Secondary Education Society's
Arts and Science College, Bhalod
Taluka-Yawal, Dist- Jalgaon
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NAAC Reaccredited "3rd Cycle" Fax: +91-02585-242411

Programme Outcome

Science Faculty

Undergraduate Level

After graduation from science faculty a student should have:

- Understood the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life.
- Acquired the knowledge to propose novel ideas in explaining facts and figures or providing new solution to the problems.
- To develop knowledge about how interdisciplinary approach helps in providing better solutions and new ideas for sustainable developments.
- Acquired the skills in handling scientific instruments, planning and performing in laboratory experiments.
- Developed scientific outlook not only with respect to science subjects but also in all aspect related to life.

Post Graduate Level

(M.Sc. Organic Chemistry)

After completing the post-graduation in any science subject, the student should have:

- Acquired a deep knowledge of the subject by making use of reference books, research journals & periodicals, internet, etc
- Acquired high level skills in laboratory experimentation and inferring the logical conclusions.
- Participated in seminars and workshops and acquires theoretical thinking skills and practical skills.
- Taken up an independent research project in a R & D organization or in any industrial Organization.

- Students will get an awareness of the impact of chemistry on the environment, society, and other cultures outside the scientific community.
- Accepted that scientific knowledge plays most important role in overcoming social evils, poverty, health issues, and can certainly improves the quality of human beings.

Arts Faculty

Undergraduate Level

After completing the graduation in the faculty of Arts the students will be able to:

- Understood the basic concepts, fundamental principles, and various theories in the subjects like Economics, Political science, Languages and History.
- Realized the importance of literature in terms of aesthetic, mental, moral, intellectual development of an individual and accordingly of the society.
- Written articles, novels, stories to spread the message of equality, nationality, and social harmony, etc.
- Gained the analytical ability to analyze the literature and social issues to appreciate the strength and to suggest the improvements for better results.
- Realized that the pursuit of knowledge is a lifelong process and one can achieve the success only with untiring efforts and positive attitude.

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Programme Specific Outcome

Science Faculty

B.Sc Chemistry

After completing three year B.Sc Chemistry degree course, students are able to –

- Able demonstrate and understanding of major concepts in all disciplines of chemistry.
- Understand the physical and chemical nature of various chemical compounds, metals, non-metals, mixtures, and their role in the daily life.
- Acquired a knowledge in the subject by making use of, reference books, research journals, video lectures and other ICT tools and software
- Acquired the skills in handling scientific instruments and analytical methods.
- Achieve the skills which is required in various chemical industries, Schools and Colleges.
- Get an awareness of the impact of chemistry on the environment, society, and other cultures outside the scientific community
- Conceived where and how subject knowledge can be used in future for a betterment of mankind.
- Understand the interdisciplinary nature of chemistry subject with the other subject like mathematics, physics, biological science etc.

B.Sc Computer Science

On Successful completion of the B.Sc. Computer science degree course students are able to:

- Serve as Programmer or Software Engineer with sound knowledge of practical and theoretical concepts for developing software's.
- Improve their basic understanding of operative systems and a working knowledge of software commonly used in academic and professional environments.
- Learn how to organize information efficiently in the forms of outlines, charts, etc. by using appropriate software.
- Work as Hardware Designer/Engineer, Systems Engineer and System integrator with knowledge of networking concept.

- Give Technical Support for various systems.
- Work as Consultant and Management officers for system management.
- Work as IT officer in banks and Marketing person.
- Work as DTP Operator in small-scale industries.
- Serve as Web Designer with latest web development technologies.

M.Sc Organic Chemistry

After completing two year M.ScOrganic Chemistry degree course, students are able to-

- Understand the methods of designing organic compoundsand natural products by various mechanism.
- Acquired knowledge of characterization and physicochemical study of organic compounds.
- Use practical skills necessary for the safe manipulation of chemicals
- To developthinking power of critical analysis and ability to solve problems
- Use the skills for employment or in R&D and science based industry.

Arts Faculty

B. A. Economics

On Successful completion of the B.A. Economics degree course students are able to:

- Understand basic concepts of economics and its use for solutions of various economic problems.
- Analyse historical and current events from an economic perspective.
- Prepare for the Competitive Examinations as MPSC, UPSC.
- Analyze economic behavior in practice.

B. A. Hindi

On Successful completion of the B.A. Hindi degree course students are able to:

- Develop Reading, Writing & Communication Skills in Hindi.
- Get information about the history of ancient, modern Hindi Literature.
- Develop Approach of Hindi Linguistics & Grammar.
- Get information about Literary Theory.

B. A. Marathi

On Successful completion of the B.A. Marathi degree course students are able to:

- Develop Reading, Writing & Communication Skills in Marathi.

- Get Information about the history of Literature.
- Able to apply the study of Marathi Linguistics & Grammar in their practical life.
- Nurture themselves in soft skills and develop research aptitude.

B. A. English

On Successful completion of the B.A. English degree course students are able to:

- Students will gain awareness about the best literary traditions of the world
- Students gain an understanding of the relations between culture, history and texts.
- This helps in developing quality of thinking and imagination and is a step forward to emerge as a better human being
- Students will be able to recognize and comprehend different varieties of English language and develop a writing style of their own
- use correct English in oral as well as written form.

B. A. Political Science

On Successful completion of the B.A. Political Science degree course students are able to:

- Understand basic concepts of political science and political ways of thinking.
- Analyze political behavior in practice.
- Prepare for the Competitive Examinations as MPSC, UPSC.
- Understand the functioning, powers of various organizations.
- Acquired the detail knowledge of Indian Constitution.
- A student can become an ideal citizen by studying political Science.

M. A. Marathi

On Successful completion of the M.A. Marathi degree course students are able to:

- Students have opportunities in the field of research
- Students are able to face various competitive examinations such as MPSC, UPSC, NET, SET and JRF which are useful for them for getting job.
- Students have opportunities to be a press reporter, editor in newspapers.
- Students have opportunities to become translator, blog writer and author.
- Develop Reading, Writing & Communication Skills of Students.

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Course Outcome
Department of Chemistry 2023-24

Department of Chemistry	
B.Sc. Chemistry	
T.Y.B.Sc Courses	**Course Outcomes**
Physical Chemistry CH501	To orient and acquaint the students towards the basic concepts of QuantumChemistry, To acquire knowledge about rates of chemical reactions and distinguishing the reaction of different order and their characteristics. To understand the basic principles of phase rules and phase diagrams. To learn the underlying principles of electrode reactions, electrochemical cells and applications of EMF.
Physical Chemistry CH601	To learn the basics of molecular spectroscopy and rotational spectra. Tounderstand the basic principles and applications of nuclear chemistry. To learn the consequences of light absorption by atoms and molecules andphotochemical reactions. To learn the laws of crystallography and basics of crystal structure.
Inorganic Chemistry CH 502	To describe the VSEPR theory to predict shape of molecules from electron pairs. To describe the bonding in simple compounds using VBT. To describe thePrinciples of VBT to predict hybridization of orbitals. To understand how CFTexplains electronic structure, colour and magnetic properties of co-ordinationCompounds. To introduce the basic principles of MOT and electronic geometry of molecule
Inorganic Chemistry CH 602	To describe basic principles of nanomaterial's. To describe basic synthesis of nanoparticles. To describe composition and technological importance of inorganic solids. To describe composition of cement, lime and alloys.
Organic Chemistry CH 503	Students will learn organic reactions like nucleophilic substitution,electrophilic substitution, nucleophilic addition, electrophilic addition andelimination. Students will be able to write & explain mechanisms of those types of reactions. Students will understand how a reaction takes place in one or more steps. Students will understand the types of intermediates formed in

	differentreactions. Students will learn how reagent attacks the substrate molecule andaccordingly how bonds are break and formed.
Organic Chemistry CH 603	To study principle of spectroscopy and to understand wave parameters and terms involved in spectroscopy. To study different types of spectroscopy. To understand principle, concept and the terms used in each type of spectroscopy.Interpretation of UV, IR, NMR spectra. Use of spectral data for determination of structure of unknown organic compounds. To study different applications of each type of spectroscopy
Industrial Chemistry CH504	To produce graduates with enhanced skills, applied knowledge, aptitude to carry out higher studies or research and development in the various industrial areas. To make the student cognizant about important aspects of Chemical Industries, Industrial work culture and environment. To prepare the students for immediate entry to the workplace with sound the critical knowledge and some basic experimental concepts in the area of various industries viz. Sugar Industry, Fermentation Industry, Petroleum and Petrochemicals. To offers the synergism between basic concepts of Chemistry with Industrialapplications. To equip the students with knowledge of some industrial organic synthesis as requirement of diverse chemical industries. Empower the students to understand the concepts in chemical processing engineering and industrial development.
Industrial Chemistry CH 604	To make student perceptive about various commodity industries viz. Cosmetics and Perfumes, Dyes and Pharmaceuticals, Pesticides, Soaps and Detergents, related diversified and multidisciplinary fields of chemical industry. To produce graduates with enhanced skills, knowledge and research aptitude to carry out higher studies or research and development in the various industrial areas. To equip students with advance knowledge about various industrially important products. To makes students ready for immediate entry to the workplace with sound theoretical and basic experimental knowledge in the areas of various industries. To understand the concepts in chemical processing, engineering and industrial development of present era viz. Cosmetics and Perfumes Industry, Dyes and pharmaceuticals, Pesticides, Soaps and Detergents, related multidisciplinary and diversified fieldsof chemical industry. To describe the industrial production of a number of important organic and inorganic compounds. To gain comprehensive knowledge of cutting-edge developments in a field of different chemical industries by discussions and exchange of experiences and knowledge. To develop proficiency in application of current aspects of industrial chemistry.

Analytical Chemistry CH 505	Explain the fundamentals of analytical methods and instruments for qualitative and quantitative Analysis. Acquire knowledge of different spectrometry like AAS FES, IR Spectrometry. Plasma emission Spectrometry Express the role of analytical chemistry in science. To understand and establish the role of chemistry in quantitative analysis through Potentiometric and pH-metric.
Analytical Chemistry CH605	Compare the Instrumental methods and non-instrumental methods and there advantages. Understand principle, Instrumentationand applications of thermo gravimetric methods like TGA, DTA and DSC. Understand the application of Ion Exchange Chromatography, GasChromatography, HPLC, and understand the process involved in solvent extraction.
Biochemistry CH506(A)	Students will study biomolecules like carbohydrates, amino acids, proteins,enzymes, lipids and nucleic acids. Students will understand definitions, classifications and examples of thesebiomolecules. Students will learn the detailed structure of these biomolecules along with types of bonds or linkages present in their molecules. Students will learn the chemical properties of these biomolecules and the action of some reagents on them in the form of reactions or graphical presentation. Students will understand biochemical energetics of common energy rich compounds along with hydrolytic reactions. Students will learn metabolisms like Glycolysis, TCA cycle, Transamination, deamination and β- oxidation through reactions, enzymes involved, outlines and energetics.
Polymer chemistry CH 606 (A)	Define terms like monomer, polymer, polymerization, etc., Classify polymers based on their origin, native backbone chain, and thermal response. Know glass transition temperature and its determination, various ways to express molecular weights of polymers. Identify different mechanisms of polymerizations viz. free radical, ionic, and condensation polymerizations. Distinguish techniques of polymerization based on physical conditions required for the preparation of polymers in laboratory or industry. Familiar with preparation, properties, and applications of industrially important selected polymers.
Physical Chemistry Practical CH 507	To develop skills required in chemistry such as the appropriate handling of apparatus, instruments and chemicals. The student will learn the laboratory skills needed to design, safely conduct and interpret chemical research. To expose the students to an extent of experimental techniques using modern instrumentation. The student will develop the ability to effectively communicate scientific information and research results in written and oral formats.
	To analyse the inorganic mixtures.

Inorganic Chemistry Practical CH 508	To determine metal from ore and alloy analysis Using colorimetric analysis to determine amount of metal. To determine metal from gravimetric estimations. To determine amount of metal by volumetric analysis. To determine preparation /synthesis of co-ordination compound. To study separation techniques of metals. To use colorimetric analysis of metals.
Organic Chemistry Practical CH 509	To develop skills required in chemistry such as the appropriate handling of apparatus and chemicals. The student will learn the laboratory skills needed to design, safely conduct and interpret chemical research. To expose the students to an extent of experimental techniques using modern instrumentation. The student will develop the ability to effectively communicate scientific information and research results in written and oral formats.
S.Y.B.Sc Physical & Inorganic Chemistry CH 301 & CH 401	Physical and Inorganic chemistry contain two section first physical chemistry andsecond Inorganic chemistry In Physical Chemistry four chapter include Electrochemistry, Solution, Colligative Properties of Solution and Chemical Thermodynamics. In Electrochemistry to learn about Cell, Cell Reaction, Oxidation Potential,Reduction Potential, Different type of cells etc. In Chapter Solution to learn about Ideal and Non Ideal solution, Different type ofsolution, Azeotropic mixture, solubility of partially miscible liquid pairs etc. In Chapter Colligative Properties of Solution learn about Concentration ofsolution Colligative property of solution etc. In Chapter Chemical Thermodynamics learn about Gibbs Energy, Helmholtz freeenergy and Relation between Gibbs and Helmholtz free energy, Fugacity, Activityetc. In Inorganic Chemistry Include the study of Transition Element, ElectronicConfiguration, Oxidation State, Catalytic Properties etc. and study of Metalcomplexes and their IUPAC name, Conductor, Insulator, Semiconductor etc.
Organic & Inorganic ChemistryCH 302	Understand the basic concept of stereochemistry. Study of reactivity, preparation and reactions of heterocyclic compounds Study of synthesis and reaction of 5, 6 member's heterocyclic systems. Understand the concept of solvents, solutions acids and bases.
Organic & Inorganic ChemistryCH-402	To understand preparation and synthetic applications of synthetic reagents, Study of organometallic compounds preparation uses and types of bonding. Study of s-s, s-p, p-p, p-d and d-d combination of orbitals. Molecular orbital treatment for Hetero nuclear diatomic molecules.
S. Y. B.Sc. Chemistry	Understand techniques chromatography for separation of components in the mixture, Volumetric method of analysis,

Practical CH 303	Determination of standardelectrode potential of Cu/Cu+2 or Ag/Ag+ , Zn/Zn+2 electrodes potentiometrically. Determine molecular weight by depression of freezing point method and elevation in boiling point method. Preparation of derivatives, To understand the gravimetric estimation of Nickel and Barium
S. Y. B.Sc. Chemistry Practical CH-403	To understand the gravimetric estimation of Nickel and Barium. Procedurefor preparation of various inorganic complexes. Test involved in qualitative analysis of organic compounds. Determination of normality and strength ofHCl titrating with standard NaOHPotentiometric ally.
Skill Enhancement Course Basic analytical Chemistry SEC I	Introduction to analytical chemistry Students should understand about Acid base titrations Applications of acid base titration. Precipitation titration etc
Skill Enhancement Course Basic analytical Chemistry SEC II	In Analytical chemistry students should learn Volumetric analysis, redox titrations, Gravimetric analysis & Chromatography technique.
F.Y.BSc Physical & Inorganic CH 101	Students will develop knowledge about: Various theories and principles applied to reveal atomic structure. Nature of matter and experiments which confirmed it. Significance of quantum numbers. Apply the rules of logarithm for solving numerical in chemistry Draw, calculate the slope of various graphs for chemistry experiments Calculate derivative and integration of some simple functions especially related to chemical problems The basics of kinetics theory and concepts therein. Factors causing the deviations from ideal behaviour of gases. Compressibility, liquefaction and related critical constants of a system. The basics of kinetics theory and concepts therein. Factors causing the deviations from ideal behaviour of gases Compressibility, liquefaction and related critical constants of a system To understand the periodic law and systematic study of elements. To find the factors affecting periodic properties. To understand periodic properties and their general trends in groups and periods. To correlate these periodic properties with the chemical behaviour of elements. To understand the different methods used to determine electronegativity.
Organic & Inorganic CH 102	Students will be able to understand: The properties of organic compounds. Different types of bonds and structures of organic compounds. Different types of structural effects and their effect on the strength of acids and bases. Fundamentals of organic reaction mechanism, structural isomerism, methods of purification of organic compounds. Different types of solvents used in organic reactions. SP3 , SP2 and SP hybridizations. Nomenclature of alkanes, alkenes and alkynes. Different methods of preparation of alkanes, alkenes and alkynes. Different reactions of alkanes, alkenes and alkynes. Concept of hybridization, steps involved in hybridization,

	characteristics and types of hybridization. Applications of hybridization concept to understand geometries of different molecules. Valence Shell Electron Pair Repulsion (VSEPR) Theory and its applications to explain geometry of irregular molecules.
Chemistry Practical CH 103 &CH 203	To learn the apparatus calibrations determinationof equivalent weight. Determination of solubility by condutometric method Determination ofsolubility, Enthalpy, Viscosity. Surface tension Measurement of pHPreparation of standard solutions, titrations. Organic qualitative analysis. Inorganic qualitative analysis
Physical & Inorganic Chemistry CH 201	To gain knowledge about origin of surface tension. To determine surface tension. To get idea regarding viscosity. To determine viscosity. Students will be able to apply thermodynamic principles to physical and chemical process. Students will be able to understand spontaneity and non-spontaneity. Calculations and significance of entropy. Third law of thermodynamics and its applications. To familiar with the Inorganic Qualitative Analysis. To understand the basic principles behind the group precipitation of basic radicals like solubility product and common ion effect. To understand the role of some compounds in qualitative analysis viz. Use of Cobalt nitrate, Sodium carbonate, Hydrogen sulphide and Ammonium chloride in detection of basic radicals. To understand the criteria of classification of acids and bases. To identify and write different types of equilibria of an electrolyte in solutions. To calculate the pH and pOH of different electrolytes. To know about the buffer solution and its applications.
CH 202 Organic & Inorganic Chemistry	Haloalkanes, their classification and nomenclature. Different methods of preparation of mono halogen derivatives. Different reactions of mono halogen derivatives. Different methods of preparation and reactions of di halogen derivatives. Different methods of preparation and reactions of haloarenes. Alcohols, their classification and nomenclature. Different methods of preparation and reactions of alcohols. Different methods of preparation and reactions of phenols. Different methods of preparation and reactions of ethers. Carbonyl compounds like aldehydes & Ketones, their classification and Page 14 of 18 nomenclature. Different methods of preparation and reactions of aliphatic and aromatic aldehydes. Different methods of preparation and reactions of aliphatic and aromatic ketones. To understand different types of bonds. To understand different types of overlaps To understand different theories of chemical bonding To understand the importance of metallurgy in industries. To know the various steps involved in metallurgical processes. To understand the basic principles involved in separation, extraction and refining techniques of metals.

M.Sc. Chemistry		
Programme Outcome (PO)		After successful completion of the programmes, students will be able to: • develop scientific attitude in the minds of learners in physical, chemical, material, life and mathematical sciences. • acquire scientific abilities such as logical thinking, problem solving approach, data collection and decision making and apply the same. • acquire scientific knowledge to extract information, formulate and solve problems in a systematic manner. • acquire skills to handle basic scientific instruments following the general lab safety practices through experimental skills. • empower the learners with creative thinking and numerical ability. • provides understanding of current environmental scenario and necessity of sustainability along with solutions. • make aware of environment related issues and sustainable technology development. • identify, formulate, review research literature, formulate research problem, analyze them and conclude the results. Learners can develop ability to formulate research problem using the basic principles of mathematical and physical sciences. • acquire research skills through project works which are the foundations of research. • acquire skills for handling basic instruments.
Programme Specific Outcome (PSO)		To explain nomenclature, structure, reactivity, and preparation of the chemical reactions. Know structure-activity relationship. Solve the problem and also think methodically, independently and draw a logical conclusion. Make aware and handle the sophisticated instruments and good laboratory practices as well as safety. Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry. Develop research oriented skills. Create an awareness regarding the impact of chemistry on the environment, and society. To inculcate the scientific temperament in the students and outside the scientific community.
Year	**Course**	**Outcome**
		Students will be able to:
2023-24	**M.Sc. II Organic chemistry CH 350: Organic Reaction Mechanism**	1. Understand basic concepts of strength of acids and bases, factors affecting the strength of acid and bases 2. Acquire the skills to identify the pathway of reaction. Formulate his/her own reasoned opinions in the mechanistic side of organic reactions. 3. Predict the major and minor products of a variety of organic reactions with appropriate stereochemistry.

	CH-351 Spectroscopic methods in structure determination	1. The students will be able to Interpret the spectral graphs. 2. Determine molecular structure by using UV, IR, NMR and Mass. 3. Learn the structure determination of organic molecules by spectroscopic methods and by using the applications of IR spectroscopy for functional group determination. 4. Determine the complete structure of compounds using UV, IR, PMR, CMR and Mass spectroscopic methods.
	CH-352 Organic stereochemistry	1. The students will be able to Differentiate stereoisomers. 2. Understood stereochemical aspects of organic reactions. Understood the concept of asymmetric synthesis and resolution. 3. Understood different types of pericyclic reactions. 4. Understood stereochemical equivalence and non-equivalence.
	CH-353 Photochemistry, Pericyclic reaction and heterocyclic chemistry	1. On completion of this course, the students will be able to: Understood various methods of synthesis of heterocyclic compounds. 2. Acquire skill to predict reactivity of heterocyclic compounds. 3. To predict the product and suggest the mechanism. 4. Understand the importance of heterocycles in industry as well as in drug discovery.
	CH-450 Chemistry of natural product	1. Students will be able to Learn the chemistry of terpenoids. 2. Learn the chemistry of Alkaloids derived from Amino acids. 3. Learn the structure, biogenesis of some natural products. 4. Utilized the knowledge of reagents in multi-step synthesis of biologically active members. 5. Explain the classification of vitamins and their biological importance.
	CH-451 Synthetic methods in Organic Chemistry	1. The students will be able to Understand and apply the specific protecting groups for the reactant to react the desirable functional group. 2. Design the synthetic pathway from target molecule by applying the retrosynthesis, disconnection approach. 3. Understand various synthetic methods in organic synthesis. 4. Understand advanced organic reactions.
	CH-452(A): Drug Chemistry	1. Acquire knowledge on metabolism of biomolecules 2. Familiarise with amino acids, proteins, lipids, nucleic acids and enzymes 3. Understand biochemical reactions in microbial cells and metabolic pathway diversity
	CH-O-2: Organic Chemistry Practical Course-II	1. Separate the ternary mixture with proper technique and identification of the type of given compound. 2. Isolate and separate the organic compounds from natural products 3. Collect the data and solve the structure by given spectral data.
	CH-O-3: Organic Chemistry Practical Course-III	1. The students will be able to Understand the organic synthesis techniques.
	CH-O-4: A Short Research Project	1. To generate new research ideas based on the comprehensive literature survey 2. To acquire skill to execute the research project independently To expertise in synthesis techniques and execution of research ideas would make the student quickly employable; either in industries or in academia for pursuing higher studies
	AC-301(A):	1. To create new document, work with existing documents.

	Computer Skills	2. To acquire skill to insert and resize tables. 3. To make power point presentation, auto content vizards.
	AC-401 (B): Seminar on Review of Research Paper	1. To select the topic for research in consultation with guide. 2. To present the literature review in the form of seminar.
2023-24	**M.Sc. I Organic chemistry** **CH-411 : Advanced Physical Chemistry–I**	1. Apply the quantum mechanical principles to simple systems of chemical interests. 2. To identify different equilibrium processes, explain the concept of radiation dose measurement and its practical applications. 3. Students should able to understand core study of chemical kinetics and spectroscopy. 4. To be able to calculate the ionic strength and activity coefficients by using the basic concepts underlying. 5. Students should understand the importance of statistical thermodynamics and concept of partition functions.
	CH-413 : Advanced Organic Chemistry-I	1. Develop knowledge of substitution (electrophilic, nucleophilic) addition and elimination reactions. 2. Differentiate between various organic reactive intermediates and their reactions. 3. Students can understand the carbon-carbon multiple bonds and carbon heteroatom multiple bonds- Mechanism and stereochemical aspects. 4. Differentiate between the concept of aromaticity and anti aromaticity.
	CH-416-A : Advanced Inorganic Chemistry-I	1. On the basis of MOT Student should able a) to determine term symbols of elements of First and second row period homonuclear diatomic molecules b) to know structure, bonding (BMO, ABMO and NBMO), properties, MO electronic configuration and construction of MO energy level diagram various molecules. 2. Student should imagine molecules in 3 dimensions: a) to understand the concept of symmetry and able to pass various symmetry elements through the molecule b) to understand the concept of point group and apply it to molecules c) to understand product of symmetry operations. 3. Student should a) know and apply EAN rule to organometallic compounds. b) know alkyl and aryl complexes, alkene complexes, Allyl and butadiene complexes, complexes containing delocalized cyclic system (sandwich compounds) c) know catalytic reaction involving organometallic compounds and mechanism of these reactions
	CH-416-B : Advanced Analytical Chemistry-I	1. Explain various theoretical concepts of analytical chemistry. 2. Build up ability to solve the numerical problems. 3. Apply theoretical principles, working of various classical and modern instrumentation techniques.
	RM-417 :Research Methodology for Sciences	On completion of this course, the students will be able to: 1. Students will understand the basic concept of science and scientific research. 2. Learn and follow the ethical guidelines while doing research avoid plagiarism in research publications. 3. Able to write a comprehensive literature review on a given research topic. 4. To be able to write a crisp research proposal or research project independently. 5. To be learn most advanced chemistry tools for the efficient research work. 6. Acquire knowledge about various hazardous chemical handling

		procedures and implement it while working in the laboratory.
	CH-412 : Chemistry Practical-I (Physical Chemistry Practical)	1. Students enable to understand the use of various principles, instruments and techniques for various analysis. 2. This practical course is designed to make student aware about various methods and analytical tools. 3. Students understand the principle behind ore analysis, gravimetric and volumetric analysis. 4. Students can analyze contents present in sample. 5. Students able to handle various instruments and perform the instrumental analysis techniques. 6. Students can apply their knowledge for development of experiment involves analysis and estimations.
	CH-414: Chemistry Practical-II (Organic Chemistry Practical)	1. Students understand the important of safety techniques and handling of chemicals. 2. Students are made aware of carrying out different types of reactions and their workup methods. 3. Students able to perform purification techniques in organic chemistry like recrystallization, distillation, steam distillation and extraction. 4. Chromatography is an important biophysical technique that enables students for the separation, identification, and purification of the components of a mixture for qualitative and quantitative analysis.
	CH-415: Chemistry Practical-III (Inorganic Chemistry Practical)	1. Students will understand the process of ore analysis. 2. Students able to apply their knowledge for binary mixture separation of inorganic compounds using quantitative analysis. 3. Students can analyze contents present in given sample. 4. Students are able to synthesize and evaluate the complex and also able to determination of complex purity. 5. Chromatography is an important biophysical technique that enables students for the separation, identification, and purification of the components of a mixture for qualitative and quantitative analysis.
	CH-421 : Advanced Physical Chemistry-II	1. Differentiate between the nature of chemical bond concept from MOT and VBT. 2. Students will be able to apply the Approximate quantum methods for simple conjugated systems. 3. Students will gain an understanding of Joule-Thomson effect, third law of thermodynamics, absolute entropy, standard entropy and residual entropy and Partial molar quantity and its significance. 4. Students will be able to explain the mechanism of spectroscopic methods and solve the numerical problems related with it. 5. Students will be able to differentiate between adsorption isotherms, and how it is used for surface area calculation
	CH-423 : Advanced Organic Chemistry-II	1.Students can understand various reactions and rearrangements 2.Understand and write mechanism of reactions and their applications 3.Understand how to convert one molecule into another molecule by using oxidising and reducing agents 4. Plan the fundamental organic reactions of significance for organic synthesis and design synthesis of organic molecules. 5.Apply theoretical knowledge in practical's for various conversions 6.Understand the concept of stereochemistry and will able to write stereo chemical aspects inorganic chemistry 7.To know how to solve problems based on ^{1}H and ^{13}C NMR
		1. Students should a) Know the nature of solids b) Know the crystal

	CH-426-A: Advanced Inorganic Chemistry-II	structures of solids. c) Draw the simple cubic, BCC and FCC structures d) Identify the C.N. of an ion in ionic solid. e) Identify the type of void f) Know the effect of radius ratio in determining the crystal structure g) radius ratio rules for calculation of C. N. 3, 4, 6. h) able to solve simple problems based on Pauling's univalent radii and crystal radii to identify structure of inorganic solid. 2. Student should a) derive term symbols using vectors of spin and orbital angular momentum b) determine the number of microstates and meaningful term symbols, able to construction of microstate table for various electronic configuration. c) know Hund's rules for arranging the terms symbols on the basis of their energies. d) knowledge of the hole formalism for information about the configuration pairs e) know Laporte 'orbital' selection rule and spin selection rule f) able to convert term/state symbol to Mulliken state symbol for construction Orgel diagram. g) Interpret of electronic spectra for transition metal complexes using Orgel diagram. 3. Student should a) know types of reactions mechanisms in coordination compounds- dissociative, interchange, associative, b) know inert and labile complexes c) get detailed information of substitution reactions incoordination complexes and their mechanism d) know stereochemistry of reaction e) get knowledge about kinetics of reactions. 4. Students should gain knowledge about a) Catalyst- types and properties, b) catalysis and catalytic steps in homogeneous catalysis c) Types of reaction involving organometallic compounds. 5. Students should know a) method of Preparation of complexes b) Application of complexes in various fields - analytical chemistry, complex metric titration, metallurgy, industry, medical field. c) study of metal complexes in biological system- Haemoglobin, Chlorophyll, Vitamin B12).
	CH-422 : Chemistry Practical-IV (Physical Chemistry Practical)	1. Students enable to understand the use of various principles, instruments and techniques for various analysis. 2. This practical course is designed to make student aware about various methods and analytical tools. 3. Students understand the principle behind Complexometric, Quantitative and Spectroscopic estimation of various compounds. 4. Students can analyze contents present in sample. 5. Students able to handle various instruments and perform the instrumental analysis techniques. 6. Students can apply their knowledge for development of experiment involves analysis and estimations.
	CH-424 : Chemistry Practical-V (Organic Chemistry Practical)	1. Students understand the important of safety techniques and handling of chemicals. 2. Students are made aware of carrying out different types of reactions and their workup methods 3. Students able to use of chemistry software's like, ISI Draw, Chem Draw, Chem Sketch 4. Students able to perform purification techniques in organic chemistry like recrystallization, distillation, steam distillation and extraction. 5. Students will understand the importance of green chemistry. 6. Students will understand and analysis various UV, FT-IR and 1H-NMR spectrum spectra.
	CH-425 : Chemistry Practical-VI	1. Students understand the important of safety techniques and handling of chemicals. 2. Students are able to synthesize and evaluate the complex and also able

	(Inorganic Chemistry Practical)	to determination of complex purity. 3. Chromatography is an important biophysical technique that enables students for the separation, identification, and purification of the components of a mixture for qualitative and quantitative analysis. 4. Students can analyze contents present in given sample.

Secondary Education Society's

Arts & Science College, Bhalod

Tal. Yawal Dist. Jalgaon

Department of Physics

Course Outcomes

2023-2024

Department of Physics		
Course Outcomes (COs)		
Class	**Course**	**Outcomes**
F. Y. B. Sc. Semester: I	**Course Name: Basic Mechanics** **Course Code: PHY- 101**	Students should be able to understand Vector algebra, Scalar and vector products, Derivatives of a vector with respect to a parameter, Types of differential equations, degree and order of differential equation, linear and non-linear differential equations, homogeneous and nonhomogeneous differential equations, 1^{st}& 2^{nd} order homogeneous differential equations with constant coefficients. Frames of reference, Newton's Laws of motion, Dynamics of a system of particles, Centre of Mass, Centre of mass of two particle system, Centre of mass of n-particle system, Centre of mass of a rigid body, Centre of mass of a circular ring, Conservation of momentum, Work and energy, Conservation of energy, Motion of rockets, Angular velocity and angular momentum, Torque, Conservation of angular momentum.
F. Y. B. Sc. Semester: I	**Course Name: Dynamics and Properties of Matter** **Course Code: PHY- 102**	Students should be able to understand Newton's Law of Gravitation, Central force, Motion of a particle in the central force field Kepler's Laws, Conservation of angular momentum, Areal velocity is constant, Satellite in circular orbit, Geosynchronous orbit, Applications of satellites, Weightlessness, Basic idea of global positioning system (GPS). Concept of surface tension, Examples of surface tension, surface energy, Angle of contact, Wettability, Relation between surface tension, Excess pressure and Curvature, Factors affecting surface tension, surface tension of water by Jaeger's method, Applications of surface tension. Hooke's law, Stress-strain diagram, Elastic moduli, Relation between elastic constants (Y, k and η), Poisson's Ratio, Expression for Poisson's ratio in terms of elastic constants, Work done in stretching and work done in twisting a wire, Torsional pendulum, To determine Y, k, η and σ by Searle's method, General concept of fluid flow, Streamline and turbulent flow, Critical velocity, Different forms of energy possessed by liquids, Bernoulli's theorem, Applications of Bernoulli's theorem- Venturimeter and Pitot tube to find the rate of flow, Concept of viscosity, Newton's law of viscosity, Velocity gradient, Rate of flow of liquid in a capillary tube, determination of coefficient of viscosity of a liquid by Poiseuille's formula, Viscosity of water by Poiseuille's method, Dependence of viscosity of a liquid on temperature.
F. Y. B. Sc. Semester: I	**Course Name: LAB –I** **Course Code: PHY- 103**	On successful completion of this course students will be able to: 1. To demonstrate their practical skills. 2. To understand and practice the skills while doing Physics practical. 3. To understand the use of apparatus and their use without fear. 4. To correlate Physics theory concepts through practical. 5. Understand the concepts of errors and their estimation.
F. Y. B. Sc. Semester:II	**Course Name: Electricity and Electrostatics** **Course Code: PHY- 201**	Students should be able to understand Kirchhoff's laws and loop analysis by Kirchhoff's laws, Network theorems: Thevenin's theorem and Norton's theorem with illustrations, Maximum power transfer theorem, Electric power, Electricity bill calculation, Joule's law. Gradient, divergence, Curl

		and their significance, Vector Integration, Line, surface and volume, integrals of Vector fields, Gauss-divergence theorem and Stoke's theorem of vectors, Coulomb's Law,Coulomb's Law in vector form, Principal of superposition: Force calculation for three charges and n-charges, Distribution of charges: discrete and continuous charge distribution, Concept of charge density: Linear, surface and volume, Coulomb's Law for continuous charge distribution. Electrostatic Field, electric flux, Electric field due to system of point charges, Electric potential, Electric potential as line integral of electric field, potential due to a point charge. Gauss's theorem of electrostatics, Applications of Gauss theorem- Electric field due to point charge, infinite line of charge, uniformly charged spherical shell and solid sphere, plane charged sheet, charged conductor, electric dipole uniformly charged spherical shell and solid sphere, Calculation of electric field from potential.
F. Y. B. Sc. Semester:II	**Course Name: Dielectrics, Magnetism and Electromagnetism** **Course Code: PHY- 202**	Students are familiar with calculation of effective/equivalent capacitance for series and parallel combination, Parallel plate capacitor with and without dielectric, Cylindrical capacitor and Spherical capacitor, Energy per unit volume in electrostatic field, Dielectric constant, Electric polarization, Gauss's law in dielectrics, Three electric vectors $\vec{E}$,$\vec{D}$, $\vec{P}$ and the relation between them, Introduction to super capacitors and its applications. Magnetic properties of materials: Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, Brief introduction of diamagnetic, paramagnetic and ferromagnetic materials. Hard and Soft magnetic materials, Introduction to Magnetostatics: Biot-Savart's law and its applications-straight conductor, circular coil, solenoid carrying current, Divergence and curl of magnetic field, Magnetic vector potential, Ampere's circuital law. Faraday's laws of electromagnetic induction, Lenz's law, self-inductance and mutual inductance, L of single coil, M of two coils, Reciprocity theorem of mutual induction, Energy stored in a magnetic field. Equation of continuity of current, Displacement current, Maxwell's equations, Poynting vector for plane wave, electromagnetic wave propagation through vacuum and isotropic dielectric medium, transverse nature of EM waves, polarization.
F. Y. B. Sc. Semester:II	**Course Name: LAB-II** **Course Code: PHY- 203**	On successful completion of this course students will be able to: 1. To demonstrate their practical skills. 2. To understand and practice the skills while doing Physics practical. 3. To understand the use of apparatus and their use without fear. 4. To correlate Physics theory concepts through practical. 5. Understand the concepts of errors and their estimation.
S. Y. B. Sc. Semester:III	**Course Name: Thermodynamics & Kinetic theory of gases** **Course Code: PHY-301**	Students are familiar with thermodynamic description of system, Zeroth Law of thermodynamics and temperature. First law and internal energy, conversion of heat into work, Various Thermodynamical Processes, Applications of First Law: General Relation between CP and CV, Work Done during Isothermal and Adiabatic Processes, Compressibility and Expansion Coefficient, Reversible and irreversible processes. Second law & Entropy, Carnot's cycle & theorem, Entropy changes in reversible and irreversible processes, Entropy-temperature diagrams, Third law of thermodynamics, Unattainability of absolute zero, Enthalpy, Carnot's Engine, Otto Engine and Cycle, Diesel Engine and Cycle, Efficiencies of all heat engines, Derivation of Maxwell's law of distribution of velocities and its experimental verification, Mean Free path (Zeroth Order), Transport Phenomena: Viscosity, Conduction and Diffusion (for vertical case), Law of equipartition of energy and its applications to specific heat of gases; mono-atomic and diatomic gases.
S. Y. B. Sc. Semester:III	**Course Name: Electronics-I** **Course Code: PHY-302(A)**	Students are familiar with semiconductor diodes: p and n type semiconductors. Barrier Formation in PN Junction Diode, Qualitative Idea of Current Flow Mechanism in Forward and Reverse Biased Diode, PN junction and its characteristics, Static and Dynamic Resistance. Principle,

	OR	Construction, Working and Characteristics of (1) LEDs (2) Photodiode (3) Solar Cell (P-N Junction), (4) Zener Diode, Rectifiers, Types: Half-wave & Full-Wave Rectifiers, Calculation of Ripple Factor and Rectification Efficiency, Basic idea about capacitor filter, D.C. power Supply, Zener Diode as a voltage regulator. Bipolar Junction transistors: n-p-n and p-n-p Transistors, Characteristics of CB, CE and CC configurations, Active, Cut-off, and Saturation Regions. Current gains α and β. Relations between α and β. Load Line analysis of Transistors. DC Load line and Q point. Binary Numbers, Decimal to Binary and Binary to Decimal Conversion, Binary Addition, Binary Subtraction using 2's Complement Method, AND, OR and NOT Gates (Realization using Diodes and Transistor), NAND and NOR Gates as Universal Gates, XOR and XNOR Gates, De Morgan's Theorems, Boolean Laws, Simplification of Logic Circuit using Boolean Algebra, Fundamental Products, Min terms and Max terms, Conversion of a Truth Table into an Equivalent Logic Circuit by (1) Sum of Products Method and (2) Karnaugh's Map, Half Adders and Full Adders and Subtractors, 4-bit binary Adder-Subtractor.
S. Y. B. Sc. Semester:III	**Course Name: Instrumentation** **Course Code: PHY-302(B)**	Students should be able to understand functional elements of typical measurement system, Standards of measurements and calibration, Static performance characteristics: Accuracy, Precision, Accuracy versus precision, Sensitivity, Linearity, Concept of Errors and their types.Non-electrical Methods: Liquid-in-glass Thermometer, Pressure Thermometer construction and their types: constant volume gas thermometer and Vapour pressure Thermometer, Electrical Methods: Thermo-electric Sensors, Metallic resistance Thermometer (Platinum resistance thermometer), Semiconductor resistance sensors (Thermistor). Radiation Methods (Pyrometry): Total Radiation Pyrometer, Selective Radiation Pyrometer. High pressure Measurement, Measurement of low pressure (Vacuum): McLaud Guage, Pirani Gauge, Calibration & Testing, Characteristics of sound, Sound pressure level, Sound power level, Variation of intensity of sound with distance, Typical sound measuring system (Sound level Meter), Microphones: Condenser or capacitor type Microphone, Electrets Microphone, Electrodynamics types of Microphone, Carbon granules type Microphone.
S. Y. B. Sc. Semester:III	**Course Name: PRACTICAL COURSE LAB-III** **Course Code: PHY-303**	On successful completion of this course students will be able to: 1. To demonstrate their practical skills. 2. To understand and practice the skills while doing Physics practical. 3. To understand the use of apparatus and their use without fear. 4. To correlate Physics theory concepts through practical. 5. Understand the concepts of errors and their estimation.
S. Y. B. Sc. Semester:III	**Course Name: Skill Enhancement Course-I (SEC-I)** **Course Code: PHY-304**	Students are familiar with fossil fuels and Nuclear Energy, their limitation, need of renewable energy, non-conventional energy sources, Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning, Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, and sun tracking systems, Solar energy utilization by solar roof panels. Ocean Energy Potential against Wind and Solar, Wave Characteristics and Statistics, Wave Energy Devices, Geothermal Resources, Geothermal Technologies, Hydropower resources, hydropower technologies, environmental impact of hydro power sources. Biomass, biochemical conversion, biogas generation, Ocean biomass, Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modeling piezoelectric generators,

		Piezoelectric energy harvesting applications, Human power, Linear generators, physics mathematical models, recent applications, Carbon captured technologies, cell, batteries, power consumption, Environmental issues and sustainability of renewable energy sources.
S. Y. B. Sc. Semester:IV	**Course Name: Waves, Oscillations & Acoustics** **Course Code: PHY-401**	Students are able to understand composition of two S.H.M.s of equal frequencies along same line of vibration, Composition of two S.H.M.s of equal frequencies acting at right angles, Composition of two S.H.M.'s right angles to each other (time period in the ratio 1:2), Lissajous figures-demonstration by mechanical, optical and electrical methods, applications of Lissajous figure, Transverse waves on a string. Travelling and standing waves on a string. Normal Modes of a string. Plane waves, Spherical waves, Wave intensity. Idea of forced oscillations, Resonance and its types- Mechanical resonance (Barton's pendulum), Acoustic resonance, Electrical resonance and Optical resonance, Differential equation of forced oscillations and its solution, Amplitude of forced oscillations, Amplitude resonance, Application to series L-C-R circuit. Sound intensity, Loudness, Pitch, Quality and timber, Acoustic intensity level measurement, Acoustic pressure and its measurement. Reverberation and time of reverberation. Classification of sound frequencies, piezoelectric effect, Generation of ultrasonic waves by piezoelectric oscillator, Application of ultrasonic waves. Doppler effect in sound, Expression for apparent frequency, discussion of different cases when source, observer and medium are in relative motion, Asymmetric nature of Doppler effect in sound, Doppler effect in light, Symmetric nature of Doppler effect in light, Applications of Doppler effect in sound and light.
S. Y. B. Sc. Semester:IV	**Course Name: Optics & LASERs** **Course Code: PHY-402**	Students are familiar with concept deviation produced by thin lenses, equivalent focal length of two thin lenses separated by a distance and when in contact. Power of lens, Spherical aberration in lens, reduction of spherical aberration, Chromatic aberration, Achromatism,Principle of superposition of two, Concept of interference, Intensitydistribution in the interference pattern, Division of amplitude and division of wave front. Young'sDouble Slit experiment, Expression for fringe width, Fresnel's Biprism and Lloyd's Mirror.Phase change on reflection: Stokes' treatment. Interference in Thin Films: parallel and wedge-shapedfilms. Fringes of equal inclination (Haidinger Fringes); Fringes of equal thickness(Fizeau Fringes). Fringe width in case of fringes of equal thickness. Newton's rings experimentalsetup, theory and its application to determine wavelength of source and refractive index of liquids, Concept of diffraction, Types of diffraction, Fresnel Diffraction: Half-period zones, Zone plate, Fresnel Diffraction pattern of a straight edge, a slit and a wire using half-period zone analysis, Fraunhofer diffraction: Single slit; Double Slit. Multiple slits and Diffraction grating. Polarization, Polarization by reflection, Brewster's law, Polarization by double refraction in uniaxial crystals, Maluss Law Double refracting crystals, Positive and negative crystals, Production and detection of circularly and elliptically polarized light, Nicol prism, Optical activity, Rotation of the plane of polarization, Specific rotation, Polarimeter or Sacherimeter, Principle of LASER, Characteristics of LASER, Basic steps required to form a LASER: absorption, spontaneous emission, stimulated emission, Metastable state, population inversion, optical pumping, Types of LASER- He-Ne LASER, Applications of LASER.
S. Y. B. Sc. Semester:IV	**Course Name: PRACTICAL COURSE LAB-IV** **Course Code: PHY-403**	On successful completion of this course students will be able to: 1. To demonstrate their practical skills. 2. To understand and practice the skills while doing Physics practical. 3. To understand the use of apparatus and their use without fear. 4. To correlate Physics theory concepts through practical. 5. Understand the concepts of errors and their estimation.

S. Y. B. Sc. Semester:IV	**Course Name: Skill Enhancement Course-II (SEC-II)** **Electrical circuits and Network Skills** **Course Code: PHY-404**	Students are able to understand Voltage, Current, Resistance, and Power. Ohm's law. Series, parallel, and series-parallel combinations. AC Electricity and DC Electricity. Familiarization with multimeter, voltmeter and ammeter. Main electric circuit elements (R, L, C) and their combination. Rules to analyze DC sourced electrical circuits, Current and voltage drop across the DC circuit elements, Diode and rectifiers,. Response of inductors and capacitors with DC or AC sources Single-phase and three-phase alternating current sources. Rules to analyze AC sourced electrical circuits. Real, imaginary and complex power components AC source. Power factor. Saving energy and money. Drawing symbols. Blueprints. Reading Schematics. Ladder diagrams. Electrical Schematics. Power circuits. Control circuits. Reading of circuit schematics. Tracking the connections of elements and identify current flow and voltage drop. Types of DC Power sources. Principle of DC/AC generators, construction of DC generator, Operation of transformers. Single-phase AC & DC motors (Basic design). Interfacing DC or AC sources to control heaters & motors. Speed & power of ac motor. Relays. Fuses and disconnect switches. Circuit breakers. Overload devices. Ground-fault protection. Grounding and isolating. Phase reversal. Surge protection. Interfacing DC or AC sources to control elements. Different types of conductors and cables. Basics of wiring-Star and delta connection. Voltage drop and losses across cables and conductors. Instruments to measure current, voltage, power in DC and AC circuits. Insulation. Solid and stranded cable. Conduit. Cable trays. Splices: wirenuts, crimps, terminal blocks, split bolts, and solder. Preparation of extension board.

DEPARTMENT OF ZOOLOGY		
Class	**Course**	**Course Outcomes**
F.Y.B.Sc 2023-24 Onwards	ZOO: 101: Invertebrate Zoology	1. Know the basic concept of Invertebrate Zoology. 2. Acquire the ecological relationships of the local species. 3. Know common and unknown invertebrate species. 4. Understand of the – Invertebrate phyla, anatomy,natural history, collection, preservation, behaviour and evolution.
	ZOO: 102: Grasshopper-The Non-chordate	1. Acquire knowledge about external morphological features of grasshopper 2. Understand internal structural and functional details of grasshopper. 3. Develop deeper knowledge about reproduction andlife cycle of grasshopper.
	ZOO 103: Zoology Practical (Corresponding to ZOO-101 and ZOO-102)	1. Know the basic concept of Invertebrate Zoology. 2. Understand common and unknown invertebrate species. 3. Acquire practical knowledge about structural andfunctional aspects of grasshopper.
	ZOO: 201: Vertebrate Zoology	1. Gain the knowledge of the systematic position, habitand habitat of vertebrate animals. 2. Acquire the knowledge about classification of vertebrates. 3. Understand the general topics related to vertebrateanimals.
	ZOO: 202: Frog-The Chordate	1. Understand the systematic position, habit and habitat of Frog. 2. Acquire the knowledge about structural and functionaldetails about Frog.
	ZOO - 203: Zoology Practical (Corresponding to ZOO-201 and ZOO-202)	1. Enlighten them self with knowledge related tosystematic features of vertebrate animals. 2. Enrich themselves with understandings of accessory organs. 3. Know the poisonous and non-poisonous snakes.

S.Y.B.Sc 2023-2024	ZOO 301- Physiology	1. Gain fundamental knowledge of physiology. 2. Understand the structure and functioning of human body. 3. Interactions and interdependence of physiological and biochemical processes. 4. Understand the detailed concepts of digestion, respiration, excretion, the functioning of nerves and muscles, cardiovascular system and reproductive system. 5. Learn the concepts of endocrine system and homeostasis.
	ZOO 302- Biochemistry	1. Describe the chemistry of lipids, proteins, enzyme and its significance. 2. Describe the metabolism of carbohydrates, lipids and proteins. 3. Describe the mechanism of enzyme action and identify the classes of enzymes and factors affecting action
	ZOO 303- Zoology Practical	1. Develop knowledge of principles and working mechanisms of microscopes. 2. Gain knowledge of Lab techniques. 3. Identify histological structures of different glands and organs. 4. Identify functional groups of carbohydrates.
	SEC- I Apiculture	1. Understand Classification and Biology of Honey Bees. 2. Gain knowledge regarding Artificial Bee rearing. 3. Understand importance products of Apiculture Industry and its Uses. 4. Understand Modern Methods of employing artificial Beehives for cross pollination in horticultural gardens.
	ZOO 401- Genetics	1. Understanding of basic concepts of genetics and laws of inheritance. 2. Know Mendelian and non-mendelian inheritance. 3. Gain knowledge of gene mapping, linkage and crossing over. 4. Know the Concept behind genetic disorder, gene mutations-various causes associated with inborn errors of metabolism.
	ZOO 402- Evolutionary Biology	1. Understand basic concept of evolutionary biology. 2. Understand about Major Events in History of Life. 3. Explain theories of evolution and knowledge of evolution of species.

		4. Explain types of natural selection with example. 5. Understand biological species concept.
	ZOO 403- Zoology Practical	1. Describe Linkage, recombination, gene mapping using the data. 2. Explain homology and analogy with the help of chart/model. 3. Understand Mendelian Inheritance pattern and gene interactions. 4. Identify and explain normal and abnormal Human Karyotypes. 5. Explain Darwin's Finches from cut outs of beaks of different species /diagram. 6. Identify types of fossils from models and pictures.
	SEC II Medical Diagnostics	1. Gain knowledge about diagnostic methods used for blood and urine analysis. 2. Understand infectious and non-infectious diseases.

Academic Year-2023-2024

DEPARTMENT OF BOTANY		
Class	**Course**	**Outcomes**
F.Y. B.Sc	**BOT: 101.DIVERSITY OF LOWER CRYPTOGAMS**	1.Podivde identification technique of microbes ,Viruses, Bacteria, Algae and Fungi 2. Understand the system of classification of microbes Viruses, Bacteria, Algae and Fungi, and its interdisciplinary approaches. 3. Systematic, morphology and structure of Bacteria, Viruses Algae and Fungi. 4. Useful and harmful activity of Bacteria, Viruses, Algae & Fungi. 5. Provide lab-based training in writing short species descriptions and illustration.
	BOT: 102.MORPHOLOGY OF ANGIOSPERMS	1. Student will able to understand ground plan of angiospermic plants. 2. Student will aware about vegetative and reproductive characteristics of angiospermic plant. 3. Student will able to understand the modification of angiospermic plant 4. Understand the comparative account among the morphology character and function of plants
	BOT: 201 DIVERSITYOF HIGHER CRYPTOGAMS.	1.Student will able to understand the basic knowledge of the subject 2. To understand the basic structure and study the comparative characteristic of Bryophytes and Pteridophytes. 3. Also, to understand the structural similarities and differences among both the group. 4. Student will able to aware developmental stages of life cycle of higher cryptogrammic plants. 5. To facilitate students for taking up and shaping a successful career in botany 6. Understand the economic importance of the Bryophytes and Pteridophytes. 7. Know the evolution of Bryophytes and Pteridophytes.

	BOT.202. TAXONOMY OF ANGIOSPERMS	1. Understanding of angiospermic plants causes of phenomenal succession and alternation of generation. 2. Understand the systems classification of angiosperm, nomenclature and interdisciplinary approaches. 3. Provide-lab –based training in writing short species descriptions and illustration.Understand the comparative account among the families of angiosperms. 4. Student knows plant communities and ecological adaptions in plant. 5. Awareness of the botanical region of Indian and vegetation type of Maharashtra. 6. Know the economic importance of the angiosperm plants.
	BOT 103 & 203: PRACTICAL COURSE (BASED ON BOT.101, BOT.102 & BOT.201, BOT.202)	1. Understand the morphological diversity among Bacteria, Viruses, Algae and Fungi. 2. Observe vegetative and reproductive parts of various life forms of Bacteria,Viruses, Algae and Fungi. 3. Know characteristics, function 4. Learn about morphology character classification of angiosperm plants. 5. Understand some family, economic importance of the angiosperm.
S.Y. B.Sc.	**BOT.301: PLANT ANATOMY**	1. Understand the Various plant tissue systems. 2. Know Primary structure of Dicot and Monocot Plants. 3.Understand the Scope and importance of plant anatomy 4. Understand normal secondary growth in plants and their causes. 5. Know the Protective tissue system..

	BOT.302: PLANT PHYSIOLOGY	1. Understand the plants and plant cells in relation to water. 2. Learn about the movement of sap and absorption of water in plant body. 3. Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways. 4. Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.
	BOT.304: MUSHROOM CULTIVATION TECHNOLOGY	1. Know the history, scope and importance of mushroom technology. 2. Understand and nutritional and medicinal values of edible mushroom. 3. Know about the storage, making and various food preparations of mushroom. 4.Understand the economic importance of mushroom cultivation
	BOT.401: PLANT EMBRYOLOGY	1. Know the scope and Importance of plant Embryology. 2. Understand the structure of Micro and Mega sporangium. 3. Know the pollination, fertilization, Endosperm and Embryology. 4. Give exposure of techniques in embryology. 5. Habit of the angiosperm plant body.
	BOT.402: PLANT METABOLISM.	1. Know the scope and Importance of Plant Metabolism. 2. Understand the properties, mechanism and classification of enzymes. 3. Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways. 4. Understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration.

	BOT.404: NURSERY AND GARDENING.	1. Know the concept of Nursery and Gardening.. 2. Give to improve the skill for growing fresh and safe vegetables. 3.Give to create awareness about home gardening 4.Understand to the develop different skills regarding the gardening operations among the student
	BOT:303 and 403 : PRACTICAL COURSE (BASED ON BOT.301, BOT.302 & BOT401,BOT. 402)	1. Understand the Various plant tissue system 2. Observe to the Various Photographs and Slide T.S.in plant stem, Root and Leaf. 3. Know the physiological techniques. 4. Develop practical skill among the students.

DEPARTMENT OF COMPUTER SCIENCE		
Class	**Paper**	**Course Outcomes (Students will be able to)**
F.Y.B.Sc	CS-101: Essentials of Computer Science	1. Understand the history of computers. 2. Understand what computer and basic concepts of computer 3. aware about various types of computers, types of input and output devices and types of memory 4. Preparation of algorithm and flowchart of program. 5. Learn computer networks, its types and basics of internet 6. Know about Operating system and services of operating system as well as various Dos commands
	CS-102:C Programming -I	1. Develop their programming skills. 2. Be familiar with programming environment with c program structure. 3. Declaration of variables and constants. 4. Understand operators, expressions and pre-processors. 5.Understand the various conditional statements and looping 6. Understand arrays, its declaration and uses.
	CS-103-Lab course on Paper I and II	1.To learn the various input, output devices, able to install various software, web browsers and their functions, able to create an email account, sending an email and receiving an email, how LAN working in laboratory, sharing of computer and printer in Network. 2. On completion of the course, students are able to develop programs using c to meet real world needs and able to develop their own websites.
	CS-201-Internet Computing	1.Understand websites&types of website, navigation, webpage and its type and various web process model 2. Introduction to HTML Programming and various HTML tags 3. Designing form and frames using HTML tags 4. Designing website using html language. 5. Design advanced website using css..
	CS-202:C Programming -II	1. design programs using functions, pointers 2. Understand about structures and unions in c language. 3. Write a program using file handling. 4. Writing programs for drawing different graphical shapes.
	CS- 203-Lab course on Paper I and II	1.Students should be able to understand the programming language C, 2. Learns to understand the logic of a problem and write structure of C program. 3. Known the concepts of HTML programming 4. Students are able to develop website using HTML language
S.Y.B.Sc	CS-DSC 2C: COMP 211 : Data Structure I	1. Students are able to know what is data structure and basic algorithm notations. 2. Introduction to Algorithm analysis for time and space requirement 3. Understand the concept of stack and different operations

		applied on stack 4.understand the concept of queue and different operations applied on queue 5.understand the concept of linked list and different operations applied on linked list
	CS-DSC 2C: COMP 212:Programming in C++-I	1.familiar with programming environment with C++ program structure. 2. declaration of variables and Keywords. 3. understand operators and manipulators. 4.Understand the concept of classes and objects. 5.Know about Function in C++ 6.Understand the concept of function and operator overloading
	CS-SECI(Skill Enhancement Course-I) Software & Hardware Installation Skills	1.Understand basics of operating system installations 2.How to install various device 3. Know about network installation and pc maintenance
	CS-DSC 2C: COMP 211and 212 : Practical Course	1.Students are able to develop programs by using various data structure . 2.Students are able to develop programs by using C++ programming languages.
	CS-DSC-2D-COMP 221 : Data Structure-II	1. know about what is tree ,binary tree and operations on binary search tree 2. Traverse and represent the graphs in computer . 3. understand the different approaches of sorting techniques 4.Understand searching techniques
	CS-DSC 2D: COMP 222:Programming in C++-II	1. Understand the constructor and its various type as well as what is destructor. 2.Understand the different aspects of hierarchy of classes and their extensibility. 3.Write programs for handling runtime errors using exception handling mechanism. 4.Write generic programs using Templates and Standard template library 5.Working with files.
	CS SEC-II (Skill Enhancement Course-II) Network Security	1. demonstration of malware for using any antivirus software viruses, worms, intrusion tools, spyware using 3. secure client of network by using various permissions as well as password protection. 3. apply firewall rules for inbound and outbound services. 4. create user groups and perform various roles for securing network 5. demonstration of securing wireless network.
	CS-DSC 2D: COMP 221 and 222 : Practical Course	1. Students are able to develop programs by using various data structure and implements various sorting techniques. 2.Students are able to develop programs by using C++ programming languages.

T.Y.B.Sc.	CS-501: System Programming	1. Understand details about system software 2. To do basic system program like development of editors lexical analysers etc 3. Students are familiar with language processing activities- functions of translators, loader and linkers
	CS-502: Database Management System	On completion of the course, student will be able to– 1. Solve real world problems using appropriate set, function, and relational models. 2 Design E-R Model for given requirements and convert the same into database tables. 3 Use SQL.
	CS-503: Software Engineering	After completion of the course: 1. Students are able to perform the E-R Diagram, DFD, Data dictionary, Decision tree about software. 2.They can also design the software in learned language using the course content. 3. Get the knowledge of types of testing & how testing is performed in industry.
	CS-504: Computer Aided Graphics	1. Differentiate between interactive and non-interactive graphics. 2.Study line Drawing and Circle Drawing techniques and algorithms. 3. Perform 2D&3D transformation on different images. 4. Know about detail working of 2D and 3D clipping and windowing. 5.Understand raster graphics and hidden surface elimination.
	CS-505:**Python Programming-I**	1. Explain basic principles of Python programming language 2. Construct and apply various filters for a specific task. 3. Apply the best features of mathematics, engineering and natural sciences to program real life problems
	CS-506 B: JAVA Programming I	1. Get knowledge of JDK environment 2. Explore polymorphism using method overloading and method overriding 3.Understand the different aspects of hierarchy of classes and their extensibility 4.Understands the concept of streams and files 5.Write programs for handling run time errors using exception
	CS-Lab-507 : Python Programming	1. installation of python 2. write a simple program and function modules in python 3. use of tuple, list and dictionary.
	CS-Lab 508: Computer Aided Graphics	1.Understanding Graphics Concept Practically 2.Hands on of using standard graphics library 3.Hands on of implementation of DDA, Bresenham's Line,Circle Drawing Algorithm 4. Hands on of implementation of 2D Transformation: Translation, Scaling and Rotation 5.Hands on of implementation ofCohen-Sutherland line clipping algorithm

	CS Lab 509 B: JAVA ProgrammingI	1. get knowledge jdk environment. 2.explore polymorphism using function and operator overloading ,overriding. 3. understand the different aspects of hierarchy of classes and their extensibility. 4. Understand the concepts of streams and files. 5. write programs for handling runtime errors using exception.
	CS-601: Operating System	1. Students should familiar with Operating System Services. 2. Understand CPU scheduling algorithms, memory Management Techniques, Disk Drum Scheduling algorithms, Deadlock preventions and avoidance. 3 .Introduction to android operating systems – its architecture, applications and uses..
	CS-602: RDBMS	On completion of the course, student will be able to– 1. Design E-R Model for given requirements and convert the same into database tables. 2. Use database techniques such as SQL & PL/SQL. 3. Explain transaction Management in relational database System. 4. Use advanced database Programming concepts
	CS-603: Computer net	After completion of the course: 1. Students understand the information exchange done across the network with the help of OSI & TCP/IP models 2. Student understands how errors are captured & handled in network. 3. Student understands various attack & its prevention techniques.
	CS-604: Theoretical Computer Science	1. Understanding the use of Sets, Relations and Graphs. 2. Understand Languages in TCS. 3. Introduction of Regular Languages and Expressions. 4. Understanding Pumping Lemma and its applications. 5. Explore the knowledge of Pushdown Automata. 6. Understanding Normal Forms with Examples. 7. Understanding Turing Machine.
	CS-605: Python Programming – II	At the end of the course, the student will be able to: 1. Explain basic principles of Python programming language 2. Implement object oriented concepts, database applications. 3. Construct regular expressions for pattern matching and apply them to various filters for a specific task 4.Design and implement Database Application and Content providers. 5.Apply the best features of mathematics, engineering and natural sciences to program real life problems.
	Elective -B)CS-606: JAVA Programming-II	1. Program using graphical user interface with Swing classes 2. Handle different kinds of events generated while handling GUI components 3. Create programs using menus and dialog boxes 4.Program to create applets 5.Understand advanced java concepts like JDBC, Java Beans

	CS-Lab 607: Python Programming II	1. Define and demonstrate the use of built-in data structures "lists" and "dictionary". 2. Design and implement a program to solve a real world problem. 3.Design and implement gui application and how to handle exceptions and files. 4.Make database connectivity in python programming language
	CS- Lab 608 RDBMS	On completion of this course, students will be able to : 1)To use SQL & PL/SQL. 2. To perform advanced database operations. 3. Create database tables in postgreSQL. 4. Write and execute simple, nested queries
	Elective -B CSLab-609 B): Lab on JAVA Programming –II	1. Program using graphical user interface with Swing classes 2.Handle different kinds of events generated while handling GUI components 3. Create programs using menus and dialog boxes 4. Program to create applets 5. Understand advanced java concepts like JDBC, Java Beans

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DEPARTMENT OF MATHEMATICS		
Class	**Course**	**Course Outcomes**
F.Y.B.Sc	1. MTH-101 Matrix Algebra	After learning this course,a student will be able to: 1) understand concepts on matrix operations and rank of the matrix. 2) understand use of matrix to the system of linear equations. 3) understand the method to find eigen values and eigen vectors. 4) apply Cayley-Hamilton theorem to find the inverse of the matrix. 5) know the matrix transformation and its applications in rotation, reflection,translation.
	2. MTH-102 Calculus of Single Variable	After learning this course, a student will be able to: 1) understand basic concepts of limits and continuity. 2) understand use of differentiation in various fields. 3) know the Mean value theorems and its applications. 4) apply Taylor's and Maclaurin's theorems. 5) know reduction formulae and theirapplication to evaluate specific definite integrals.
	3. MTH-103 (A) Co-ordinate Geometry	After learning this course, a student can 1) visualize geometrical concepts and can understand twodimensional figures 2)find standard forms of equations of two-dimensional structures by usingequationsoftranslation and rotation. 3) understand threedimensional figures and their equations particularly Sphere, Cone and Cylinder.
	4.MTH 201 Ordinary Differential Equations	After successful completion of this course a student will be able to 1) understand basic concepts in Differential Equations 2) understand different methods of solving Differential Equations 3) understand use of differential Equations in different fields.
	5.MTH 202 Theory of Equations	After successful completion of this course a student will be able to 1) find out roots of any equation of degree less than or equal to 4 2) use concepts of Theory of Equations in different fields of Mathematics like Algebra, Linear Algebra, Calculus, Ordinary and Partial Differential Equations
	6. MTH 203(A) Laplace Transforms	After successful completion of this course a student will be able to 1) Understand basic concepts of Laplace Transforms and Inverse Laplace Transforms 2) understand the Convolution Theorem and its applications to find the Inverse Laplace Transforms of product of two functions 3) understand use of Laplace Transform in solving Differential Equations

S.Y.B.Sc.	1. MTH-301 Calculus of Several Variables	After successful completion of this course a student will be able to understand: a) limit and continuity of functions of several variables b) how to find series expansion of functions. c) methods of finding extreme values of a function of two or more variables. d) concept of double integral, methods of evaluation and its application to find area e) how to solve triple integrals and to use them to find volume of a solid region.
	2. MTH-302(A) Group Theory	After successful completion of this course a student will be able to: a) understand different operations in a Group and its Subgroup. b) understand Lagrange, Euler and Fermat theorems. c) understand concepts of homomorphism, isomorphism and automorphism d) understand operations in rings, integral domains, fields and Boolean ring and to know some of the applications of these abstract structures.
	3. MTH-303 Practical Course Based on MTH-301 and MTH-302	After completion of the Practical Course a student will be able to: understand and solve several problems on Calculus of Several Variables and Algebra by himself
	4. MTH 401 Complex Variables	After successful completion of this course a student will be able to 1) understand concepts of functions of complex variables and analytic functions 2) understand the concepts of Cauchy Riemann Equations and harmonic functions 3) understand complex integration and contour integration
	5. MTH 402(A) DifferentialEquations	After successful completion of this course a student will be able to 1) understand the of Lipschitz condition and Existence and uniqueness Theorem for the initial value problem 2) the method of variation of parameters to solve second order linear differential equations 4) understand the Pfaffian Differential Equations and their method of solving 5) understand Difference Equations and their methods of solutions
	6.MTH 403 Practical Course Based On MTH 401 and MTH 402	After completion of the practical course a student will be able to understand and solve several problems on Complex Variables and Differential Equations by himself.

Department of English		
Class	**Course**	**Outcomes**
F.Y.B.A	Compulsory English	To introduce students with prose and poetic forms in English literature.
		To enable students to learn and appreciate literature and its genres like prose, short story and poetry.
		To provide students opportunity to learn English language Communication skills and use it outside classroom situation.
		To help students practice English grammar and make correct use in everyday English communication.
S.Y.B.A	Compulsory English	To create interest for reading literature among students.
		To develop reading and grasping skills among students.
		To inculcate among students the values for leading quality life.
		To enhance communication skill among students.
T.Y.B.A	Ability Enhancement Course (Developing Communication Skills)	To acquaint students with various modes of communication.
		To intimate students about various types of written communication.
		To inform students about various types of oral communication.
		To give practice to students in various modes of communication.
F.Y.B.Sc.	Ability Enhancement Course AEC-(English Communication)	To introduce students with writing and reading skills.
		To acquaint the students with the use of English language through different means.
		To acquaint the students with the creative use of English language.
S.Y.B.Sc.	Communicative English	To train the students to use English language for career purpose.
		To motivate students to write persuasively in English.
		To help students to use English language for academic and vocational purpose.

DEPARTMENT OF HINDI		
Class	**Paper**	**Course Outcomes**
F.YB.A	**DSC-HIN Sem-I & II** **A-1=General Hindi 111** **A-2=General Hindi 121**	After Completing the Course. • To acquaint the students with the various genres of got it done. • To build faith is human values in students through various • Composition of got it done and poetry • To develop the linguistic and writing ability of the Students • through various compositions of got it done prose and • poetry • To awaken social sensibility among the students through various Compositions of got bit done.
S.Y.B.A	**MIL-I Hindi 235 Sem III** **Writing Social: Media & literature** **(Short Story)**	After Completing the Course. • Students are introduced to the theory of creative writing. • Demonstrates the creative process of creative writing through Hindi short stories. • Human Values are promoted and protected through Hindi stories.
	MIL-II Hindi 245 Sem IV Writing Social :Media literature(Geet Navgeet)	After Completing the Course. • Introduced Student to Media writing skills. • Introduced student to various types of media writing skills. • Introduced student to Hindi Songs & New Songs.
	GEN-DSC-1(C) A Hindi 231 Sem– III Non- prose Streams	After Completing the Course. • Introduced the Student to the classic works of "kathetar gadyavidya". • To nature students through non-finction prose.
	GEN-DSC–1(D) A Hindi 241 **Sem-IV Best Hindi Singal**	After Completing the Course. • Developmental introduction of one act play. • General introduction of major play wrights. • Explained the theatrical effect through an act plays.
S.Y.B.A	**SKILL SEC-I Hindi 234 Sem-III Linguistic Communication**	After Completing the Course. • Introduced Student to the theory of linguistic communication. • Introduced to the student the majorty of communication. • Introduced varies forms of written communication to the student.
	SKILL SEC-II Hindi 244 Sem IV Translation Science	• Introduced student to the science of translation science. • Conducted the oretical interpretation of translation science.
	SPL-S1 DSE–I(A)Hindi 232 **Sem-III Poetry**	After Completing the Course. • General Introduction to poetry. • Introduced various genres of poetry
	SPL S1 DSE–I(B) **Hindi 242** **Sem-IV Poetry**	After Completing the Course. • General introduction to poerty. • Introduced various power of words. • Introduced "Shabdhashaktiyo". • Introduced Varses & rhymes.

	SPL-S2 DSE-II(A) Hindi 233 Sem–III Hindi Novel Mode (Time of Gamut)	After Completing the Course. • Introduced visasatmak of Hindi novel. • General introduction of leading Hindi novelists.
	Spl-S-2DSE–II(B) Hindi 243 Sem – IV Drama (Dhatri Aba)	After Completing the Course. • Give developmental introduction to Hindi drama lore. • Introduced students to tribal literature & culture. • Highlights the interrelationship between Hindi drama & theater. • To portray the tribal society through the play Dharti Aaba.
T.Y.B.A	**MIL–III Hindi 356 Sem–V Editing writing & literature (Print Media)**	After Completing the Course. • Students will be exposed to editorial art. • Students will become familiar with the qualification, responsibilities & importance of an editor. • Students will gain knowledge of the principles and methodology of editorial writing.
	MIL IV Hindi 365 Sem–VI Movie & literature(Electronic media	After Completing the Course. • Students will be aware of the history of Hindi cinema. • Students will be get information about the relationship between huindi movies & Indian. • Students will be introduced to movies based on Mohandas sahityakriti.
	G –3 DSC–E(A) Hindi 351 Sem –V Special Mode–Travel Literature	After Completing the Course. • After reading this course students will get the theoretical • Knowledge of travel literature. • After get theoretical knowledge of travel literature. • Students will imbibe the art of writing travel literature work.
	G -3 DSC–F(A) Hindi361 Sem –VI Special genre: Indian saint poetry	After Completing the Course. • Students will be familiar with Indian saint poetry • Culture of different states of India students will gain knowledge of surroundings & traditions. • Students will be introduced to social work done by the saints & the written posts.
	Skill DEC–III Hindi 354 Sem -V Hindi grammar & expression Expression Dictionary	After Completing the Course. • The standard form of Hindi language will be understood because of grammar students. • Will understand the structural structure. • Its usefulness will be proved in the competitive examination (Written & oral).
	Skill–DEC–IV Hindi - 364 Sem – IV Hindi Standardization & Inaccuracy of Hindi Language	After Completing the Course. • By developing the ability pure writing ability, it will be easier for the students to get employment opportunities in the fields like journalism, publishing department literature writing etc. • The personality of the students will be developed by studying this course.

	SPL–S-3DSE–III Hindi - 352 Sem-V History of Hindi Literature (Aadikal, Bhaktikal & Ritikal)	After Completing the Course. • Students will become familiar with the time division & Nomenclature of Hindi literature. • Student will gel the knowledge of major situations, trends & • Major work of primitive literature. • Student will be acquainted with the major circumstance, trends & Works of major composers of bhakti
T.Y.B.A	**SPL-S-3DSE-III(B) Hindi -362 Sem-VI History of Hindi Literature(Modern period)**	After Completing the Course. • Students will get knowledge of the main features of • Bharat end period poetry. • Student will get an introduction to literary debates. • Students will be familiar with the poetry & prose works of modern Times.
	SPL-S-4DSE–IV(A) Hindi - 353 Sem-V Development of Hindi Language	After Completing the Course. • Student will be familiar with the definition & characteristics of language. • Student will be familiar with the principal of etymology of language. • This is course is useful for preparation of SET/NET key & Competitive exam.
	SPLS-4 DSE–IV(B) Hindi 363 Sem–VI Linguistics	After Completing the Course. • Student will be familiar with the definition of linguistics & • Various aspects of linguistics. • Student will gain knowledge of various issues related to mediation science. • This course will be useful in terms of SET/NET & Preparation for competitive exam.
	GENERIC–1(A) Hindi 356 Sem-V National Poetry of Hindi	After Completing the Course. • Students will become familiar with national poetry of Hindi. • Student will get the knowledge of the developmental introduction of the national poetry stream of Hindi. • On the basis of poems included in the curriculum as ens of pride self respect & pride for the nation will be awakened in the students.
	GENERIC–1(B) Hindi366 Sem–VI Folk Literature of Khandesh	After Completing the Course. • Student will be aware of the theory of folk literature. • Student should have knowledge of them exordia lects of khandesh, Ahirani, Leva & the literary works of tribals • Students will get inspiration of literary creation in the folk language by reading the presented course.

Department of Marathi		
Class	विषयाचे नांव	**(Course Outcome)**
F.Y.B.Ä.- I	विशिष्ट वाङ्मय प्रकाराचा अभ्यास : कथा	कथा : संकल्पना व स्वरुप / कथानक, व्यक्तिचित्रण, संघर्ष / निवेदन व भाषाशैली, कथेचे प्रकारांची ओळख
Il	वेशिष्ट वाङ्मय प्रकाराचा अभ्यास : क़विता	क़विता : संकल्पना व स्वरुप / घटक – अनुवाद,नाद, लय, प्रतिक,प्रतिमा,रचना,काव्यभाषा यांची ओळख
S.YBA- G-2 1	वैचारिक गद्य लेखनाचा अभ्यास	वैचारिक गद्य : स्वरुप, संकल्पना / महात्मा फुलें चे जीवन व कार्य / शेतकरी व कृषीव्यवस्थेचे आकलन
GO 11	चरित्र–आत्मचरित्रपर लेखनाचा अभ्यास	चरित्र व आत्मचरित्र लेखांची वाङ्मयीन गुणवैशिष्ट्ये (सत्य दर्शन,अनुभव,भाषिक कौशल्ये)
S,Y.B.A. s.l -1	आधुनिक वाङ्मय प्रकार : कादंबरी	क़ादंबरी स्वरुप व वैशिष्ट्ये / मराठी कादंबरीची वाटचाल(इतिहास) कादंबरीतील घटना,प्रसंग,ग्रामजीवन,भाषाशैली,संघर्ष इ.चा परिचय
11	आधुनिक वाङ्मय प्रकार : कविता	कवितेचे स्वरुप व वैशिष्ट्ये / मराठी कवितेची महानगरीय जाणिवा यांचा परिचय [/ माझे विद्यापीठ संग्रहातील मार्क्सवाद,कामगार विश्व,
S.Y.B.A. S.2-1	भारतीय आणि पाश्चात्य साहित्य विचार	भारतीय काव्य लक्षणांचा परिचय / पाश्चात्य साहित्याचा परिचय / साहित्याची प्रयोजने,कारणे
Il	भारतीय आणि पाश्चात्य साहित्य विचार	शब्दशक्ती, अलंकार स्वरुप व प्रकार / स्थायीभाव व रस विचार / साहित्यातील आनंद व आस्वाद
S.Y.B.A.SEC- 1	लेखन कौशल्ये : मुद्रित शोधन	मुद्रित शोधन स्वरुप व प्रक्रिया / मुद्रितशोधन उपयोजन,खुणा, लेखनविषयक नियम, विरामचिन्हे महत्व
11	लेखन कौशल्ये : सर्जनशील लेखन	सर्जनशिल लेखन स्वरुप,आकलन / कथालेखन,नाट्यलेखन,यातील कथानक,पात्र,वातावरण,निवेदन इ.ओळख
S.Y.B.A. MIL - I	मुद्रित माध्यमांसाठी लेखन	वृत्तपत्र: उगम व विकास, उपयुक्तता / बातमी लेखनाचे तंत्र, भाषा / स्तंभ वा सदर लेखनाचे आकलन
	श्राव्य माध्यमांसाठी लेखन व संवाद	श्राव्य माध्यम : स्वरुप व परिचय/ नभोवाणी उगम व विकास / आकाशवाणीचे दैनंदिन कार्य, उपयुक्तता भाषण,श्रुतिका लेखनाचे स्वरुप व तंत्र
T.YB.A G3 - 1	एकांकिका लेखनाचा अभ्यास	एकांकिका स्वरुप व संकल्पना / दलित एकांकिका लेखनाची वैशिष्टे / विषयसुत्र,कथानक,पात्र,संघर्ष भाषा
Il	ललित गद्य लेखनाचा अभ्यास	मराठी ललितगद्य, स्वरुप,विशेष / लघु निबंध,ललित लेखनातील मी अनुभव विशेष, चिंतनशिलता,स्त्री जीवनदर्शन,भाषा इ.चा परिचय /

T.Y.B.A S.3	मध्ययुगीन मराठी वाङ्मयाचा इतिहास	मध्ययुगीन मराठी वाङ्मयाचे स्वरुप, वैशिष्टे / महानुभाव संप्रदाय तत्वज्ञान व गद्य–पद्य वाङ्मयाचा परिचय / शाहिरी,पोवाडा,लावणी,परिचय
11	मध्ययुगीन मराठी वाङ्मयाचा इतिहास	वारकरी संप्रदाय तत्वज्ञान व वाङ्मय / बखर लेखन :प्रेरणा व भूमिका / निवडक ग्रथ प्रकारांच्या वाङ्मयाचा परिचय
T.YB.A.S.4 - 1	मराठीचा भाषिक अभ्यास	भाषेचे स्वरुप, कार्य व महत्व / भाषा उत्पत्तीचे सिध्दांत,साधने / मराठीची भाषाकुल संकल्पना
Il	मराठीचा भाषिक अभ्यास	मराठीचे कालिक व प्रांतिक भेद / प्रमाण भाषा व बोली सहसंबंध / भाषाविषयक सहमज–गैरसमज / संस्कृत,पारसी,इंग्लिश इ.चा मराठीवर प्रभुत्व
T.Y.B.A. GE -l	मराठी लोकरंगभूमी	लोकरंगभूमी : स्वरुप व वैशिष्ट्ये / किर्तन,भारुड,स्वरुप व भूमिका / वही,दशावतार,स्वरुप व भूमिका
11	मराठी लोकरंगभूमी	लोकरंगभूमी पारंपारीक व आधुनिक / तमाशा,लोकनाट्य,सत्यशोधकी जलसे,आंबेडकरी जलसे, / पथनाट्य व रिंगणनाट्य यांचे स्वरुप व भूमिका
T.Y.B.A.MIL- 1	दृक–श्राव्य माध्यमांसाठी लेखन व संवाद	दुरचित्रवाणीचे स्वरुप,कार्य व उपयुक्तता / मालिकांसाठी पटकथा,संवादलेखन संहिता व लेखनाचे तंत्र
Il	आधुनिक समाज माध्यमांसाठी लेखन व संवाद	संकेतस्थळ,ई–मेल,ब्लॉग,फेसबुक, युट्युब यांचा परामर्श व उपयुक्तता / लेखनाचे स्वरुप,निवेदन कौशल्य
T.Y.B.A. SEC -1	लेखन कौशल्य निबंध लेखन	निबंध संकल्पना व स्वरुप / निबंध लेखनाचे प्रकार / निबंध लेखनाचे उपयोजन
11	लेखन कौशल्य ग्रंथपरीक्षण लेखन	ग्रंथपरिक्षण लेखन,स्वरुप / वाचन,आकलन,टिपणे इ.महत्व / ग्रंथाचे गुणदोषात्मक परीक्षण
S.YB-Sc. -	विज्ञान कथा आणि नोंद लेखन	विज्ञान कथेचे स्वरुप,वैशिष्ट्ये / कथानक,वैज्ञानिकता व काल्पनिकता,संवाद व भाषाशैलीचा अभ्यास / विज्ञानकोश,विकिपिडीयाची माहिती
Il	विनोदी कथा आणि विज्ञानपर लेखन	विनोदी कथेचे स्वरुप,विशेष / कथानक,व्यक्तिचित्रण,संवाद,भाषाशैलीचा परिचय / विनोदाचे स्वरुप व महत्व
F.Y.B.Sc.	कथा आणि संवाद कौशल्ये यांचा अभ्यास	माणदेशी माणसांमधील कथांची कथानक,व्यक्तिचित्रण,भाषाशैली इ.परिचय/संवाद कौशल्ये,स्वरुप व उपयोज

Secondary Education Society's
Arts & Science College, Bhalod,
2023-2024

DEPARTMENT OF POLITICAL SCIENCE

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

Course outcomes:-

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

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

Course outcomes:-

1. Studying the concepts of political sociology, political system, political culture, political socialization, political participation,and political leadership.
2. Evaluating the political culture.
3. Classifying the different types of Political systems.

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

Course outcome-

1- Tracing the evolution of Indian political thought from ancient India to modern India.
2- Analyzing& Discussing the nationalist thought of dada Bhainavroji, Lokmanyatilak, mahatma Gandhi
3- Analyzing the Gandhian Movements such as the Khilafat, Non Cooperation, Civil Disobedience movements.

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

Course outcome-

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

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

Course outcome-

1. Main intent of civil services is to strength the administrative capacity to perform important government functions. These reforms raise the quality of services to the citizens that are essential to the advancement of supportable economic and social development.
2. Student are knowing function of Mpsc &Upsc .

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

Course outcome-

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

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

Course outcome-

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

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

Course outcome-

1. Tracing the evolution of Indian political thought from ancient India to modern India.
2. Analyzing the nationalist thought of Vinayak damodarSavarkar.
3. Assessing the nationalist thought ofDrbabasahebambedkar& Pandit Neharu.
4. Describing the movements against caste and untouchability, Ambedkar's views on Social Justice and the depressed classes.
5. Discussing the roots of communalism- Savarkar and Hindu Nationalism and Jinnah and the two nation theory.

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

Course outcome-

1. Describes political journalism.
2. Explains the key concepts in political journalism.
3. Explains the role of political journalism in a democratic regime.
4. Describes the methods of political journalism.
5. Discusses the role of political journalism during leadership deployment.
6. Discusses the role of political journalism in awareness.

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

Course outcome-

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

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

Course outcome-

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

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

S.Y.B.A. Political Science,

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

Course outcome-

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

1. Demonstrate in writing a basic knowledge of the functions of American government.
2. Discuss in writing the constitution, federalism, civil liberties, and foreign policy in American government from development to the present.
3. Recall elements of the constitution, civil liberties, federalism, the functions of the three branches of government, and the expansion of the role of government in American life.

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

Course outcome-

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

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

Course outcome-

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

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

Course outcome-

After completion of this course, the students would be able to:

1. Gain general familiarity with the life and works of Dr Bhimrao Ambedkar;
2. Get some understanding of Ambedkar's critique of caste;
3. Explaining the thought of political parties, freedom of press.
4. Appreciate Ambedkar's contributions to the making of India's Constitution.

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

Course outcome-

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

1. Demonstrate a knowledge of the key themes of continuity and change in Chinese politics from the Republican period to the present
2. Understand the key problems of governance in a state as large and complex as China
3. Students areknowing silent features of china's constitution, military administration, political parties in china.

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

Course outcome-

1. An understanding of the problems and issues that are faced in the rural areas, especially of Maharashtra is generated through this course.
2. Some of the most effective debates are seen to emerge from these topics. Learners' viewpoints and maturity of thoughts are usually found to be commendable. The course creates learners with a wholesome understanding of administration urban grassroots.
3. Evaluation and analyses of the issues discussed in this course in fact help learners realistically analyses the extent of urban challenges at hand.
4. Student are knowing constitutional & legal board of Maharashtra.

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

Course outcome-

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

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

Course outcome-

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

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

Course Outcomes:-

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

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

Course outcome-

Analyze the Indian political system, the powers and functions of the Union, State and Local Governments in detail Student are knowing judiciary & constitutional commission process, center –state relation & civil services.

Secondary Education Society's

Arts & Science College, Bhalod,

Course Outcome

2023-24

DEPARTMENT OF PSYCHOLOGY		
Class	**Paper**	**Course Outcomes**
F.Y.B.A	Foundations of Psychology (PSY-101) (Sem I)	1. Understood the basic concepts and modern trends in Psychology. 2. Students can apply the principles of Psychology in everyday life. 3. Students became aware of the applications of Psychological concepts in various fields of human life.
	Introduction to Social Psychology (PSY-201) (Sem II)	1. Students understood the basics concepts in social psychology and the individual in the social world. 2. Developed social behavior and interpersonal skills of the students.
S.Y.B.A	DSC-1C(02)PSY-231 Human Developmental Psychology : Early Life. (Sem III)	1. Students understood the concept and process of human development in entire human life span. 2. Students also understood the characteristics and hazards in the stages of human development. 3. Students understood the physical, mental, social and moral development in various stages of human life.
	DSC-2D(02)PSY-241 Human Developmental Psychology : Later Life. (Sem IV)	1. Students understood the concept and process of human development in entire human life span. 2. Students also understood the characteristics and hazards in the stages of human development. 3. Students understood the physical, mental, social and moral development in various stages of human life.
T.Y.B.A	DSC-2E (03) PSY-351 Management of Interpersonal Relations. (Sem V)	1. Student learned the skills of positive interpersonal communication. 2. Student understood the various domains of human relationships and process of adjustment. 3. Student became able to make good decision making to career choice.
	DSC-2 F (03) PSY-361 Adjustment in Life Span. (Sem VI)	1. Student understood the concept of self-concept and self-esteem. 2. Developed the skills of coping with stress in the student. 3. Students understood the effect of habit to lifestyle.

Academic Year-2023-2024

Department of History		
Class	**Course**	**Course Outcomes**
F.Y. B.A.	**DSC-HIS-G-101-A Sem.-I** History of Indian Freedom Movement (A.D.1857-A.D.1905)	➢ Evaluate Consolidation of English Power in India ➢ Analyses Social Religious Consciousness in India ➢ To Introduce Various Perspective of the Indian Freedom Movement ➢ To Develop the Spirit of Nationalism among Student.
	DSC-HIS-G-201-A, Sem.-II History of Indian Freedom Movement (A.D.1905-A.D.1950)	➢ To Bring an awareness among the student as Responsible Citizens. ➢ Understand modern Indian History ➢ Identify the importance and the legacy of Freedom Movement. ➢ Evaluate the renaissance and social reform movement in India
S.Y. B.A.	**DSC-HIS - 231 Sem.-III –**History of Marathas (AD 1605-1750)	➢ Understand the inspiration behind the establishment of swarajya. ➢ Explain the reasons behind Chatrapati Shivaji Maharaj conflicts with the regional Lords and the outsiders. ➢ Know about the administrative need and the importance of grand coronation of Chatrapati Shivaji. ➢ Asses the Chatrapati Shivaji is invasion on karnataka.
	DSC-HIS - 241 Sem.-IV –History of Marathas (AD 1605-1750)	➢ Understand the formation of welfare state during the Maratha rule. ➢ Understand the industrial and agricultural aspects of Chatrapati Shivaji Maharaj. ➢ Understand the administrative aspect of the Swarajya. ➢ Perceive influence of political support on religion.
T.Y. B.A.	**HIS- 351 A Sem. V** **History of Modern World (1789-1900)**	➢ Understand the concept and meaning of the History of Modern Europe ➢ Explain important information of the History of Modern Europe ➢ To Introduce various perspectives of the History of Modern Europe
	HIS- 351 A Sem. V **History of Modern World (1789-1900)**	➢ Cover an Important topic of the History of Modern Europe ➢ To inculcate Liberty, Equality and fraternity among the students.
T.Y. B.A. (Skill)	**SEC-3 – HIS- 354, Sem. V** **Travel and Tourism in India**	➢ Understand the concept and types of Tourism. ➢ Acquire adequate knowledge about various aspects in Tourism planning.
	SEC-4 HIS 364 Sem. VI **An Introduction to Museums in India**	➢ Explain important information of some Historical tourist places. ➢ Develop career in Tourism industry.

Department of Economics		
Class	**Course**	**Outcomes**
F.Y.B.A 2023-2024	Eco G-101(A): Introductory Economics	• Understand Basic Economic Concepts • Understand Application of Economic Models • Distinguish between different economic systems and their features. • Analyze the role of government in the economy, including regulation, taxation, and public goods. • Study how consumers make choices and maximize utility. • Understand the basics of production, costs, and how firms make decisions about production and pricing. • Examine different market structures and their implications for prices and output. • Learn about key economic indicators such as GDP, inflation, and unemployment, and what they reveal about the health of the economy. • Understand the factors that contribute to long-term economic growth. • Explore the basics of fiscal policy (government spending and taxation) and monetary policy (central bank actions) and their effects on the economy. • Develop the ability to apply economic reasoning to analyze real-world issues and policy questions. • Learn how to interpret economic data and graphs, and understand their implications for economic theories and policies. • Gain skills in articulating economic concepts and arguments clearly in writing. • Improve abilities to present economic analyses and participate in discussions on economic issues effectively.
	Eco G-201(A): Introductory Economics	• Understand the fundamental problem of scarcity and how it necessitates making choices.

		• Analyze and apply the concept of opportunity cost in decision-making processes. • Describe how supply and demand determine prices and quantities in a market. • Explain and calculate price elasticity of demand and supply and interpret its implications for businesses and consumers. • Analyze how consumers make choices to maximize utility and the factors influencing these choices. • Understand the basic concepts of production functions, cost structures, and how firms make decisions regarding production and pricing. • Identify and compare different market structures (e.g., perfect competition, monopoly, monopolistic competition, oligopoly) and their impact on pricing and output. • Define and interpret key economic indicators such as Gross Domestic Product (GDP), inflation, and unemployment. • Understand the determinants of long-term economic growth and the role of productivity. • Explain the functions and tools of fiscal policy (government spending and taxation) and monetary policy (central bank actions), and analyze their effects on the economy. • Compare and contrast various economic systems, including market economies, command economies, and mixed economies. • Evaluate the role of government in the economy, including regulation, taxation, and provision of public goods. • Apply economic reasoning to analyze and solve real-world problems. • Learn to interpret economic data, graphs, and models, and understand their implications for economic theories and

		policies. • Develop the ability to clearly and effectively communicate economic concepts and analyses in written form. • Improve skills in presenting economic arguments and participating in discussions on economic issues. • Use economic theories and models to analyze current economic events and issues. • Engage with case studies to see how economic principles apply to various real-life scenarios and decision-making processes.
S.Y.B.A 2019 0nwards	DSC-Eco 231 C & DS C Eco 241 D [Sem.- III & IV] Indian Economy Since 1980-I & II	After completing the course, 1) A student will be able to understand various issues of Indian Economy. 2) A student will be quite capable to analyze current Indian Economic problems 3) A student will be quite prepare to appear the MPSC, UPSC and other competitive Examinations.
	DSE –Eco 232 (A) & DSE Eco 242 (B) Sem.-III & IV Agricultural Economics I & II	After completing the course, 1) A student will be able to understand various issues of Indian Agriculture. 2) A student will be quite capable to analyze current Indian Agricultural Problems. 3) A student will be quite prepare to appear the MPSC , UPSC and other competitive Examinations .
	DSE –Eco 233 (A) & 243 (B) Sem.-III & IV Advanced Macro Economics I & II	After completing the course, 1) A student will be acquainted about the knowledge of Macro Economics concept and theories. 2) A student will be acquainted about the knowledge of Macro Economics Problems and Policies. 3) After completing the course analyzing capacity of the student in applying theories to real life situation will be developed.
		After completing the course a student will

	SEC- Sem -III & IV Research Methodology for Economics I & II	be acquaint about the Research Methodology for Economics .
T.Y.B.A 2020 onwards	Eco 351 & 361 Sem - V & VI Indian Economy Since 1980- III & IV	After completing the course, 1) A student will able to understand the various issues of the Indian Economy. 2) Analyzing capability of students in the context of current Indian Economic problems will be developed. 3) A student will be quite Prepare to appear the MPSC, UPSC and other competitive Examinations.
	Eco.352 (A) & 362 (A) Sem. V- & VI Economics of Public Finance –I & II	After completing the course, 1) A student will able to understand the various issues of the Public Finance and Policies. 2) Analyzing capability of students in the context of current Public Finance and Policies. 3) A student will be quite prepare to appear the MPSC,UPSC and other competitive Examinations
	Eco.353 (A) & 363 (A) Sem. V- & VI Theory of International Trade I & II	After completing the course, 1) A student will able to understand the various issues of the International trade and Practices. 2) Analyzing capability of students in the context of International Trade and Practices 3) A student will be quite prepare to appear the MPSC,UPSC and other competitive Examinations
	SEC-EC0 354- 364 Modern Banking and Indian Banking System Sem- V & VI	After completing the course 1) The Knowledge of student in banking and financial market will be improved. 2) The Knowledge of student about new changes and technology in banking will be upgraded. 3) A Student will be able to know more about Indian banking system.

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