowledge of economics of growth and development.
CO2	Gain knowledge about issues related to development.
CO3	Understand social and sectoral aspects of development.
CO4	Understand of social and sectorial aspects of developments.
CO5	Know inclusive growth in the process of developments.
Paper XV Advanced Banking	
CO1	Achieve specific skills which are required for working in banking sector.
CO2	Learn banking technology.
CO3	Understand banking and cyber laws and to sustain Economic development with the help of banks.
CO4	Suggest the monetary policy suitable to India & formulate the economic policy.
Paper XVI Cooperative Thoughts and Administration.	
CO1	Understand co-operative thoughts and administration.
CO2	Learn leadership and human resource development.
CO3	Analyze role of state in cooperatives.
CO4	Know co-operative thoughts of various thinkers and co-operative administration.

B. COM. Part - I

SEMESTER-I	
Micro Economics Paper I	
CO1	The student should be able to apply tools of consumer behavior and firm theory to business situation.
Micro Economics Paper II	
CO1	The student should be able to apply tools of consumer Behavior and firm theory to business situation.
B. COM. Part - II	
SEMESTER-III	
MACRO ECONOMICS – PAPER- I	
CO1	The macro variables and components of macro economics.
CO2	The relevance of national income concepts and its applications in economic policy making.
CO3	Changing value of money and its impacts on economy.
CO4	The output and employment generation process through investment and consumption.
SEMESTER-IV	

MACRO ECONOMICS PAPER- II	
CO1	The trade cyclical phenomenon in the economy and they will able to take practical decisionsat their business level in future.
CO2	Public finance system of state and its impact on economy and citizens of the nation.
CO3	The trade and business practices through international trade theories and other relevant.
CO4	The international monetary exchange system and determination of rate exchange.
COM. B. Part - III	
SEMESTER- V	
Cooperative Development PAPER- I	
CO 1	To study the meaning and principles of Co-operation.
CO 2	To study the agricultural and Non-agricultural Credit Co-operative institutions.
CO 3	To study the Co-operative credit system.
CO 4	To Study the important cooperative organizations.
Business Environment PAPER- I	
CO 1	Student should able to understand the significance and position of Indian economy at the world level.
CO 2	Students should study the scenario of agricultural and industrial sectors.
CO 3	Student should aware regarding Indian economy is facing some of the fundamental economic problems. They should able to make plans and solutions to these being as a citizen.
CO 4	Student should understand the correlations between economic and social problems.
SEMESTER-VI	
Cooperative Development PAPER- II	
CO 1	To study the cooperative legislations and fund management.
CO 2	To understand the institutional arrangement for cooperative education and training.
CO 3	To understand the nature, registration, legislation and audit of housing cooperatives.
CO 4	To understand the cooperative audit system and provisions.
Business Environment PAPER- II	
CO 1	Students will understand the Indian and global economic environment.
CO 2	Students will equip with proper knowledge of Indian economic planning.
CO 3	Students will enable with the knowledge of the plans and strategies toward foreign capital and multinational corporations.
CO 4	Students will get acquainted with the functions, mechanism and performance of international financial, trade and regional cooperation institutions.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF POLITICAL SCIENCE

AY: 2023-24

Programme Outcome	
After successfully completing B.A. Political Science Programme students will have	
PO 1	**Knowledge :** In-depth knowledge of Indian Political system, Political thinkers, administrative system.
PO 2	**Critical Thinking :** Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 3	**Collaborative and organization skills :** Skills of working collaboratively in teams and plan as well as manage their workload.
PO 4	**Personality development :** Awareness of personal strengths and weaknesses. Will have self-reflection and discipline.
PO 5	**Social Interaction :** Elicit views of others, mediate disagreements and help reach conclusions in-group settings.
PO 6	**Effective Citizenship:** Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
PO 7	**Ethics :** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 8	**Self-directed and Life-long Learning** : Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological change.
Programme Specific Outcomes After completing B. A. Political Science students will have	
PSO 1	Ability to discuss about Indian Constitution and Political process.

PSO 2	Ability to discuss Political thinking in western world.
PSO 3	Ability to describe Administrative Process and thinking in western thinking, as well as Indian context
PSO 4	Capacity to analyses Political Theory and its contemporary impact on civilization

Course Outcomes

After successfully completing this course, students will be able to

B A -I Introduction to Political Science & Indian Constitution	CO 1 Understanding sub-disciplines of Political Science. CO 2 Understand concept of State and Democracy. CO 3 Understanding concepts of political science. CO 4 Understand key concepts of political science. CO 5 Understanding the making of Indian constitution. CO 6 Understanding the philosophy of Indian constitution. CO 7 Understanding critically analysing legislature, executive and judiciary system of India
B A -II Indian Political Thought	CO 1 Understand the relevance of ancient ideas with present time CO 2 Understand the trajectory of ideas on key Political question and Institutions of ancient Indian as developed by Kautilya. CO 3 Understand renaissance and reformation in India and the role of Mahatma Phule and Rajarshi Shahu Chhatrapati in it. CO 4 Understand the idea of nationalisam of Lokmanya Tilak. CO 5 Build up basic concepts like - Satya, Ahimsa, Satyagraha, Trusteeship and Sarvodaya of Mahatma Gandhi. CO 6 Students can understand about Secular Nationalism and Internationalism, Democratic Socialism and Mixed Economy of Jawaharlal Nehru. CO 7 Students will get ideas about critique of caste system, state socialism & Parliamentary democracy for Social and economic democracy of Dr. B. R. Ambedkar

B A -II Political Process in India & Local Self Govt. in Maharashtra	CO 1 Understanding historical background of local self government CO 2 Examining the Institutions of Rural and Urban local self government. CO 3 Discussing the constitutional amendments and challenges before local self government. CO 4 Examining the Institutions of Rural and Urban local self government and Discussing the constitutional amendments and challenges before local self government. CO 5 Describing and Analyzing political and social movements in Maharashtra. CO 6 Describing and Analyzing Neo movements in Maharashtra.
B A -III Political Theory & Modern Political Concepts	CO 1 Getting basic knowledge of Political Theory CO 2 Understanding of approaches to Political Theory CO 3 Knowing behavioral movement in Political Science CO 4 Acquiring knowledge about concepts of Power, Authority and Legitimacy CO 5 Critically analyzing Election and Types of representation. CO 6 Studying the modern political concepts: Feminism, Multiculturalism, Environmentalism and Civil Society.
B A -III Public Administration & Politics and Movements in Maharashtra	CO 1 Explaining the nature, scope of Public Administration; Politics and Administration; Principles of Organization. CO 2 Discussing the personnel administration. CO 3 Discussing Financial Administration, budgetary process in India and parliamentary financial committees. CO 4 Understanding the concept of good governance, discussing right to information. CO 5 Student will know the Political System of Maharashtra. CO 6 They will understand the process of formation of Maharashtra State CO 7 Student will know the movements, pressure groups and political parties in Maharashtra. CO 8 This will provide comprehensive idea of contemporary politics of Maharashtra.
B A -III International Politics &	CO 1 Studying the international political system. CO 2 Studying the international & regional organizations. CO 3 Studying the relations of India with neighboring countries. CO 4 Students will be familiar with basic theory of comparative politics CO 5 Students be able to understand constitutionalism, federalism.

Comparative Govt. (With special Reference to Uk & USA)	CO 6 Students shall understand party system and pressure groups and its functioning CO 7 Students shall understand classification of political parties and pressure groups
B A -III Western Political Thought	CO 1 Students will get acquainted with the western tradition from Plato to Rousseau. CO 2 Students will understand the evolution of western Political idea. CO 3 Students will be able to study historical aspects of western state and society CO 4 The students will understand Political views of J. S. Mill, Karl Marx, Gramsci & Hannah Arendt CO 5 The students will get acquinted with various aspects of state and society with western perspective.

JAYSINGPUR COLLEGE SR. COLLEGE JAYSINGPUR

(Dr. K. D. Khaladkar)
Head
Department of Political Science
Jaysingpur College, Jaysingpur

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF HISTORY

AY: 2023-24

Bachelor of Arts (B. A.)

PROGRAM SPECIFIC OUTCOMES (PSO)

PSO 1	Thinking, Arguing and writing critically, Analytical and logically on the historical issues.
PSO 2	Understanding relevance of present scenario in every respect.
PSO 3	Applying his/her knowledge Exploring employment Opportunities and Creating overall Awareness about history in society.
PSO 4	Understanding the basic tools of historical analysis.
PSO 5	Understanding the basic skills that historians use in research.

COURSE OUTCOMES (CO)

B. A. I	
SEMESTER-I	
PAPER I - RISE OF THE MARATHA POWER (1600 to 1707)	
CO1	To understand the period from 1600-1707 in the history of Marathas.
CO2	To Explain how Chatrapati Shivaji Maharaj established the Maratha state.
CO3	To introduce students to the history of the rise of Maratha power with main emphasis on life and work Chatrapati Shivaji Maharaj.
SEMESTER-II	
PAPER II – Polity, Society and Economy under the Marathas (1600 to 1707)	
CO1	To understand Political, Socio-economic and religious life of the people during the 1600-1701 period.
CO2	To understand about the polity and contribution of Chatrapati Shivaji Maharaj.
B. A. II	
SEMESTER-III	
PAPER III- HISTORY OF MODERN MAHARASHTRA (1900 to 1960)	
CO1	Understand the beginnings and growth of nationalist consciousness in Maharashtra
CO2	Explain the contribution of Maharashtra to the national movement

CO3	Give an account of various movements of the peasants, workers, women and backward classes
CO4	Know the background and events which led to the formation of separate state of Maharashtra.
PAPER IV: HISTORY OF INDIA (1757-1857)	
CO1	Acquaint him-self with significant events leading to establishment of the rule of East India Company.
CO2	Know the colonial policy adopted by the company to consolidate its rule in India.
CO3	Understand the structural changes initiated by colonial rule in Indian economy.
CO4	Explain the various revolts against rule of the East India Company.
SEMESTER-IV	
PAPER- V: HISTORY OF MODERN MAHARASHTRA (1960-2000)	
CO1	Acquaint himself with the contribution of eminent leaders of Maharashtra.
CO2	Know about the economic transformation of Maharashtra
CO3	Understand the salient features of changes in society.
CO4	Explain the growth of education.
PAPER- VI: History of Freedom Struggle (1858-1947)	
CO1	Understand the events which lead to the growth of nationalism in India.
CO2	Acquaint himself with major events of the freedom struggle under the leadership of Mahatma Gandhi.
CO3	Explain the contribution of Revolutionaries, Left Movement and Indian National Army.
CO4	Know the concept of Communalism and the causes and effects of the partition of India.
B. A. III	
SEMESTER-V	
Paper VII : Early India (from beginning to 4th c. BC)	
CO1	Understand the transition of humans in India from Hunters to Farmers.
CO2	Explain the transition from Early to Later Vedic period.
CO3	Clarify the causes for the first and second urbanizations
CO4	Give an account of the teachings of Gautama Buddha and Vardhamana Mahavira
CO5	Describe the rise and growth of the Mauryan Empire
CO6	Explain the salient features of Ashoka's Dhamma
Paper VIII DSE E-62 History of Medieval India (1206-1526 AD)	
CO1	Describe the different types of historical sources available for writing the history ofmedieval India
CO2	Explain the contributions of medieval rulers like Allaudin Khilji, Muhammad-bin-Tuqhlaq,

	Krishnadevraya, and Mahmud Gavan
CO3	Give an account of the administration and economy of the Delhi sultanate andVijayanagar Empire
CO4	Elucidate the significant developments which took place in religion, society and Culture
Paper IX DSE E-63 Age of Revolutions	
CO1	Explain the causes and consequences of the Reformation
CO2	Give an account of the role played by Martin Luther
CO3	Explain the salient features of the Industrial revolution
CO4	Given an account of the American revolution
CO5	Explain the causes, effects and major events of French Revolution
CO6	Explain the role of major leaders of the French Revolution
Paper X DSE E-64 Political History of the Marathas	
CO1	Describe the political conditions of the Marathas upto the year 1740
CO2	Explain the role of Balaji Bajirao.
CO3	Explain the causes and effects of the Battle of Panipat.
CO4	Understand the political condition of the Marathas after 1761.
CO5	Critically analyze the causes for the decline of Maratha power.
Paper XI DSE E-65 History: Its Theory	
CO1	Understand the definition and scope of the subject of History
CO2	Know the process of acquiring historical data
CO3	Explain the process of presenting and writing history
CO4	Understand the methods of writing history
SEMESTER-VI	
Paper XII DSE E-186 Ancient India (From 4th c. BC to 7th c. AD)	
CO1	Know the political, economic and religious developments which took place in early historic India
CO2	Explain the role played by Major Satavahana, Kushana, Gupta and Vakataka Kings
CO3	Give an account of the developments in the Post-Gupta period
CO4	Have an informed opinion about the society and culture of Ancient India
Paper XIII DSE E-187 History of Medieval India (1526-1707 AD)	
CO1	Know about the various sources for writing Medieval Indian history
CO2	Explain the role of rulers like Babar, Akbar, Chandbibi and Ibrahim Adilshah II
CO3	Gain knowledge about the administrative and revenue system

CO4	Describe the condition of Industry and trade
CO5	Explain important developments in religion, society and culture
Paper XIV. DSE E-188 Making of the Modern World (16th to 19th Century)	
CO1	Know the causes and consequences of the Glorious revolution in England
CO2	Explain the concept of Nationalism and account for its rise and spread.
CO3	Describe the unification of Italy and Germany.
CO4	Give an account of the rise, growth and impact of Imperialism
CO5	Explain the significance of the Partition of Africa
CO6	Know the life and thoughts of important leaders like Metternich, Karl Marx and Abraham Lincoln
Paper XV DSE E-189 Polity, Economy and Society under the Marathas	
CO1	Know the various sources for writing the history of the Marathas
CO2	Explain the significant developments in the polity of the Marathas
CO3	Describe the economic conditions
CO4	Explain the social conditions.
Paper XVI DSE E-190 Methods and Applications of History	
CO1	Understand the nature of archival sources
CO2	Gain conceptual clarity about recent trends in history.
CO3	Know about the application of history in museums.
CO4	Explain the concept and scope of heritage tourism.

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF COMPUTER SCIENCE (BCS & BCA)

BCA (2023-24)

PROGRAM SPECIFIC OUTCOMES (PSO)

Bachelor of Computer Application (3years) program / degree is a specialized program in Computer Applications. It builds the student on studies in applied use of computers and to become competent in the current race and development of new computational era. The duration of the study is of six semesters, which is completed in three years. BCA offers the prequalification for professionals heading for smart career in the IT field, which measures up to international standards. On completing this course one can do higher studies such as MCA, MBA etc., in any UGC recognized universities or in any other reputed institution in India or abroad.

PSO 1	Implement fundamental domain knowledge of core courses for developing effective computing solutions by incorporating creativity and logical reasoning.
PSO 2	Deliver professional services with updated technologies in Computer application based career.
PSO 3	Develop leadership skills and incorporate ethics, team work with effective communication & time management in the profession. Undergo higher studies, certifications and technology research as per market needs.
PSO 4	Identify, formulate, and solve problems using computational temperaments.
PSO 5	Comprehend professional and ethical responsibility in computing profession.
PSO 6	Recognize the need for interdisciplinary, and an ability to engage in life-long learning.
PSO 7	Utilize the techniques, skills and modern tools, for actual development process

COURSE OUTCOMES (CO)

B.C.A.I

SEMESTER-I	
PAPER I: : CC 101: Fundamentals of Computer	
CO1	Understand basic concepts of computer.
CO2	Describe peripheral devices and number systems.
CO3	Understand operating environment
CO4	Demonstrate the use of Linux Operating system commands
PAPER II: CC 102: Introduction to Programming using 'C'	

CO1	Able to implement the algorithms and draw flowcharts for solving Mathematical problem.
CO2	Ability to design and develop Computer programs, analyses, and interprets the concept of array.
CO3	Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures and file Handling
CO4	Develop confidence for self-education and ability for life-long learning needed for computer language.
SEMESTER-II	
PAPER III: CC201: Database Management System	
CO1	Describe the basic concepts of DBMS and various databases used in real applications
CO2	Demonstrate the principles behind systematic database design approaches.
CO3	Design the database structure by applying the concepts of Entityrelational model and Normalization.
CO4	Learn MS-Access for database creation and handling transactions.
PAPER IV: CC202: Operating System	
CO1	Possess knowledge of Operating Systems and their types.
CO2	Apply the concept of a process and scheduling algorithms.
CO3	Realize the concept of deadlock and different ways to handle it.
CO4	Understand various memory management techniques and file system
PAPER V: CC 203: Object Oriented Programming Using C++	
CO1	Understand object-oriented programming and advanced C++ concept
CO2	Apply the concepts of object, classes and constructor
CO3	Design C++ Programs based on object, class, inheritance, abstraction, encapsulation, dynamic binding and polymorphism
CO4	Implement concept of polymorphism in program

B.C.A.II

SEMESTER-III	
PAPER VI: CC 301: Web Technology	
CO 1	Understand basics of website and web development life cycle
CO 2	Design website using HTML and CSS
CO 3	Implement client side scripting for website development
CO 4	Understand importance and working of HTML5
PAPER VII: CC 302: Computer Network and Internet	
CO 1	Understand the concept of computer network
CO 2	Identify different components required to build different networks.
CO 3	Recognize the functions of network layers and different protocols

CO 4	Discuss the important features of the Internet and Web
PAPER VIII: CC 303**:** Data Structure using C	
CO 1	Use and implement appropriate data structure for the required problems using a programming language such as C
CO 2	Understand various searching & sorting techniques
CO 3	Implementing various data structures viz. Stacks, Queues
CO 4	Implementation of Linked Lists and Trees
SEMESTER-IV	
PAPER IX CC 401: RDBMS	
CO 1	Describe the fundamental elements of Relational Database Management Systems.
CO 2	Explain various commands in data languages with example
CO 3	Understand various subqueries & joins
CO 4	Apply the control statements and stored procedures.
PAPER X: CC 402: Software Engineering	
CO 1	Understand life cycle models, requirement elicitation techniques, understand the concept of analysis and design of software
CO 2	Develop SRS document
CO 3	Use of analysis and design tools for system development
CO 4	Apply software engineering concepts in software development to develop quality software.
PAPER XI: CC 403: DOT NET Technology	
CO 1	Understand features of C# DOT NET 2. development
CO 2	Implement various server controls for website
CO 3	Apply validation and state management for interactive website development
CO 4	Design and develop dynamic web application using ADO.Net

B.C.A. III

SEMESTER-V	
PAPER - XII CC 501**:** Java Programming	
CO 1	Understand the features of Java Language 2. 4..
CO 2	Demonstrate Object-Oriented Programming using Java 3.
CO 3	Develop Multithreaded and Networking applications
CO 4	Design GUI applications using AWT and Swing
PAPER – XIII CC502**:** Data Warehousing and Data Mining	
CO 1	Define the Data warehouse architecture and its Implementation
CO 2	Describe the Architecture of a Data Mining system
CO 3	Understand the various Data preprocessing Methods

CO4	Perform classification and prediction of data
PAPER – IXV CC 503**:** IT Security	
CO 1	Understand the concept and need of IT security.
CO 2	Identify different security threats to information systems.
CO 3	Describe security controls used for IS security.
CO 4	Understand provisions in IT Act 2000 and Design Security policy for IT Enabled Organization
PAPER- XV : DSE 504**:** Python Programming	
CO 1	Acquire programming skills in core Python. 2. 3. 4.
CO 2	. Develop Python programs with conditionals and loops
CO 3	Understand advance datatypes in Python Programming.
CO 4	Develop problem solving skills and their implementation through Python.
PAPER- XVI GE505: Management Information System	
CO 1	Understand the fundamental principles of information systems 2. 3. 4.
CO 2	Describe the types of management and decision making
CO 3	Demonstrate different types of IS used in business.
CO 4	Explain various applications of MIS
SEMESTER-VI	
PAPER- XVII CC 601: Cloud Computing	
CO 1	Understand the fundamental principles of Cloud Computing.
CO 2	Understand the importance of virtualization in distributed computing and how this has enabled the development of Cloud Computing
CO 3	Explain the core concepts of the cloud computing paradigm: how and why this paradigm shift came about, the characteristics, advantages and challenges brought about by the various models and services in cloud computing
CO 4	Describe cloud computing applications
PAPER- XVIII DSE 602**:** Android Programming	
CO 1	Understand the building blocks of Mobile Operating Systems
CO 2	Analyze different elements of Android Development Environment
CO 3	Illustrate the structure of Mobile Applications using Android
CO 4	Identify different components used in Mobile Applications using Android
PAPER- XVIV : GE 603 :IT Management	
CO 1	Understand IT assets and describe functions of IT Department
CO 2	Identify IT infrastructure components
CO 3	Describe network infrastructure components and security management activities.
CO 4	Demonstrate best practices and operational processes in Data Centre Management

Anekant Education Society's

JAYSINGPUR COLLEGE JAYSINGPUR

DEPARTMENT OF COMPUTER SCIENCE (BCS & BCA)

B. Sc. Computer Science (Entire)(2023-24)

PROGRAM SPECIFIC OUTCOMES (PSO)

B. Sc. Computer Science Entire degree program is a three year program specially designed to pursue the career in Software or IT Industry. The curriculum of this program includes theory papers and laboratory practical based on Computer, Electronics, and Mathematics and Statistics courses. It also includes theory papers on English. Mathematics and Statistics courses are designed to develop logic skills useful for programming. Electronics course will inculcate basics of hardware and networking skills. English course is introduced to improve communication and interview skills. B. Sc. Computer Science Entire degree program not only prepares the students for a career in software industry but it also motivates them for further studies, research and teaching field.

PSO 1	Produce employable and skilled computer professionals.
PSO 2	Impart basic and advanced knowledge, skills required in IT Industry.
PSO 3	Develop entrepreneur skills to design and develop customized and tailor made software solutions for the industry
PSO 4	Apply knowledge of ICT in solving business problem
PSO 5	Learn various programming languages and custom software
PSO 6	Knowledge of contemporary issues and emerging developments in computing profession
PSO 7	Utilize the techniques, skills and modern tools, for actual development process.

COURSE OUTCOMES (CO)

B. Sc.Computer Science(Entire) I

SEMESTER-I	
PAPER I: DSC-101: Fundamentals of Computer	
CO1	Understand basic concepts of computer.
CO2	Describe peripheral devices and number systems.
PAPER II: DSC-102: Programming in C Part - I	
CO1	Able to implement the algorithms and draw flowcharts for solving Mathematical problem.
CO2	Ability to design and develop Computer programs, analyses, and interprets the concept of array.

SEMESTER-II	
PAPER III: DSC-201: Linux Operating System	
CO1	Understand operating environment
CO2	Demonstrate the use of Linux Operating system commands
PAPER IV: DSC-202: Programming in C Part - II	
CO1	Ability to design and develop Computer programs, analyzes, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage
CO2	Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of structures and file Handling
CO3	Develop confidence for self-education and ability for life-long learning needed for computer language.

B. Sc. Computer Science(Entire) II

SEMESTER-III	
PAPER V: DSC-301: RDBMS With MySQL	
CO 1	Improving skill about data operation.
CO 2	Ability to handle database
CO 3	Ability to design& develop proper database.
CO 4	SQL/MY-SQL helps to get knowledge about data operations.
PAPER VI: DSC-302 **:** Object Oriented Programming using C++	
CO 1	Understand basic concepts of object oriented programming.
CO 2	Able to use various control structures to improve programming logic.
CO 3	Design classes and objects.
CO 4	Able to use constructor and destructor.
CO 5	Utilize the OOP techniques like operator overloading, inheritance, and polymorphism.
SEMESTER-IV	
PAPER VII: DSC-401 :Data structure	
CO 1	At the end of this course, student should be able understand the most basic aspects of data structures including Stacks, Queue, Linked list and Tree.
CO 2	Should able to understand different sorting and searching algorithms.
CO 3	Should able to understand implementations of linked list, stack and queue.
PAPER VIII: DSC-402: Cyber Security Essentials	
CO 1	Understand importance of cyber security and security management.
CO 2	Learn different security threats.
CO 3	Understand cyber security laws and importance of security audit.
CO 4	Learn concept of wireless network security

B. Sc. Computer Science(Entire) III

SEMESTER-V	
PAPER - IX DSE-501: Core Java	
CO 1	Implement Object oriented concepts using java
CO 2	Develop Object oriented software application
CO 3	Develop multithreading applications
CO 4	Handle exceptions while executing programs
PAPER – X DSE-502: C# Programming	
CO 1	Understand working of .Net Framework
CO 2	Demonstrate concept of object oriented programming using C#
CO 3	Study importance and applications of exception handling
CO4	Understand working of file handling in C#.
PAPER - XI DSE-503: Software Engineering	
CO 1	Understand the problem domain to choose process models correctly.
CO 2	Choose software projects using appropriate design notations.
CO 3	Measure the product and process performance using various metrics.
CO 4	Evaluate the system with various testing techniques and strategies
CO 5	Able to analyze, design, verify, validate, implement, and maintain software systems.
PAPER- XII :DSE-504: Machine Learning Part- I	
CO 1	Develop an appreciation for what is involved in learning models from data
CO 2	Understand a wide variety of learning algorithms.
CO 3	Understand how to evaluate models generated from data.
SEMESTER-VI	
PAPER- XIII DSE-601 :Advanced Java	
CO 1	Develop GUI using Java
CO 2	Handle Database connectivity using java
CO 3	Develop dynamic web pages using servlet and JSP
CO 4	Develop client-server application
PAPER- XIV DSE-602: ASP.NET	
CO 1	Understand working of Asp.Net web application
CO 2	Demonstrate Asp.Net server controls
CO 3	Study database operations using ADO.Net.
CO 4	Understand importance and working of state management
PAPER- XV :DSE-603: Software Project Management	
CO 1	Implement the basics of Project Management.
CO 2	Choose correct Scheduling Techniques as per the software.
CO 3	Develop Team Development skills and reduce conflicts.

CO 4	Implement various Software Quality Standards
CO 5	Using CASE tools, Software Re-Engineering for creating efficient software's
PAPER- XVI DSE-604**:** Machine Leaning Part-II	
CO 1	Understand complexity of Machine Learning algorithms and their limitations
CO 2	Understand modern notions in data analysis oriented computing
CO 3	Apply common Machine Learning algorithms in practice and implementing their own
CO 4	Perform distributed computations