

**RAYAT SHIKSHAN SASNTHA'S**  
**ARTS, SCIENCE AND COMMERCE COLLEGE MOKHADA**  
**TAL- MOKHADA DIST. PALGHAR**

**PROGRAMME OUTCOMES  
AND COURSE OUTCOMES**

**List of Supporting Documents**

<b>Sr. No.</b>	<b>Particulars</b>
1	Department of Chemistry
2	Department of Physics
3	Department of Zoology
4	Department of Mathematics
5	Department of Botany
6	Department of History
7	Department of Economics
8	Department of Marathi
9	Department of Commerce
10	PO and Cos of English
11	PO and Cos of Psychology
12	PO and Cos Foundation Course



Rayat Shikshan Sanstha's,  
**Arts, Science and Commerce College, Mokhada**  
**Dist. Palghar Maharashtra 401604**

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**Programme Name: B. Sc. Chemistry**

**Programme Outcomes**

<b>Sr. No.</b>	<b>Programme Outcome</b>
1.	Improve the knowledge of students in chemical sciences.
2.	Create awareness of the students in environmental problems.
3.	Understanding the need of modern tools in chemical sciences.
4.	Awareness of the knowledge of instruments to students.
5.	Information regarding the market for chemical industry.
6.	Developing the practical skill of the students.
7.	Understanding the basic information of drugs and dyes.
8.	General introduction to Dyestuff Chemistry.
9.	Safety in laboratory.
10.	Introduction to quality concepts such as quality control, quality assurance and sampling.

## Course Outcomes

<b>Sem.</b>	<b>Course</b>	<b>Outcomes</b>
<b>I</b>	<b>USCH:101 Chemistry-I</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Knowledge about chemical thermodynamics, first law of thermodynamics, thermodynamic terms and chemical calculations based on expressing concentration of solutions.</li> <li>2. Students Can understand the atomic structure, Rutherford atomic model, Bohr's theory, concept of principles of quantum mechanics, Periodical table and periodicity.</li> <li>3. Students Can write the IUPAC names of any organic compounds from their structure and draw its structure from its IUPAC name. Bonding and structure of organic compounds, fundamentals of organic reaction mechanisms.</li> </ol>
<b>I</b>	<b>USCH:102 Chemistry-II</b>	<p><b>On Successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Gain the knowledge of chemical kinetics, order and molecularity of reaction, integrated rate equation of first and second order reaction, Liquid state such as surface tension, viscosity, refractive index and liquid crystals.</li> <li>2. Student comparatively studies the properties of main group elements such as electro negativity, oxidation state, diagonal relationship, allotropy, catenation property.</li> <li>3. Can draw the Fischer, Newman, Sawhorse projection formulae, Cis-Trans, Syn-Anti, E/Z nomenclature. Introduction of optical isomerism and conformation analysis of alkanes.</li> </ol>
<b>I</b>	<b>USCHP1 Practical -I</b>	<p><b>On Successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. They can determine the rate constant for the saponification reaction between ethyl acetate and NaOH. Determine the pH values of Buffer solutions. Plotting the calibration curve of KMnO<sub>4</sub> by colorimeter. Can write the Material Data Safety Sheet (MSDS).</li> <li>2. Semi micro qualitative analysis of simple two acidic radicals and two basic radicals from mixture.</li> </ol>
<b>II</b>	<b>USCH:201</b>	<p><b>On Successful completion of this course students will be able to:</b></p>

		<ol style="list-style-type: none"> <li>1. Students will be able to use the evidence-based comparative chemistry approach to explain chemical synthesis and analysis.</li> <li>2. Students will be able to characterize, identify and separate components of organic or inorganic origin and will also be able to analyze them by making use of the modern instrumental methods learned.</li> <li>3. Students will be able to understand the basic principle of equipment and instruments used in the chemistry laboratory.</li> </ol>
<b>II</b>	<b>USCH:202</b>	<p><b>On Successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. The course curriculum also includes components that can be helpful to graduate students to develop critical thinking ability by way of solving problems/numerical using basic chemistry knowledge and concepts.</li> <li>2. Appreciate the central role of chemistry in our society and use this as a basis for ethical behavior in issues facing chemists including an understanding of safe handling of chemicals, environmental issues, and key issues facing our society in terms of energy, health, and medicine.</li> <li>3. Lifelong learner: The course curriculum is designed to inculcate a habit of learning continuously through the use of advanced ICT techniques and other available techniques/books/journals for personal academic growth as well as for increasing employability opportunity.</li> </ol>
<b>II</b>	<b>USCHP2 Practical- II</b>	<p><b>On Successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. They can find out percentage of Cu (II) in sample by iodometry.</li> <li>2. They can characterize the organic compound containing C, H, O, N, S and halogens elements.</li> </ol>
<b>III</b>	<b>USCH:301 General Chemistry-I</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. They can know the concept of chemical thermodynamics, Partial Molar Properties, Chemical Potential and its variation with Pressure and Temperature.</li> <li>2. Can know the concept of electrochemistry, Conductivity, equivalent and molar conductivity and their variation with dilution for weak and strong electrolytes.</li> <li>3. Can determine the transference number and its experimental determination using Moving boundary method.</li> </ol>

		<ol style="list-style-type: none"> <li>4. Student can understand the chemical bonding, non-Directional and directional Bonding.</li> <li>5. Can understand the role of Hybridization and types of hybrid orbital's-sp, sp<sup>2</sup>, sp<sup>3</sup>, sp<sup>3</sup>d, sp<sup>2</sup>d<sup>2</sup>and sp<sup>2</sup>d sp<sup>3</sup>d<sup>2</sup>. Molecular Orbital Theory: Linear combination of atomic orbital's (LCAOs) to give molecular orbitals.</li> <li>6. They can able to draw the Molecular orbital diagram of O<sub>2</sub>, O<sub>2</sub> + O<sub>2</sub><sup>-</sup>, O<sub>2</sub><sup>2-</sup> etc.</li> <li>7. Can study the reactions and reactivity of halogenated hydrocarbons such as Alkyl halides, Aryl halides: Reactivity of aryl halides towards nucleophilic substitution reactions.</li> <li>8. They can be familiar with the concept of organo-magnesium and organo-lithium compounds and reactivity of carbon-metal bond.</li> <li>9. Student can know the methods of preparation and reactions of alcohols, phenols and epoxies.</li> </ol>
<p style="text-align: center;"><b>III</b></p>	<p style="text-align: center;"><b>USCH:302 General Chemistry-II</b></p>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Student learned the basic concepts of Chemical Kinetics: Reversible or opposing, consecutive and parallel reactions.</li> <li>2. They can study the effect of temperature on the rate of reaction, Arrhenius equation, Concept of energy of activation.</li> <li>3. Students can familiarize with the theories of reaction rates i. e. collision theory and activated complex theory of bimolecular reactions.</li> <li>4. Know the concept of Solutions: Ideal solutions and Raoult's law, deviations from Raoult's law-non-ideal solutions. Vapor pressure-composition and temperature - composition curves of ideal and non-ideal solutions. Distillation of solutions.</li> <li>5. Student can study the partial miscibility of liquids: Critical solution temperature; effect of impurity on partial miscibility of liquids with respect to Phenol-Water, Triethanolamine Water and Nicotine-Water systems.</li> <li>6. Students aware about the selected topics on p block elements i. e, Boron, Silicon, Germanium, Nitrogen family.</li> <li>7. Student can study the chemistry of carbonyl compounds.</li> <li>8. They can draw mechanism of Benzoin condensation, Knoevenagel condensation, Claisen Schmidt and Cannizzaro reaction Basics of Analytical Chemistry.</li> </ol>

<p style="text-align: center;"><b>III</b></p>	<p style="text-align: center;"><b>USCH:303 General Chemistry-III</b></p>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Learners should be able to decide how to identify a sample and prepare it for analysis.</li> <li>2. Can select a proper procedure for analysis and identify sources of possible errors in the results obtained.</li> <li>3. Student can able to select proper titrimetric method identify a suitable gravimetric method.</li> <li>4. Learners can perform the required calculations involved in the analysis by titrimetric as well as gravimetric.</li> </ol>
<p style="text-align: center;"><b>III</b></p>	<p style="text-align: center;"><b>USCHP3 Practical -III</b></p>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Students can able to handle the analytical instruments such as conductometer, Potentiometer, Colorimeter, pH meter etc.</li> <li>2. Can determine the energy of activation of acid catalyzed hydrolysis of methyl acetate.</li> <li>3. Can investigate the reaction between <math>K_2S_2O_8</math> and KI with equal initial concentrations of the reactants.</li> <li>4. They can identify the captions in a given mixture and separating them by analytical method.</li> <li>5. Check the quality of water sample estimation of its total hardness.</li> <li>6. Can investigate the purity of organic substances and prepare the derivatives of organic compounds.</li> <li>7. Can learn the estimation of drugs by titrimetric analysis.</li> </ol>
<p style="text-align: center;"><b>IV</b></p>	<p style="text-align: center;"><b>USCH:401 General Chemistry-I</b></p>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. They can know the concept of Electrochemistry and phase equilibria. 2. Can draw the phase diagrams of one-component systems.</li> <li>2. Can learn the properties of Transition series elements.</li> <li>3. They can understand the Chemistry of Titanium and vanadium.</li> <li>4. They can familiarize with the Chemistry of Coordination Compounds.</li> <li>5. Can apply the eighteen-electron rule to metal ions.</li> <li>6. Student can know the reaction of carboxylic acids and their derivatives.</li> <li>7. Learners can write the mechanism of Claisen condensation and Deckman condensation reaction.</li> </ol>

<p style="text-align: center;"><b>IV</b></p>	<p style="text-align: center;"><b>USCH:402 General Chemistry-II</b></p>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Learners can know the laws of crystallography and types of crystals and also learn characteristics of simple cubic, face centered cubic and body centered cubic systems.</li> <li>2. They can derive the Bragg's equation and also determine the Avogadro's number.</li> <li>3. Student understands the concept of Catalysis.</li> <li>4. Student can learn the behavior of ions in aqueous medium.</li> <li>5. Uses and Environmental Chemistry of volatile Oxides and oxo-acids.</li> <li>6. Student can know the importance of heterocyclic compounds and their synthesis, reaction and applications.</li> </ol>
<p style="text-align: center;"><b>IV</b></p>	<p style="text-align: center;"><b>USCH:403 General Chemistry-III</b></p>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. The learner understands the importance of separation in sample treatment and various methods of separations.</li> <li>2. They can learn how to select a method of separation of an analytic from the matrix</li> <li>3. They know the principle of solvent extraction and effect of various parameters on solvent extraction of a solute.</li> <li>4. Student can familiar with the various types of electrodes or half cells.</li> <li>5. Learner understands the use of statistical methods in chemical analysis, Computation of Confidence limits and confidence interval.</li> <li>6. Can know the method to draw best fitting straight line.</li> <li>7. Test for rejection of doubtful result.</li> </ol>
<p style="text-align: center;"><b>IV</b></p>	<p style="text-align: center;"><b>USCHP4 Practical-IV</b></p>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Students can able to handle the analytical instruments such as conduct meter, Potentiometer, Colorimeter, pH meter etc.</li> <li>2. Can compare the strengths of two strong acids by studying kinetics of acid hydrolysis of methyl acetate.</li> <li>3. Thorough knowledge regarding inorganic preparations.</li> <li>4. They learn about qualitative Analysis of bi-functional organic compounds.</li> <li>5. They familiar with the tools in analytical chemistry.</li> <li>6. They can make acquainted about paper chromatography and solvent extraction techniques.</li> </ol>
<p style="text-align: center;"><b>V</b></p>	<p style="text-align: center;"><b>USCH:501 Physical Chemistry</b></p>	<p><b>On successful completion of this course students will be able to:</b></p>

		<ol style="list-style-type: none"> <li>1. Students became familiar with rotational and vibrational spectrum for diatomic molecules and concept of Raman Spectroscopy.</li> <li>2. They can learn about colligative property, and their determination methods. They also understand the concept of collision theory, study of kinetics of fast reaction.</li> <li>3. They can know the concept of radioactivity, detection and measurement of radioactivity using counters, applications of radioisotopes, nuclear reactions, construction and working of nuclear reactors.</li> <li>4. Idea about surface chemistry and colloidal state.</li> </ol>
V	<b>USCH:502 Inorganic Chemistry</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Student can learn about molecular symmetry and chemical bonding. They also know the concept of point group.</li> <li>2. Can understand crystal lattice, lattice point, unit cell and lattice constants. Further, understands defects in solids and concept of superconductors.</li> <li>3. They can learn about various properties and applications of inner transition elements.</li> <li>4. They can learn the classification and characteristics of non-aqueous solvents, comparative chemistry of Group-16 and 17.</li> </ol>
V	<b>USCH:503 Organic Chemistry</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Students can draw the mechanism of reaction, pericyclic reaction and photochemical reaction.</li> <li>2. They know about stereochemistry of organic compounds, agrochemicals and heterocyclic chemistry.</li> <li>3. They can write the IUPAC nomenclature of bicyclic and Spiro compounds. Further, they can learn about green chemistry.</li> <li>4. Student can familiarize with the general introduction of spectroscopy and natural product.</li> <li>5. This course will be useful to get an insight into spectroscopy.</li> </ol>
V	<b>USCH:504 Analytical Chemistry</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Students can understand the concept of quality control, quality assurance and sampling.</li> <li>2. They can know the concept of Redox and Complexometric titrations.</li> </ol>



		<ol style="list-style-type: none"> <li>3. Learners can familiarize with the instrumentation and application of analytical instruments such as AAS, Turbidimetry, Nephelometry etc.</li> <li>4. They understand the separation methods such as solvent extraction, HPLC and HPTLC.</li> </ol>
<b>V</b>	<b>USCHP5: 501 &amp; 502 &amp; USCHP6: 503 &amp; 504 (Practical's)</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>a) <b>Physical Chemistry: Practical</b> <ol style="list-style-type: none"> <li>1. Student can able to determine the molecular weight of compound by Rust method.</li> <li>2. They can determine the order of reaction by fractional change method.</li> <li>3. Learners can understand the adsorption of acetic acid on charcoal.</li> <li>4. Students can able to handle the analytical instruments such as conduct meter, Potentiometer, pH meter etc.</li> </ol> </li> <li>b) <b>Inorganic Chemistry: Practical</b> <ol style="list-style-type: none"> <li>1. Thorough knowledge regarding inorganic preparations.</li> <li>2. They also able to determine the percentage purity of water-soluble salts.</li> </ol> </li> <li>c) <b>Organic Chemistry: Practical</b> <ol style="list-style-type: none"> <li>1. Student can acquire experimental skill in the separation of organic binary mixture containing two solid components.</li> <li>2. Develop the practical skill in the determination of melting point.</li> </ol> </li> <li>d) <b>Analytical chemistry: Practical</b> <ol style="list-style-type: none"> <li>1. Students can able to handle the analytical instruments such as spectrophotometer, flame photometer, turbidimeter etc.</li> <li>2. They can determine the Chemical Oxygen Demands (COD) of water sample.</li> </ol> </li> </ol>
<b>V</b>	<b>Applied Component: Environmental Science and Pollution</b>	<p>Learner shall comprehend the impact of the interrelationship between various components of environment.</p> <ul style="list-style-type: none"> <li>• Learner will apply the knowledge of pollutants to undertake research projects/studies. 1.1Components of environment; biotic and abiotic. Composition of various segments of environment–atmosphere, hydrosphere, lithosphere, biosphere (with respect to composition and interrelationship).</li> </ul>

		<p>1.2 Types of pollution</p> <p>1.2.1 Water pollution: Pesticides and heavy metals.</p> <p>1.2.2 Air pollution: Challenges posed by present day pollutants.</p> <p>1.2.3 Others- Noise and nuclear pollution.</p> <p>2.1 Solar energy, wind energy, tidal energy, nuclear energy.</p> <p>2.2 Biomass &amp; bio-fuels, petro crops.</p> <p>2.3 Use of wastes: Water-based biomass, energy from waste &amp; solid waste.</p> <p>Learner and facilitator both will develop conceptual clarity on pollution control and green environmental auditing, besides gaining knowledge about these programmes in the Indian scenario. Learner will develop an acumen to tap the potential for entrepreneurship with respect to environment related products and indoor plants. Learner will comprehend and develop better acumen so as to, take wise and necessary decisions while participating in environment related projects or framing policies/assessing environmental damages/carrying out entrepreneurial activities beneficial to environment.</p>
V	<b>Practical's Course Code USACEVS5P1</b>	<p>Estimation of Pollution: BOD &amp; COD.</p> <p>Measurement of intensity of light by Lux meter</p> <p>Study of types of pollution: water, air, land.</p> <p>Study of applications of various Spectroscopy (any 4), Chromatography and Electrophoresis instruments.</p> <p>Study of product derived by application of green chemistry (Laundry detergents, Polylactic acid packaging, green paints, pharmaceutical drugs- Ibuprofen)</p>
VI	<b>USCH:601 Physical Chemistry</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Student can understand the concept of electrochemical cells, classification of electrochemical cells, decomposition potential and overvoltage.</li> <li>2. They can know the basic terms, classification, molar mass of polymer and its uses in light emitting polymers, antioxidants and stabilizers.</li> <li>3. Student can understand the basic knowledge of quantum chemistry and renewable energy sources.</li> <li>4. They learn the principles and instrumentations of NMR and ESR spectroscopy.</li> </ol>
VI	<b>USCH:602 Inorganic Chemistry</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Student can understand the concept of Crystal Field Theory (CFT), splitting of d-orbital, calculation of CFSE and limitation of CFT.</li> <li>2. They can learn the molecular orbital theory of coordination compounds, stability and reactivity of metal complexes. Introduction about electronic spectra.</li> </ol>

		<ol style="list-style-type: none"> <li>3. Students can know the characteristics, synthetic methods, chemical reactions of organometallic compounds. Further, introduction of concept of metallocene's and catalysis.</li> <li>4. They learn the types and general steps in metallurgy and chemistry of group 18. Also know the biological importance of metal ions (Na, K, Fe, Cu).</li> </ol>
<b>VI</b>	<b>USCH:603 Organic Chemistry</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. They can know the structure of amino acid and proteins.</li> <li>2. Student can learn about mechanism of various rearrangement reactions. Further, they also get the knowledge about carbohydrates.</li> <li>3. They can understand different types of spectroscopies and their applications to organic compounds. Moreover, they know the basic structure DNA/RNA.</li> <li>4. They get familiarize the classification and preparation of polymers, applications of catalyst and reagents.</li> </ol>
<b>VI</b>	<b>USCH:604 Analytical Chemistry</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Student can understand the basic principles of Polarography, DC Polarogram, quantification, applications, advantages and limitations. Principle, advantages and limitations of amperometry titrations.</li> <li>2. They can learn the chromatographic techniques such as Gas and Ion exchange chromatography.</li> <li>3. Students acquire the knowledge about analysis of food products and detection of adulterants. Study of cosmetic products.</li> <li>4. Students can know the instrumentation, application of TGA, DTA. Thermometric titrations and analytical method validation.</li> </ol>
<b>VI</b>	<b>USCHP7 601 &amp; 602 &amp; USCHP8 603 &amp; 604 (Practical's)</b>	<p><b>On successful completion of this course students will be able to:</b></p> <p><b>a) Physical Chemistry: Practical</b></p> <ol style="list-style-type: none"> <li>1. They acquired skill for handling instruments like potentiometer, conduct meter and colorimeter.</li> <li>2. Student can determine the molecular weight of polymer using viscometer.</li> <li>3. Can interpret the order of reaction graphically from given experimental data.</li> </ol> <p><b>b) Inorganic Chemistry: Practical</b></p> <ol style="list-style-type: none"> <li>1. Thorough knowledge regarding inorganic preparations.</li> </ol>

		<p>2. They also able to determine the percentage purity of water-soluble salts.</p> <p><b>c) Organic Chemistry: Practical</b></p> <ol style="list-style-type: none"> <li>1. Student can acquire experimental skill in the separation of organic binary mixture containing two solid components.</li> <li>2. Develop the practical skill in the determination of melting and boiling point.</li> </ol> <p><b>d) Analytical Chemistry: Practical</b></p> <ol style="list-style-type: none"> <li>1. They acquired skill for handling instruments like Spectrophotometer, potentiometer and pH meter.</li> <li>2. Analysis of commercial sample and Ion exchange separation.</li> <li>3. They understand the principle of titrimetric analysis.</li> </ol>
		<b>Applied Components</b>
	<b>USACEVS601 Applied Component: Environmental Science and Pollution</b>	<p>Learner will gain knowledge about environmental testing and monitoring laboratories, air, water quality.</p> <ul style="list-style-type: none"> <li>• Learner will be exposed to the know-how regarding establishing environmental testing and monitoring laboratories. learner will study and comprehend the treatment practices applied for domestic waste water and industrial effluents.</li> <li>• Learner will be equipped with the knowledge of some alternatives to conventional resources. Learner will gain an insight into the basics of costing, book keeping and accountancy.</li> <li>• Learner will be equipped to apply the concepts in his entrepreneurial ventures. Learner will develop aptitude to examine and assess the outcome of the framework of current biodiversity hotspots and biosphere reserves.</li> <li>• Learner will be able to list the different aspects of wildlife photography and inspect the positive and negative aspects of it, also be able to recommend how wildlife photography can support biodiversity conservation.</li> <li>• Learner will be able to assess the future challenges that ecotourism can generate for biodiversity conservation. Learner will ponder upon and find out the what, why, where, whom and which of climate change and global warming.</li> </ul>
<b>VI</b>	<b>USACEVS6P1 Practical</b>	<p>Study of physical properties of soil: Temperature, moisture, &amp; texture of soil.</p> <p>Population analysis by Quadrant method &amp; Line transect method.</p> <p>Study of air &amp; noise pollution monitoring device, geospatial instrument. Problems on accounting/costing</p> <p>Study of biodegradable plastic products, bio pesticides brands.</p> <p>Learner will be able to identify and evaluate the effects of the different sources of greenhouse substances</p>



**RAYAT SHIKSHAN SANSTHA'S**  
**ARTS, SCIENCE AND COMMERCE COLLEGE, MOKHADA, DIST.**  
**PALGHAR**  
**DEPARTMENT OF PHYSICS**

**Programme Name: B.Sc. Physics**

**Programme Outcomes**

<b>Sr. No.</b>	<b>Programme Outcome</b>
<b>1</b>	Students are expected to acquire a core knowledge in physics, including the major premises of classical mechanics, quantum mechanics, electromagnetic theory, electronics, optics, special theory of relativity and modern physics
<b>2</b>	Students are also expected to develop written and oral communication skills in communicating physics-related topics.
<b>3</b>	Students will learn the applications using a variety of laboratory instruments and in the analysis and interpretation of such data.
<b>4</b>	Students will develop the proficiency in the acquisition of data of numerical techniques for modeling physical systems for which analytical methods are inappropriate or of limited utility.
<b>5</b>	Apply conceptual understanding of the physics to general real-world situations
<b>6</b>	Discover of physics concepts in other disciplines such as mathematics, computer science, engineering, and chemistry.
<b>7</b>	Develop the following experimental tools: Numerically model simple physical systems using Euler's method, curve fitting, and error analysis.
<b>8</b>	Learn to minimize contributing variables and recognize the limitations of Equipment.

## Course Outcomes

<b>Sem</b>	<b>Course</b>	<b>Outcomes</b>
<b>I</b>	<b>USPH101 Classical Physics</b>	<p><b>After successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Understand Newton's laws and apply them in calculations of the motion of simple systems.</li> <li>2. Use the free body diagrams to analyze the forces on the object.</li> <li>3. Understand the concepts of friction and the concepts of elasticity, fluid mechanics and be able to perform calculations using them.</li> <li>4. Understand the concepts of lens system and interference.</li> <li>5. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.</li> <li>6. Demonstrate quantitative problem solving skills in all the topics covered.</li> </ol>
<b>I</b>	<b>USPH102 Modern Physics</b>	<ol style="list-style-type: none"> <li>1. Understand nuclear properties and nuclear behavior.</li> <li>2. Understand the type isotopes and their applications.</li> <li>3. Demonstrate and understand the quantum mechanical concepts.</li> <li>4. Demonstrate quantitative problem solving skills in all the topics covered.</li> </ol>
<b>I</b>	<b>USPHP1 Practical I</b>	<ol style="list-style-type: none"> <li>i) To demonstrate their practical skills.</li> <li>ii) To understand and practice the skills while doing physics practical.</li> <li>iii) To understand the use of apparatus and their use without fear.</li> <li>iv) To correlate their physics theory concepts through practical.</li> <li>v) Understand the concepts of errors and their estimation.</li> </ol>
<b>II</b>	<b>USPH201 Mathematical Physics</b>	<ol style="list-style-type: none"> <li>1. Understand the basic mathematical concepts and applications of them in physical situations.</li> <li>2. Demonstrate quantitative problem solving skills in all the topics covered.</li> </ol>
<b>II</b>	<b>USPH202 Electricity and Electronics</b>	<ol style="list-style-type: none"> <li>1. After the completion of the course learners will get knowledge about Quantum Physics, Geophysics, and Electrodynamics.</li> <li>2. This course will also develop the skills among the learners to handle D.C. circuits and Digital Circuits</li> <li>3. Learners will be able to do the circuit analysis using various network theorems.</li> <li>4. Learners will understand the concept of Electrostatic field in detail.</li> <li>5. Learners will understand the concept of Magnetic fields in detail.</li> </ol>
<b>II</b>	<b>USPHP2 Practical II</b>	<ol style="list-style-type: none"> <li>1. To understand and practice the skills while doing physics practical.</li> <li>2. To understand the use of apparatus and their use without fear.</li> <li>3. To correlate their physics theory concepts through practical.</li> <li>4. Understand the concepts of errors and their estimation.</li> </ol>
<b>III</b>	<b>USPH301: Classical</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Understand the basic mathematical concepts and applications of</li> </ol>

	<b>Mechanics &amp; Thermodynamics</b>	<p>them in physical situations</p> <ol style="list-style-type: none"> <li>2. Understand the concepts of mechanics, acoustics and the Properties of matter and be able to perform calculations using them.</li> <li>3. Demonstrate quantitative problem solving skills in all the topics Covered.</li> <li>4. Learners will understand the Simple Harmonic Motion and the effect of Damping forces on such motions and equation of motion related to particles performing Damped Simple Harmonic Motion.</li> <li>5. Learners will understand the Forced Damped Simple Harmonic Motion and Resonance.</li> <li>6. Learners will understand various Laws of Thermodynamics and their implications in daily life.</li> <li>7. Learners will understand various Thermodynamic Processes and various Thermodynamic Cycles (P-V graph).</li> <li>8. Learners will understand the Construction &amp; Working of different types of Heat Engines and the Thermodynamical Processes inside the heat engines.</li> </ol>
<b>III</b>	<b>USPH-302: Vector Calculus, Analog Electronics</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Understand the basic mathematical physics concepts and applications of them in physical situations</li> <li>2. Understand the basic laws of electrostatics and magneto statics and applications of them and be able to perform calculations using them.</li> <li>3. Demonstrate quantitative problem solving skills in all the topics covered.</li> <li>4. Understand learners the basic concepts of Mathematical physics and their applications in physical situations</li> <li>5. Understand different types of oscillator and find its frequency.</li> <li>6. Apply Fundamental Theorem of Line Integrals, Green's Theorem, Stokes' Theorem, or Divergence Theorem to evaluate integrals</li> <li>7. Design basic amplifier circuits using Op-amp</li> </ol>
<b>III</b>	<b>USPH303: Acoustics, Laser, Fibre optics, Crystal Physics, Material Physics, Geophysics</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. After the completion of the course learners will understand the Factors affecting Acoustics and use of fibre in optical communication</li> <li>2. learners will also understand the different types of crystal structures</li> <li>3. Learners will understand propagation of light through Optical Fiber, Different types of fibre and Application of Optical Fiber.</li> <li>4. Learners will understand working of Laser and also application of Laser in Holography.</li> <li>5. Learners will understand the Electrical and Magnetic properties of the materials</li> <li>6. Learners will understand the concepts of Continental drift, Plate tectonics and cause of Earthquake</li> </ol>
<b>III</b>	<b>USPH3P:</b>	<b>On successful completion of this course students will be able to:</b>

	<b>Practical course</b>	<ol style="list-style-type: none"> <li>1. To demonstrate their practical skills more effectively.</li> <li>2. To understand and practice the skills while doing physics practical.</li> <li>3. To understand the use of apparatus and their use without fear.</li> <li>4. To correlate their physics theory concepts through practical.</li> <li>5. Understand the concepts of errors and their estimation.</li> </ol>
<b>IV</b>	<b>USPH401: Optics</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Understand the diffraction and polarization processes and applications of them in physical situations.</li> <li>2. Understand the applications of interference in design and working of interferometers.</li> <li>3. Understand the resolving power of different optical instruments.</li> <li>4. Demonstrate quantitative problem solving skills in all the topics covered.</li> </ol>
<b>IV</b>	<b>USPH402: Quantum Mechanics</b>	<ol style="list-style-type: none"> <li>1. Able to understand the postulate of Quantum Mechanics</li> <li>2. Use of Quantum Mechanics, its relevance in explaining significant Phenomena in Physics</li> <li>3. Solve the time-independent Schrodinger equation as an intermediate step to solve the time-dependent Schrodinger equation.</li> <li>4. Apply boundary conditions to constraint the set of possible states.</li> <li>5. Find the transmission and reflection coefficients for one-dimensional Barriers</li> </ol>
<b>IV</b>	<b>USPH 403: Digital Electronics, Radio Communication</b>	<ol style="list-style-type: none"> <li>1. Learners will understand the different types of Number systems like Binary, Octal, Hexadecimal</li> <li>2. After the completion of the course learners will develop the skill of programming using microprocessor 8085</li> <li>3. Learners will also understand the various modulation techniques used in the communication system</li> <li>4. Learners will understand different types of Flip-Flops</li> <li>5. Learners will understand the working of shift registers and counters</li> <li>6. Learners will understand different types of Addressing modes used in microprocessor 8085</li> </ol>
<b>IV</b>	<b>USPH4P: Practical course</b>	<ol style="list-style-type: none"> <li>1. Learners will get the demonstration of Waveform generator using Op-amp</li> <li>2. Learners will develop the skill of Error analysis of Physics experiments</li> <li>3. Learners will be able to determine the Resolving power of telescope, Resolving power of grating</li> <li>4. Learners will understand the working of MS-JK flip flop (IC 7476), Latch (IC 7400/IC 7402)</li> <li>5. Learners will be able to do Programming using 8085 microprocessor</li> <li>6. Learners will understand the working of Op-amp as a Differentiator and Integrator</li> <li>7. Learners will understand the working of 8:3 Priority Encoder (IC74LS148) and 3:8 Decoder (IC 74LS138)</li> <li>8. Learners will be able to determine the wavelength of the</li> </ol>



		monochromatic light using Cylindrical obstacle and Fresnel's biprism 9. Learners will understand the working of Half adder and full adder using EX-OR gate
V	<b>USPH501: Mathematical, Thermal and Statistical Physics</b>	1. From this course, the students are expected to learn some mathematical techniques required to understand the physical phenomena at the undergraduate level and get exposure to important ideas of statistical mechanics. 2. The students are expected to be able to solve simple problems in probability. 3. Understand the concept of independent events and work with standard continuous distributions. 4. The students will have idea of the functions of complex variables; solve nonhomogeneous differential equations and partial differential equations using simple methods. 5. The units on statistical mechanics would introduce the students to the concept of microstates, Boltzmann distribution and statistical origins of entropy. It is also expected that the student will understand the difference between different statistics, classical as well as quantum.
V	<b>USPH502: Solid State Physics</b>	<b>On successful completion of this course students will be able to:</b> 1. Understand the basics of crystallography, Electrical properties of metals, Band Theory of solids, demarcation among the types of materials, Semiconductor Physics and Superconductivity. 2. Understand the basic concepts of Fermi probability distribution function, Density of states, conduction in semiconductors and BCS theory of superconductivity. 3. Demonstrate quantitative problem solving skills in all the topics covered.
V	<b>USPH503: Atomic and Molecular Physics</b>	<b>Upon successful completion of this course, the student will understand</b> 1. The application of quantum mechanics in atomic physics 2. The importance of electron spin, symmetric and antisymmetric wave functions and vector atom model 3. Effect of magnetic field on atoms and its application 4. Learn Molecular physics and its applications. 5. This course will be useful to get an insight into spectroscopy.
V	<b>USPH504: Electrodynamics</b>	<b>On successful completion of this course students will be able to:</b> 1) Understand the laws of electrodynamics and be able to perform calculations using them. 2) Understand Maxwell's electrodynamics and its relation to relativity 3) Understand how optical laws can be derived from electromagnetic principles. 4) Develop quantitative problem solving skills.
V	<b>Practicals USPHP05 &amp;</b>	1. Understanding relevant concepts. 2. Planning of the experiments 3. Layout and adjustments of the equipments 4. Understanding designing of the experiments

	<b>USPHP06</b>	<p>5. Attempts to make the experiments open ended</p> <p>6. Recording of observations and plotting of graphs</p> <p>7. Calculation of results and estimation of possible errors in the observation of results</p>
<b>V</b>	<b>Applied Component: Environmental Science and Pollution</b>	<p>Learner shall comprehend the impact of the interrelationship between various components of environment.</p> <ul style="list-style-type: none"> <li>Learner will apply the knowledge of pollutants to undertake research projects/studies.</li> </ul> <p>1.1 Components of environment; biotic and abiotic. Composition of various segments of environment–atmosphere, hydrosphere, lithosphere, biosphere (with respect to composition and interrelationship).</p> <p>1.2 Types of pollution</p> <p>1.2.1 Water pollution: Pesticides and heavy metals.</p> <p>1.2.2 Air pollution: Challenges posed by present day pollutants.</p> <p>1.2.3 Others- Noise and nuclear pollution.</p> <p>2.1 Solar energy, wind energy, tidal energy, nuclear energy.</p> <p>2.2 Biomass &amp; bio-fuels, petro crops.</p> <p>2.3 Use of wastes: Water-based biomass, energy from waste &amp; solid waste.</p> <p>Learner and facilitator both will develop conceptual clarity on pollution control and green environmental auditing, besides gaining knowledge about these programmes in the Indian scenario. Learner will develop an acumen to tap the potential for entrepreneurship with respect to environment related products and indoor plants. Learner will comprehend and develop better acumen so as to, take wise and necessary decisions while participating in environment related projects or framing policies/assessing environmental damages/carrying out entrepreneurial activities beneficial to environment.</p>
<b>V</b>	<b>Practicals Course Code USACEVS5 P1</b>	<p>Estimation of Pollution: BOD &amp; COD.</p> <p>Measurement of intensity of light by Lux meter</p> <p>Study of types of pollution: water, air, land.</p> <p>Study of applications of various Spectroscopy (any 4), Chromatography and Electrophoresis instruments.</p> <p>Study of product derived by application of green chemistry ( Laundry detergents, Polylactic acid packaging, Green paints, Pharmaceutical drugs- Ibuprofen)</p>
<b>VI</b>	<b>USPH601: Classical Mechanics</b>	<p>1. This course will introduce the students to different aspects of classical mechanics.</p> <p>2. They would understand the kinds of motions that can occur under a central potential and their applications to planetary orbits.</p> <p>3. The students should also appreciate the effect of moving coordinate system, rectilinear as well as rotating.</p> <p>4. The students are expected to learn the concepts needed for the important formalism of Lagrange’s equations and derive the equations using D’Alembert’s principle.</p> <p>5. They should also be able to solve simple examples using this formalism.</p>

		<p>6. The introduction to simple concepts from fluid mechanics and understanding of the dynamics of rigid bodies is also expected.</p> <p>7. Finally, they should appreciate the drastic effect of adding nonlinear corrections to usual problems of mechanics and nonlinear mechanics can help understand the irregularity we observe around us in nature.</p>
<b>VI</b>	<b>USPH602: Electronics</b>	<p>On successful completion of this course students will be able to:</p> <ol style="list-style-type: none"> <li>1. Understand the basics of semiconductor devices and their applications.</li> <li>2. Understand the basic concepts of operational amplifier: its prototype and applications as instrumentation amplifier, active filters, comparators and waveform generation.</li> <li>3. Understand the basic concepts of timing pulse generation and regulated power supplies</li> <li>4. Understand the basic electronic circuits for universal logic building blocks and basic concepts of digital communication.</li> <li>5. Develop quantitative problem solving skills in all the topics covered.</li> </ol>
<b>VI</b>	<b>USPH603: Nuclear Physics</b>	<ol style="list-style-type: none"> <li>1. Upon successful completion of this course, the student will be able to understand the fundamental principles and concepts governing classical nuclear and particle physics and have a knowledge of their applications interactions of ionizing radiation with matter the key techniques for particle accelerators the physical processes involved in nuclear power generation.</li> <li>2. Knowledge on elementary particles will help students to understand the fundamental constituents of matter and lay foundation for the understanding of unsolved questions about dark matter, antimatter and other research oriented topics.</li> </ol>
<b>VI</b>	<b>USPH604: Special Theory of Relativity</b>	<p>This course introduces students to the essence of special relativity which revolutionized the concept of physics in the last century by unifying space and time, mass and energy, electricity and magnetism. This course also gives a very brief introduction of general relativity. After the completion of the course the student should be able to</p> <ol style="list-style-type: none"> <li>1. Understand the significance of Michelson Morley experiment and failure of the existing theories to explain the null result</li> <li>2. Understand the importance of postulates of special relativity, Lorentz transformation equations and how it changed the way we look at space and time, Absolutism and relativity, Common sense versus Einstein concept of Space and time.</li> <li>3. Understand the transformation equations for: Space and time, velocity, frequency, mass, momentum, force, Energy, Charge and current density, electric and magnetic fields.</li> <li>4. Solve problems based on length contraction, time dilation, velocity addition, Doppler effect, mass energy relation and resolve paradoxes in relativity like twin paradox etc.</li> </ol>
<b>VI</b>	<b>USACEVS6 01 Applied</b>	Learner will gain knowledge about environmental testing and monitoring laboratories, air, water quality.

	<b>Component: Environmental Science and Pollution</b>	<ul style="list-style-type: none"> <li>• Learner will be exposed to the know-how regarding establishing environmental testing and monitoring laboratories. Learner will study and comprehend the treatment practices applied for domestic waste water and industrial effluents.</li> <li>• Learner will be equipped with the knowledge of some alternatives to conventional resources. Learner will gain an insight into the basics of costing, book keeping and accountancy.</li> <li>• Learner will be equipped to apply the concepts in his entrepreneurial ventures. Learner will develop aptitude to examine and assess the outcome of the framework of current biodiversity hotspots and biosphere reserves. <ul style="list-style-type: none"> <li>• Learner will be able to list the different aspects of wildlife photography and inspect the positive and negative aspects of it, also be able to recommend how wildlife photography can support biodiversity conservation.</li> <li>• Learner will be able to assess the future challenges that ecotourism can generate for biodiversity conservation. Learner will ponder upon and find out the what, why, where, whom and which of climate change and global warming.</li> </ul> </li> </ul>
<b>VI</b>	<b>Practicals USPHP07 &amp; USPHP08</b>	<ol style="list-style-type: none"> <li>1. Understanding relevant concepts.</li> <li>2. Planning of the experiments</li> <li>3. Layout and adjustments of the equipments</li> <li>4. Understanding designing of the experiments</li> <li>5. Attempts to make the experiments open ended</li> <li>6. Recording of observations and plotting of graphs</li> <li>7. Calculation of results and estimation of possible errors in the observation of results</li> </ol>
<b>VI</b>	<b>USACEVS6 P1 Practical</b>	<p>Study of physical properties of soil: Temperature, moisture, &amp; texture of soil.</p> <p>Population analysis by Quadrant method &amp; Line transect method.</p> <p>Study of air &amp; noise pollution monitoring device, geospatial instrument. Problems on accounting/costing</p> <p>Study of biodegradable plastic products, bio pesticides brands.</p> <p>Learner will be able to identify and evaluate the effects of the different sources of greenhouse substances.</p>



RAYAT SHIKSHAN SANSTHA'S  
ARTS, SCIENCE AND COMMERCE COLLEGE, MOKHADA, DIST.  
PALGHAR  
DEPARTMENT OF ZOOLOGY

**Programme Name: B.Sc. Zoology**

**Programme Outcomes**

At the completion of B.Sc. (Zoology) the learner will be graduated with following outcomes:

<b>Sr. No.</b>	<b>Programme Outcome</b>
1	The programme course graduate in Zoology will make the learner to be able to classify the animals and draw conservation measures. Further learners will be able to make people aware about wildlife and need of conservation.
2	The learner will know the recent advances in the field of biotechnology, bioinformatics and molecular biology and the learners will be made skilful in handling the instruments in these processes.
3	The physiological, anatomical, embryological aspects of animal life would be well familiar to the learners.
4	The learner will get impetus for the research ideas and will obtain critical thinking abilities and awareness about the ethics of research community.
5	Learners will be sensitized for the social issues like pollution, conservation of resources, epidemiology and issues related with the public health.

## Course Outcomes

<b>Sr. No.</b>	<b>Unit</b>	<b>Outcome</b>
<b>F.Y.B.Sc. Sem. I, Course 1</b>		
<b>Wonders of Animal World, Biodiversity and its Conservation</b>		
1.	Wonders of Animal World	Learners will be made curious for knowing about the amazing world of animals which would enhance their interest for the subject of Zoology
2.	Biodiversity and its Conservation	Learners would gain information on treasure of Biodiversity and its importance.
3.	Footsteps to follow	Learners would know about the previous workers and they will get impetus to work in this area through examples.
<b>F.Y.B.Sc. Sem. I, Course 2</b>		
<b>Instrumentation and Animal Biotechnology</b>		
4.	Laboratory safety, Units and Measurement	Learners will learn how to work safely in the laboratory and avoid accidents.
5.	Animal Biotechnology	Learners will come to know the recent advances in the field of biotechnology
6.	Instrumentation	Students will be made aware of the instrumentation and the equipments which can be used in the Zoological practicals
<b>F.Y.B.Sc. Sem. II, Course 3</b>		
<b>Ecology and Wildlife Management</b>		
7.	Population ecology	Students will be able to learn various aspects of population, its attributes and various ecological aspects
8.	Ecosystem	Learners would be acquainted with the knowledge of ecosystems and their types
9.	National parks and Sanctuaries of India	Learners would learn about the animal conservation strategies and various national parks situated in India
<b>F.Y.B.Sc. Sem. II, Course 4</b>		
<b>Nutrition, Public Health and Hygiene</b>		
10.	Nutrition and Health	Healthy food habits would be inculcated in the life style of learners which may help in preventing diseases.
11.	Public Health and Hygiene	Student will pursue the information regarding health aspects and measures to avoid diseases. They also will acquire knowledge about various diseases.

12.	Common Human Diseases and Disorders	Learner's will get knowledge about causes, symptoms and treatment.
<b>S.Y.B.Sc. Sem. III, Course 5</b>		
<b>Fundamentals of Genetics, Chromosomes and Heredity, Nucleic acids</b>		
13.	Fundamentals of Genetics	Learners would get the knowledge about basics of genetics and principles of inheritance.
14.	Chromosomes and Heredity	Learners would understand the structure of chromosomes and hereditary diseases.
15.	Nucleic acids	Learner would understand the importance of nucleic acids as genetic material and the vital life processes of cell.
<b>S.Y.B.Sc. Sem. III, Course 6</b>		
<b>Study of Nutrition and Excretion , Respiration and circulation, Control and coordination, Locomotion and Reproduction</b>		
16.	Study of Nutrition and Excretion	Learners will get the knowledge about the physiological aspects of nutrition and excretion. Further the unit will showcase the correlation between nutrition and excretion.
17.	Study of Respiration and circulation	Respiratory and circulatory systems are made familiar to the students through this unit.
18.	Control and coordination, Locomotion and Reproduction	Learners would know the concepts of coordination and locomotion in addition to that the unit explains reproductive physiology.
<b>S.Y.B.Sc. Sem. III, Course 7</b>		
<b>Ethology , Parasitology, Economic Zoology</b>		
19.	Ethology	Learners would get information on animal behaviour it's type along with evolutionary significance of animal behaviour.
20.	Parasitology	Learners would understand the general epidemiological aspects of parasites that affect humans and apply preventive measures for those parasites.
21.	Economic Zoology	Learners would learn about various domestic animals and the modern techniques used in animal husbandry.
<b>S.Y.B.Sc. Sem. IV, Course 8</b>		
<b>Origin and evolution of Life, Population genetics and evolution, Scientific Attitude methodology , writing and ethics</b>		

22.	Origin and evolution of Life	Mystery of how the life originated on earth will be resolved through this unit which will lead students to gain interest in the field of Evolutionary studies
23.	Population genetics and evolution	Learner's would understand the concepts of population genetics and evolutionary relationship of population genetics.
24.	Scientific Attitude methodology , writing and ethics	This unit will develop qualities such as critical thinking and analysis, the skills of scientific communication among the learners and they will be made aware of the ethical aspects of research.

#### **S.Y.B.Sc. Sem. IV, Course 9**

#### **Cell Biology, Endomembrane System and Biomolecules**

25.	Cell Biology	Learners would get the knowledge about the plasma membrane and transport system of the cell.
26.	Endomembrane System	Complete endomembrane system of the cell is made available through this unit to the students for better learning.
27.	Biomolecules	The learner will realize the importance of biomolecules and their clinical significance

#### **S.Y.B.Sc. Sem. IV, Course 10**

#### **Comparative Embryology, Aspects of Human Reproduction, Pollution and its effect on organisms**

28.	Comparative Embryology	Learner will be able to understand and compare the different pre- embryonic stages and extra embryonic membranes along with the different types of placenta.
29.	Aspects of Human Reproduction	Learners will be able to understand human reproductive physiology and techniques used.
30.	Pollution and its effect on organisms	The learners will be sensitized about the adverse effects of pollution and control measures.

#### **T.Y.B.Sc. Sem. V, Course 11**

#### **Taxonomy - Invertebrates and Type Study**

31.	Principles of Taxonomy	Learners will get the knowledge of classification of animals and the various basis categories for animal classification.
32.	Kingdom Animalia I	The learners will be familiarized with classification up to phylum Nematelmenthes along with their examples.
33.	Kingdom Animalia	Learners will get an idea of higher groups of



	II	invertebrate animal life, their classification and their peculiar aspects.
34.	Type study: Sepia	Learners will get the detailed knowledge of a mollusc, Sepia, its various systems and body functions.
<b>T.Y.B.Sc. Sem. V, Course 12</b> <b>Haematology and Immunology</b>		
35.	Basic Haematology	Learners will be able to study different basic aspects of hematology, blood its function.
36.	Applied Haematology	Learners will get the knowledge about different applied aspects of hematology, diagnostic techniques and their uses.
37.	Basic Immunology	Learners will come to know the basics of our immune system and structure of antibodies.
38.	Applied Immunology	The learner will understand applied aspects of immunology and various techniques involved in the applied immunology.
<b>T.Y.B.Sc. Sem. V, Course 13</b> <b>Histology, Toxicology, Pathology and Biostatistics</b>		
39.	Mammalian Histology	Learners will get the detailed knowledge about histological aspects of organs related with the digestive system.
40.	Toxicology	Knowledge of different types of toxins and dosage concentration will be made available to the learners through this unit.
41.	General Pathology	Learners will get the knowledge regarding general aspects of pathology and detailed information on various diseases.
42.	Biostatistics	Few of the essential statistical techniques useful in the analysis of biological parameters will be explained to the learners through this unit.
<b>T.Y.B.Sc. Sem. V, Course 14</b> <b>Anatomy and Developmental Biology</b>		
43.	Integumentary system and derivatives	Learner will be able to understand the histology of integument and the importance of various types of epidermal and dermal derivatives along with their functions.
44.	Human Osteology	Learner will get the knowledge on the structure, types and functions of human skeleton.
45.	Muscles of long bones of Human limbs	Learner will be able to understand the types of long limb muscles, its arrangement and their role in body movements
46.	Developmental	Learner get the detailed knowledge of the

	biology of Chick	embryonic development chick.
<b>T.Y.B.Sc. Sem. VI, Course 15</b>		
<b>Taxonomy - Chordates and Type Study</b>		
47.	Phylum Chordata: Group Protochordata and Group Euchordata I	Learners will get the insight of detailed chordate classification along with the functions
48.	Group Euchordata II	Learners will get the knowledge on the characteristics of super class pisces and class amphibia along with the examples.
49.	Group Euchordata III	Learners will understand the characteristic features and examples of class of Reptilia, Aves and Mammalia
50.	Type study: Shark	Type study Shark is the representative model for getting the idea of vertebrate body anatomy and physiology hence learners will be able to know the detailed vertebrate study through the learning of Type Study Shark.
<b>T.Y.B.Sc. Sem. VI, Course 16</b>		
<b>Physiology and Tissue Culture</b>		
51.	Enzymology	Enzymes being important by all aspects, are made available through this unit. This unit will ensure that the learner will get the information on enzyme classification and other aspects of enzymology.
52.	Homeostasis	The learner shall know the adaptive responses of animals to environmental changes for their survival and other insights of homeostasis.
53.	Endocrinology	Learners would acquire the knowledge regarding the endocrine glands their secretions.
54.	Animal Tissue Culture	Learners will get the information on animal tissue culture techniques.
<b>T.Y.B.Sc. Sem. VI, Course 17</b>		
<b>Genetics and Bioinformatics</b>		
55.	Molecular Biology	This unit will let the learner to know about molecular aspects of cell biology, various life processes occurring in the cells, enzymes involved in the cell functioning.
56.	Genetic Engineering	The concept of genetic engineering is made clear to the learners through this unit.
57.	Human Genetics	The learner will get the information on human genetics various genetical disease of human and other aspects of human genetics.

58.	Bioinformatics	Learner will be able to know the application of computer and various software in the field of biological sciences.
<b>T.Y.B.Sc. Sem. VI, Course 18</b>		
<b>Environmental Biology and Zoopharmacognosy</b>		
59.	Environment management	Learner will understand the different factors affecting environment in addition to this the unit will give the information on legislative rules made for the management of environment.
60.	Wildlife Management	Learners will be acquainted with the knowledge of wildlife and its management aspects.
61.	Bioprospecting and Zoopharmacognosy	The learners will be able to know few of the interesting zoological concepts like bioprospecting and Zoopharmacognosy.
62.	Zoogeography	The learners will get knowledge of distribution pattern of animals throughout the earth and different realms present on the earth.



**RAYAT SHIKSHAN SANSTHA'S**  
**ARTS, SCIENCE AND COMMERCE COLLEGE, MOKHADA, DIST.**  
**PALGHAR**  
**DEPARTMENT OF MATHEMATICS**

**Programme Name: B. SC. Mathematics**

**Program outcome**

At the completion of B.Sc. (Mathematics) the learner will be graduated with following outcomes:

<b>Sr. No.</b>	<b>Programme Outcome</b>
1	Ability to acquire in-depth knowledge of Algebra, Calculus, Geometry, Differential equations and several other branches of Mathematics. This also leads to study of related areas like Computer science, Physical science, Chemical science and Life science. Thus, this Program helps learners in building a solid foundation for higher studies in Mathematics
2	Utilize mathematics to solve theoretical and applied problems by critical understanding, analysis and synthesis.
3	Ability to communicate mathematics effectively by written, computational and graphic means.
4	Create mathematical ideas from basic axioms.
5	Ability to apply multivariable calculus tools in Physics, Economics, Optimization and understanding the architecture of curves and surfaces in plane and space etc.

## Course Outcomes

Sr. No.	Unit	Outcome
<b>F.Y.B.Sc. Sem. I&amp; II, Paper 1</b> <b>Calculus-I&amp; Calculus-II</b>		
1.	All units	This course gives introduction to basic concepts of Analysis with rigor and prepares students to study further courses in Analysis. Formal proofs are given lot of emphasis in this course which also enhances understanding of the subject of Mathematics as a whole. The portion on first order, first degree differentials prepares learner to get solutions of so many kinds of problems in all subjects of Science and also prepares learner for further studies of differential equations and related fields.
<b>F.Y.B.Sc. Sem. I&amp; II, Paper 2</b> <b>Algebra-I (Sem. I) &amp; Discrete Mathematics(Sem. II)</b>		
2.	All units	This course gives expositions to number systems (Natural Numbers & Integers), like divisibility and prime numbers and their properties. These topics later find use in advanced subjects like cryptography and its uses in cyber security and such related fields.
<b>S.Y.B.Sc. Sem. III&amp; IV, Paper1</b> <b>Calculus (Sem. III) &amp; Multivariable Calculus I(Sem. IV)</b>		
3.	All units	This course gives introduction to basic concepts of Analysis with rigor and prepares students to study further courses in Analysis. Formal proofs are given lot of emphasis in this course which also enhances understanding of the subject of Mathematics as a whole
<b>S.Y.B.Sc. Sem. III&amp; IV, Paper2</b> <b>Linear Algebra I ( Sem III) &amp; Linear Algebra II (Sem IV)</b>		
4.	All units	This course gives expositions to system of linear equations and matrices, Vector spaces, Basis and dimension, Linear Transformation, Inner product space, Eigen values and eigenvectors.
<b>S.Y.B.Sc. Sem. III, Paper3</b> <b>Ordinary Differential Equations</b>		
5.	All units	Ordinary Differential Equations prepares learner to get solutions of so many kinds of problems in all subjects of Science and also prepares learner for further studies of differential equations and related fields.
<b>S.Y.B.Sc. Sem. IV, Paper 3</b> <b>Numerical Methods</b>		
		Lerner will learn different types of Numerical methods to apply in different fields of Mathematics.

<b>T.Y.B.Sc. Sem. V, Paper1</b>		
<b>Multivariable Calculus II</b>		
6.	All units	In this course students will learn the basic ideas, tools and techniques of integral calculus and use them to solve problems from real-life applications including science and engineering problems involving areas, volumes, centroid, Moments of mass and center of mass Moments of inertia. Examine vector fields and denecand evaluate line integrals using the Fundamental Theorem of Line Integrals and Green's Theorem; compute arc length.
<b>T.Y.B.Sc. Sem. VI, Paper1</b>		
<b>Basic Complex Analysis</b>		
7.	All units	Students Analyze sequences and series of analytic functions and types of convergence, Students will also be able to evaluate complex contour integrals directly and by the fundamental theorem, apply the Cauchy integral theorem in its various versions, and the Cauchy integral formula, they will also be able to represent functions as Taylor, power and Laurent series, classify singularities and poles, find residues and evaluate complex integrals using the residue theorem.
<b>T.Y.B.Sc. Sem. V, Sem. VI Paper2</b>		
<b>Group Theory, Ring Theory (Sem V, Sem VI)</b>		
8.	All units	Students will have a working knowledge of important mathematical concepts in abstract algebra such as definition of a group, order of a finite group and order of an element, rings, Euclidean domain, Principal ideal domain and Unique factorization domain. Students will also understand the connection and transition between previously studied mathematics and more advanced mathematics. The students will actively participate in the transition of important concepts such homomorphisms & isomorphisms from discrete mathematics to advanced abstract mathematics.
<b>T.Y.B.Sc. Sem. V, Sem. VI Paper3</b>		
<b>Topology of metric spaces (Sem V), Topology of metric spaces and real analysis (Sem VI)</b>		
9.	All units	This course introduces students to the idea of metric spaces. It extends the ideas of open sets, closed sets and continuity to the more general setting of metric spaces along with concepts such as compactness and connectedness. Convergence concepts of sequences and series of functions, power series are also dealt with. Formal proofs are given a lot of emphasis in this course. This course serves as a foundation to advanced courses in analysis. Apart from understanding the concepts introduced, the treatment of this course will enable the learner to explain their reasoning about analysis with clarity and rigour.
<b>T.Y.B.Sc. Sem. V, Sem. VI Paper 4 (Elective-C)</b>		
<b>Graph Theory</b>		
10.	All units	Upon successful completion of Graph Theory course, a

		<p>student will be able to:</p> <ol style="list-style-type: none"> <li>1. Demonstrate the knowledge of fundamental concepts in graph theory, including properties and characterization of graphs and trees.</li> <li>2. Describe knowledgeably special classes of graphs that arise frequently in graph theory</li> <li>3. Describe the concept of isomorphic graphs and isomorphism invariant properties of graphs</li> <li>4. Describe and apply the relationship between the properties of a matrix representation of a graph and the structure of the underlying graph</li> <li>5. Demonstrate different types of algorithms including Dijkstra's, BFS, DFS, MST and Huffman coding.</li> <li>6. Understand the concept of Eulerian graphs and Hamiltonian graphs.</li> <li>7. Describe real-world applications of graph theory.</li> </ol>
<p><b>T.Y.B.Sc. Sem. VI, Paper 4 (Elective-C)</b>  <b>Graph Theory and Combinatorics</b></p>		
11.	All units	<p>Upon successful completion of Graph Theory course, a student will be able to:</p> <ol style="list-style-type: none"> <li>1. Understand and apply the basic concepts of graph theory, including colouring of graph, to find chromatic number and chromatic polynomials for graphs</li> <li>2. Understand the concept of vertex connectivity, edge connectivity in graphs and Whitney's theorem on 2-vertex connected graphs.</li> <li>3. Derive some properties of planarity and Euler's formula, develop the under-standing of Geometric duals in Planar Graphs</li> <li>4. Know the applications of graph theory to network flows theory.</li> <li>5. Understand different applications of system of distinct representative and matching theory.</li> <li>6. Use permutations and combinations to solve counting problems with sets and multi sets.</li> <li>7. Set up and solve a linear recurrence relation and apply the inclusion/exclusion principle.</li> <li>8. Compute a generating function and apply them to combinatorial problems.</li> </ol>

RAYAT SHIKSHAN SANSTHA'S  
ARTS, SCIENCE AND COMMERCE COLLEGE, MOKHADA, DIST.  
PALGHAR  
DEPARTMENT OF BOTANY

**Programme Name: B.Sc. Botany**

<p><b>Programme Outcomes</b></p>	<ol style="list-style-type: none"> <li>1. Identify the different groups of botany and appreciate plant diversity</li> <li>2. Understand the importance of plants, their diversity and its conservation.</li> <li>3. Understand the current developments in the different areas of botany</li> <li>4. Understand contribution of botany in increase and improve our supply of medicines, food, fibers and other plant products.</li> <li>5. Understand health and environmental protection and to solve the pollution problems.</li> <li>6. Understand knowledge of botany is an essential pre-requisite for the pursuit of many applied sciences like Agriculture, Horticulture, Sericulture, Forestry, Pharmacology and Medicine.</li> <li>7. Analyze and apply the methodologies and techniques learnt during the course of studying botany</li> <li>8. Share social and environmental consciousness with their fellow citizens.</li> <li>9. Organize and deliver relevant applications of knowledge through effective written, verbal, graphical/virtual communications and interact productively with people from diverse backgrounds</li> </ol>
<p><b>Course Outcomes</b></p>	<p><b>CO. 101 F. Y. B. Sc. Sem I - Paper I -Plant Diversity</b></p> <ul style="list-style-type: none"> <li>✓ Understand the diversity among Algae.</li> <li>✓ Know the systematic, morphology and structure, of Algae.</li> <li>✓ Understand the life cycle pattern of Algae.</li> <li>✓ Understand the useful and harmful activities of Algae.</li> <li>✓ Understand the Biodiversity of Fungi</li> <li>✓ Know the Economic Importance of Fungi</li> </ul>



✓ Understand the morphological diversity of Bryophytes.

✓ Understand the economic importance of the Bryophytes.

**CO.102. F. Y. B. Sc. sem-I –Paper II –Form and function-I**

✓ To understand basic units of the organism.

✓ To know components of the cell and their division.

✓ To differentiate the organism by its cell structure.

✓ To understand energy pyramids in detail.

✓ To know the various types of ecosystem.

✓ To understand the “Science of Heredity”.

✓ To understand linkage, segregation and mutation of genes.

✓ To understand phenotypic, genotypic ratios and epistatic, non-epistatic interactions.

**CO. 201. F. Y. B. Sc. Sem- II- Paper-I Plant Diversity-I**

✓ Identify different plant groups using representative life forms.

✓ Understand similarities & differences among these groups at least at macroscopic level.

✓ Appreciate their economic importance, ecological & environmental significance.

✓ Understand Angiosperm plant families and their economic importance

✓ Understand leaf and inflorescence morphology

**CO.202 F.Y. B. Sc. Sem II Paper II Form and Function I**

✓ To study simple tissues and complex tissues.

✓ To study primary structure of dicot and monocot root, stem, leaf.

✓ To study epidermal tissue system such as types of hair and stomata.

✓ To study photosynthesis in detail.

✓ To understand light reaction, photolysis of water and photophosphorylation pathway.

✓ To know concept of primary and secondary metabolites and difference between primary and secondary metabolites.

✓ To study the various types of medicinal plants and their uses.

**CO.301. S. Y. B. Sc. Sem- III- Paper-I Plant diversity-II**

- ✓ Understand Modern Techniques to study of Plant Diversity
- ✓ Identify different plant groups using representative life forms.
- ✓ Understand the diversity of Brown Algae
- ✓ Know the systematic position, range of variation and economic importance of brown algae.
- ✓ Know the systematic position and life cycle of Bryophytes
- ✓ Have a better understanding of plant morphology terminology.
- ✓ Understand Angiosperm plant families and their economic importance
- ✓ Understand the nomenclatural problems.

**CO.302 S.Y. B. Sc. Sem III Paper II Form and Function II**

- ✓ To understand the basic unit of the organism.
- ✓ To differentiate the organism by its cell structure.
- ✓ To know components of the cell and their division.
- ✓ Provide an understanding of the laboratory methods used to identify and analyse.
- ✓ To understand cytogenetics alteration and relationship to specific clinical expression.

**CO. 303. S. Y. B. Sc. Sem-III - Paper III -Current Trends in Plant Science**

- ✓ The study of Economic botany helps to the importance and uses of plant and plant parts.
- ✓ Ethnobotany give a chance to familiarize the traditionally useful medicinal plants.
- ✓ To equip the students with skills related to laboratory as well as industries based
- ✓ studies.
- ✓ Understand the role plants in human welfare.
- ✓ Gain knowledge about various plants of economic use.
- ✓ Know importance of plants & plant products.

- ✓ Understand the chemical contents of the plant products.
- ✓ Know about the utility of plant resources.
- ✓ Forestry provides a focused lense through which to understand, influence and practice
- ✓ sustainable resource management and utilization, as well as sustainable development.
- ✓ Become aware of applications of different plants in various industries.
- ✓ To highlight the potential of these studies to become an entrepreneur.

**CO. 401. S. Y. B. Sc. Sem-IV- Paper I - Plant Diversity**

- ✓ Understand the Biodiversity of Fungi
- ✓ Know the Economic Importance of Fungi.
- ✓ Know the terminologies in plant pathology.
- ✓ Understand the scope and importance of Plant Pathology.
- ✓ Know the prevention and control measures of plant diseases and its effect on economyof crops.
- ✓ Understand the morphological diversity of Pteridophytes and Gymnosperms.
- ✓ Understand the economic importance of the Pteridophytes and Gymnosperms.
- ✓ Know the evolution of Pteridophytes and Gymnosperms.
- ✓ Know the scope of Paleobotany, types of fossils, its role in global economy and geological time scale.
- ✓ Understand the various fossil genera representing different fossil groups.

**CO.402-S.Y.B.Sc.sem-IV-paper-II-Form and function-II**

- ✓ To study the normal secondary growth in dicotyledonous stem and root.
- ✓ To understand the mechanical tissue system in detail.
- ✓ To study the types of vascular bundles.
- ✓ To understand the process of respiration and their pathways.

- ✓ To study the process of photorespiration and photoperiodism in detail.
- ✓ To study biogeochemical cycles includes carbon, Nitrogen and water in detail.
- ✓ Study of ecological factors, soil as edaphic factor and their types.
- ✓ To study the community ecology in detail.

**CO. 403. S. Y. B. Sc. Sem- IV- Paper-III Current Trends in Plant Sciences-I**

- ✓ Understand the types and locations of gardens
- ✓ Know the national parks and botanical gardens
- ✓ Understand the plant tissue culture techniques
- ✓ Understand the gene cloning and vector used for gene cloning
- ✓ Know the chi square test and coefficient of correlations
- ✓ Understand the bioinformatics, BLAST and bioinformatics programme in India

**CO. 501. T. Y. B. Sc. Sem-V- Paper I - Plant Diversity**

- ✓ Over view of the microbial world, its structure and function.
- ✓ Familiar with the tools and techniques used in Microbiology.
- ✓ Familiarize the learner with the applied aspects of microbiology.
- ✓ Understand the concept, principle and types of sterilization methods.
- ✓ Developing interest in plant diversity.
- ✓ Developing skill of identification of Algae, Fungi.
- ✓ To study in depth about algae and fungi.
- ✓ Know the terminologies in plant pathology
- ✓ Understand the scope and importance of Plant Pathology
- ✓ Know the control measures of plant diseases.
- ✓ Studying basic knowledge of pathogens, diseases and their control.

**CO. 502. T. Y. B. Sc. Sem- V- Paper-II Plant Diversity -IV**

- ✓ Understand the fossil genera of plants
- ✓ Have a better understanding of plant morphology terminology

- ✓ Understand Angiosperm plant families & respective genera using proposed
- ✓ classification systems & standard floras & use identification keys
- ✓ Understand key methods and principles of angiosperm classification
- ✓ Understand anomalous secondary growths of stem and roots of plants
- ✓ To study of pollen morphology, analysis and viability

**CO.503-T.Y.B.Sc.sem-V-Paper-III-Form and function-II**

- ✓ To study the structure and functions of cell organelles in detail.
- ✓ To understand the giant chromosome and their types.
- ✓ To understand the concept of genetic code and process of transcription and translation in eukaryotes.
- ✓ To study the water relations in plants and solute transport.
- ✓ To study the translocation of solutes and their models in detail.
- ✓ To study the process of bioremediation and phytoremediation in detail.
- ✓ To understand the plant succession and their poly and monoclimax theories.
- ✓ To study the micropropagation techniques and plant cell suspension culture for the production of secondary metabolites.
- ✓ To study the techniques of protoplast fusion and somatic hybridization.

**CO.504. T. Y. B. Sc Sem V Paper IV Current Trends in Plant sciences I**

- ✓ To explain basic concept about ethnobotany.
- ✓ To express the historical development of ethnobotany.
- ✓ To explain the construction of c DNA and genomic library.
- ✓ To understand the step involved in recombinant DNA technology.
- ✓ Introduce the basic concept of qualitative analysis of a given sample.
- ✓ Discuss the terms, principle, instrumentation operation of spectroscopic techniques.
- ✓ To study medicinal plant and their uses.

**CO. 601. T. Y. B. Sc. Sem-VI - Paper I -Plant Diversity**

- ✓ Interpret the performance characteristics and life cycles of various lower plants.
  - ✓ Developing skill of identification of Bryophytes, pteridophytes and Gymnosperms.
  - ✓ Diversity in vascular plant.
  - ✓ Characters of vascular plants and classification of plants.
  - ✓ External & internal characters of plants.
  - ✓ Aware the students to understand the evolution and its importance.
- CO. 602. T. Y. B. Sc. Sem- VI- Paper-II Plant Diversity -IV**
- ✓ To study of Major Botanic gardens of India
  - ✓ Know the regional circles of botanical survey of India
  - ✓ Understand Angiosperm plant families & respective genera using proposed
  - ✓ classification systems & standard floras & use identification keys.
  - ✓ Understand Hutchinson's classification
  - ✓ Understand embryology and development of embryo in plants
  - ✓ Study anatomical peculiarities of different groups by using live specimens and micro preparation.
- C0.603-T.Y.B.Sc. Sem-VI-Paper-III-Form and function-III**
- ✓ To study the structure and of biomolecules includes carbohydrate, lipid and protein in detail.
  - ✓ To understand the structure of enzymes, their nomenclature and types in detail.
  - ✓ To study the Nitrogen metabolism includes nitrogen cycle, root nodule formation, nitrogenase activity.
  - ✓ Physiological effects and applications of auxin, gibberellins, cytokinins and abscissic acid.
  - ✓ To study the genetic mapping in eukaryotes, genetic linkage, three point crosses and their problems.
  - ✓ To study the gene mutations, types of mutations in detail.

- ✓ To understand the metabolic disorders caused by genetic mutations.
- ✓ To study the organization of biological data and databases, BLAST.
- ✓ To study the protein structure analysis, multiple sequence analysis and phylogenetic analysis.

**CO.604. T.Y.B.Sc. Sem VI Paper IV Current Trends in Plant sciences II**

- ✓ To understand the step involved in recombinant DNA technology.
- ✓ To study various techniques of DNA sequencing.
- ✓ To study DNA barcoding and its basic features.
- ✓ To study various phytogeographical regions of India with respect to definition, diversity of flora found in various forest types of India.
- ✓ To study evolution of biodiversity.
- ✓ To study methods of extraction of essential and fatty oils.
- ✓ To study drying oil semidrying oil non-drying oil.
- ✓ To study storage and preservation techniques of fruits and vegetable.



**RAYAT SHIKSHAN SANSTHA'S**  
**ARTS, SCIENCE AND COMMERCE COLLEGE, MOKHADA, DIST.**  
**PALGHAR**  
**DEPARTMENT OF HISTORY**

**Programme Name: BA History**

**Program outcome**

At the completion of BA History the learner will be graduated with following outcomes:

<b>Sr. No.</b>	<b>Programme Outcome</b>
1	To make the learners aware about landmark historical events, political systems, geographical and social aspects of Regional, National and International level
2	To impart linguistic skills and proficiency to the learners about the literature-ancient, Regional, National and International level
3	To sensitize students towards social climate and culture & curiosity for Research.
4	To equip the learners with the skills of citizenship
5	To make the learners aware about Philosophical thoughts - Indian and Western
6	Students are made aware of freedom from within Nationalism.
7	Creating a love of History for students through the outreach programme.
8	Thoughtful personalities can be formed from the History Course.
9	Historical heritage is use to provide tourism and job opportunities. The learner will be well acquainted with the knowledge which will help them to become entrepreneur and/or to serve the nation for the betterment of society



## Course Outcomes

Sr. No.	Unit	Outcome
<b>F.Y.B.A. Sem. I&amp; II, Core Course - I</b>		
1	<b>History of Modern India</b>	The course is designed to make the student aware about the making of modern India and the struggle for independence.
<b>S.Y.B.A. Sem. III&amp; IV, Core Course - II</b>		
2	<b>Landmarks in World History, 1300 A.D.-1945 A.D.</b>	<ol style="list-style-type: none"> <li>1. To enable the students to comprehend the transition of Europe from medieval to modern times and its impact on the world.</li> <li>2. To provide accurate knowledge of the most significant events and personalities of the period under study and encourage understanding of the making of the modern world.</li> </ol>
<b>S.Y.B.A. Sem. III&amp; IV, Core Course - III</b>		
3	<b>Ancient India from Earliest Times to 1000 A.D.</b>	<ol style="list-style-type: none"> <li>1. To acquaint the students with different sources of Ancient Indian History.</li> <li>2. To enable the students to understand the political, socio-economic and cultural developments in the period under study and appreciate the rich cultural heritage in India</li> </ol>
<b>T.Y.B.A. Sem. V, Core Course -IV</b>		
4	<b>History of Medieval India (1000 CE – 1526 CE)</b>	<ol style="list-style-type: none"> <li>1. To acquaint the students with the history of early Medieval India that laid the foundation of the Sultanate in India.</li> <li>2. To study the contribution of Vijayanagar and Bahamani kingdoms to Medieval Indian History.</li> <li>3. To examine the administrative, socio-economic and cultural aspects of Medieval India.</li> </ol>
<b>T.Y.B.A. Sem. VI, Core Course -IV</b>		
5	<b>History of Medieval India (1526 CE – 1707 CE)</b>	<ol style="list-style-type: none"> <li>1. To acquaint the students with the history of India since the emergence of the Mughal rule.</li> <li>2. To understand administration of the Mughal Empire.</li> <li>3. To study the rise of the Maratha Power.</li> </ol>
<b>T.Y.B.A. Sem. V, core Course - V</b>		

6	<b>History of Modern Maharashtra (1818 CE-1960 CE)</b>	<ol style="list-style-type: none"> <li>1. To acquaint students with regional history.</li> <li>2. To understand political and socio-economic developments during the 19th and 20th centuries.</li> <li>3. To create understanding of the movement that led to the formation of Maharashtra.</li> </ol>
<b>T.Y.B.A. Sem. VI, core Course - V</b>		
7	<b>History of Contemporary India (1947 CE-2000 CE)</b>	<ol style="list-style-type: none"> <li>1. To understand the process of making the Constitution and the Integration and Reorganization of Indian States.</li> <li>2. To acquaint the students with the political developments in India after Independence.</li> <li>3. To comprehend the socio-economic changes and progress in science and technology in India.</li> </ol>
<b>T.Y.B.A. Sem. V, Elective Course – VI A</b>		
8	<b>Introduction to Archaeology</b>	<ol style="list-style-type: none"> <li>1. To understand the basic facets of Archaeology.</li> <li>2. To evaluate the importance of Epigraphy.</li> <li>3. To study the importance of Numismatics as an important source of history.</li> </ol>
<b>T.Y.B.A. Sem. VI, Elective Course – VI</b>		
9	<b>Introduction to Museology and Archival Science</b>	<ol style="list-style-type: none"> <li>1. To inform the students about the role of Museums in the preservation of Heritage.</li> <li>2. To understand the importance of Archival Science in the study of History.</li> <li>3. To encourage students to pursue careers in various Museums and Archives in India and abroad.</li> </ol>
<b>T.Y.B.A. Sem. VI, Core Course – VII</b>		
10	<b>History of the Marathas (1630 CE -1707 CE)</b>	<ol style="list-style-type: none"> <li>1. To introduce the students to the regional history of Maharashtra.</li> <li>2. To familiarize students with the literary sources of the history of the Marathas.</li> <li>3. To help students to understand the forces leading to the establishment of Maratha power under Chhatrapati Shivaji Maharaj.</li> </ol>
<b>T.Y.B.A. Sem. VI, Core Course – VII</b>		
11	<b>History of the Marathas (1707 CE – 1818 CE)</b>	<ol style="list-style-type: none"> <li>1. To enable the students to understand the processes that led to the expansion of the Maratha Power.</li> <li>2. To appreciate the contribution of the Marathas in the national politics of the 18th century.</li> <li>3. To develop an understanding of the society and culture in Maharashtra in the 18th century.</li> </ol>
<b>T.Y.B.A. Sem. V, Core Course - VIII</b>		

12	<b>History of Contemporary World (1945 CE - 2000 CE)</b>	<ol style="list-style-type: none"> <li>1. To trace some of the major events of post-World War II period.</li> <li>2. To understand the significance of these events.</li> <li>3. To comprehend the ways in which events of the latter half of the twentieth century have influenced the present.</li> </ol>
<b>T.Y.B.A. Sem. VI, Core Course - VIII</b>		
13	<b>History of Asia (1945 CE-2000 CE)</b>	<ol style="list-style-type: none"> <li>1.To acquaint the students with some of the major changes that occurred in Asia after World War II.</li> <li>2.To understand the ways in which Asian nations resisted and defied the control of the West.</li> <li>3.To comprehend some of the trends that emerged in Asia.</li> </ol>
<b>T.Y.B.A. Sem. V, Elective Course – IX B</b>		
14	<b>Introduction to Heritage Tourism</b>	<ol style="list-style-type: none"> <li>1. To develop an understanding of Heritage Tourism amongst students.</li> <li>2. To introduce the students to new trends in Heritage Tourism.</li> <li>3. To prepare the students for careers in Tourism industry.</li> </ol>
<b>T.Y.B.A. Sem. VI, Elective Course – IX B</b>		
15	<b>Heritage Tourism in Maharashtra</b>	<ol style="list-style-type: none"> <li>1. To introduce students to the Cultural Heritage of Maharashtra</li> <li>2. To understand various resources of Heritage Tourism in Maharashtra</li> <li>3. To acquaint the students with the relevance and scope of Heritage Tourism</li> </ol>

Rayat Shikshan Sanstha's,  
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**Programme Name: B. A. (ECONOMICS)**

**Programme Outcomes**

<b>Sr. No.</b>	<b>Programme Outcome</b>
1.	Gain of the knowledge, skill and techniques expected from B. A. Economics programmer.
2.	To Acquire knowledge about micro and macro economics
3.	Learn the new market structure and imperfect competition
4.	To Acquire knowledge about fiscal and monetary Policies
5.	Gain the knowledge about Indian Agriculture sector
6.	Understand the determination of price and output under different market structure
7.	Obtain the knowledge of Agriculture economy
8.	Understand the importance and Influence of environment from the point of view of economic development.
9.	Apply conceptual understanding of the Economics to general real-world situations
10.	Discover of economics concepts in other disciplines such as statistics, social science, geography, and political science.

## Course Outcomes

Sem.	Course	Outcomes
<b>I</b>	<b>UBA1.35 Micro Economics-I</b>	<ol style="list-style-type: none"> <li>1. Students will understand general economic concepts (supply &amp; demand, comparative advantage, opportunity cost, gain from trade etc.)</li> <li>2. Students will understand micro-economic concepts (Unemployment, Market, elasticity, revenue etc.)</li> <li>3. Students will be able to identify and solve complex economic problems faced by Markets structure.</li> </ol>
<b>II</b>	<b>UBA2.35 Micro Economics-II</b>	<ol style="list-style-type: none"> <li>1. Students will understand general economic concepts (Production Function, cost and revenue analysis, theories of distribution and understanding about the market structure)</li> <li>2. Students will understand the concepts of Micro Economics and Production Analysis.</li> <li>3. Students will understand scenario of Cost &amp; Revenue Analysis.</li> <li>4. Students will learn Factor Pricing.</li> </ol>
<b>III</b>	<b>UAECO301 Macro Economics- I</b>	<ol style="list-style-type: none"> <li>1. Students will understand the concepts of Macro Economics and National Income.</li> <li>2. Students will understand scenario Consumption and Investment.</li> <li>3. Students will learn Supply of Money and Demand for Money.</li> <li>4. Students will get with key problems of Banking.</li> </ol>
<b>III</b>	<b>UAECO302 Public Finance</b>	<ol style="list-style-type: none"> <li>1. Students will understand the concepts of Public Finance.</li> <li>2. Students will understand the concepts of Fiscal Policy: Budget and Taxation.</li> <li>3. Students will learn Fiscal Policy: Public Expenditure and Debt.</li> <li>4. Understand the concepts of Indian Public Finance &amp; GST.</li> </ol>
<b>IV</b>	<b>UAECO401 Macro Economics-II</b>	<ol style="list-style-type: none"> <li>1. To study the Inflation.</li> <li>2. To study the nature and scope Economic Policy</li> <li>3. To study the importance Post Keynesian Economics.</li> <li>4. To study the External Sector.</li> </ol>
<b>IV</b>	<b>UAECO4012 Indian Economy</b>	<ol style="list-style-type: none"> <li>1. Students will understand the Introductory part of Indian Economy.</li> <li>2. Students will understand scenario of Agricultural Sector. Students will learn Industrial Sector.</li> <li>3. Students will get basic idea of Service Sector.</li> </ol>

V	<b>ECOAME501</b> <b>Advanced Microeconomics– III</b>	<ol style="list-style-type: none"> <li>1. Enables students to get knowledge on new market structure, imperfect competition.</li> <li>2. Provides understanding on the welfare economics and economics of information</li> </ol>
V	<b>ECOGAD502</b> <b>Economics of Growth and Development</b>	<ol style="list-style-type: none"> <li>1. Enable students to apply and analysis issues in the development process.</li> <li>2. Students will be able to identify the issues related to Growth and Development 3p Students will be able to understand the policy options and analyzed the Measures taken for the Development of an economy.</li> </ol>
V	<b>ECOACB503</b> <b>Economics of Agriculture and Co-Operation-I</b>	<ol style="list-style-type: none"> <li>1. Students will obtain information regarding various agricultural issues in India and remedies for it.</li> <li>2. Making awareness about self- employment through various local business like agro- tourism, travel agents, horticulture, floriculture, fishery and animal husbandry.</li> </ol>
VI	<b>ECOAME601</b> <b>Advanced Macroeconomics- III</b>	<ol style="list-style-type: none"> <li>1. To make students aware about Post Keynesian Synthesis and understand various aspects of Trade Cycles.</li> <li>2. Students will be able to describe the contemporary Exchange Rate Regimes and International Monetary System.</li> </ol>
VI	<b>ECOIE602</b> <b>International Economics</b>	<ol style="list-style-type: none"> <li>1. Students will be able to understand the trade theories and determinants of trade which helps them to analyze the international trade policies.</li> <li>2. Students will be able to understand the role of various international institutions and trade blocks and their approaches in framing the policies for trade.</li> </ol>
VI	<b>ECOACB603</b> <b>Economics of Agriculture and Co-Operation-II</b>	<ol style="list-style-type: none"> <li>1. Students can understand the basic Principles of Cooperation, Globalization and Cooperation.</li> <li>2. Provides information about co-operative Movement in India and its performance and role in rural development.</li> <li>3. Students get introduced to the problems and measures of agro industries and Cooperative farming and Leadership in cooperative development.</li> </ol>



RAYAT SHIKSHAN SANSTHA'S  
ARTS, SCIENCE AND COMMERCE COLLEGE, MOKHADA, DIST.  
PALGHAR  
DEPARTMENT OF MARATHI

**Programme Name: BA Marathi**

**Program outcome**

After the completion of B.A. (Marathi) the learner will be graduated with following outcomes:

<b>Sr. No.</b>	<b>Programme Outcome</b>
1	Realization of moral, ethical and human values
2	Responsible and dutiful citizens
3	Inculcation of creative abilities
4	Awareness about environmental consciousness
5	Students will be introduced to various literary streams in Marathi literature.

## **Course Outcomes**





**RAYAT SHIKSHAN SANSTHA'S**  
**ARTS, SCIENCE AND COMMERCE COLLEGE, MOKHADA, DIST.**  
**PALGHAR**  
**DEPARTMENT OF COMMERCE**

**Programme Name: B. Com.**

**Program outcome**

Students who have taken admission to this program of B.Com are expected to concentrate upon the following outcomes.

<b>Sr. No.</b>	<b>Programme Outcome</b>
1	Commercial sense.
2	Budgeting policy.
3	Entrepreneurial skill.
4	Develop managerial skills.
5	Human Resources Management.
6	Develop Numerical ability.
7	To inculcate knowledge of accountancy.
8	Well versed with business regulatory framework.
	Understanding basic concepts of accountancy, principles of accountancy and accounting standards to maintain accounts of trading & non-trading organizations.
	Getting acquainted with the procedure of preparation of income statements, retained earnings, balance sheet and statement of working capital which are required for external users and more useful to managers for managerial decision making.
	Inculcating different skills for analysis and interpretation of financial data to understand financial health of an organization and ensure that resources are being used to achieve the organizations objectives.
	Developing knowledge about cost ascertainment and fixation of selling price and cost control.
	Getting working knowledge of generally accepted auditing procedure,

	techniques and skills.

### **Course Outcomes**

Sr. No.	Unit	Outcome
<b>F Y.B.Com.</b>		
<b>Accountancy and Financial Management P. I &amp; II</b>		
1.	All units	1. Understanding the concepts of financial Accounting. 2. Exposure to nature and advantages of Accounting, Accounting concepts and conventions, Accounting Standards. 3. Preparation of Final Accounts of Manufacturing concern and departments. 4. Accounting for hire purchase.

		<p>5. Getting knowledge about accounting procedure of single entry system, branch accounts and consignment accounts.</p> <p>6. Accounting for fire insurance claim.</p>
<b>Business Development P.I &amp; II</b>		
2.	All units	<p>1. Getting knowledge of business &amp; objectives of business.</p> <p>2. Creating knowledge about business environment.</p> <p>3. Getting knowledge of project planning.</p> <p>4. Getting acquainted with entrepreneurship.</p> <p>5. Developing knowledge about concept of services.</p> <p>6. Developing knowledge about retailing.</p> <p>7. Getting knowledge of recent trends in service sector.</p> <p>8. Creating knowledge about E-Commerce.</p>
<b>S. Y.B.Com.</b>		
Accountancy and Financial Management P. III & IV		
3.	All units	<p>1. Understanding basic concepts of partnership final accounts based on adjustment of admission or retirement /death of partner.</p> <p>2. Getting acquainted with the procedure of piecemeal distribution of cash on liquidation of partnership firm.</p> <p>3. Understanding the accounting procedure of amalgamation.</p> <p>4. Getting acquainted with company accounts.</p> <p>5. Developing knowledge about redemption of</p>

		<p>preference share.</p> <p>6. Developing knowledge about redemption of debentures.</p> <p>7. Obtaining the knowledge of various provisions about profit prior to incorporation.-</p>
<b>Financial Accounting and Auditing P. V &amp; VI</b>		
<b>Management Accounting</b>		
4.	All units	<p>1. Creating knowledge about vertical arrangement of income statement and balance sheet.</p> <p>2. Developing knowledge about preparation of common size statement, comparative statement and trend analysis.</p> <p>3. Developing knowledge about computing ratios.</p> <p>4. Developing knowledge about estimation of working capital requirement.</p> <p>5. Developing knowledge about project evaluation techniques.</p>
<b>Auditing</b>		
5.	All units	<p>1. Knowledge about auditing principles and techniques of auditing.</p> <p>2. Getting knowledge of vouching of cash and credit transactions.</p> <p>3. Knowing the appointment procedure of auditor.</p> <p>4. Getting knowledge of verification of cash and credit transactions.</p> <p>5. Knowledge about writing of audit reports.</p>
<b>Principles of Management and Finance P.III &amp; IV</b>		
		<p>1. Getting acquainted with management, evolution of management thoughts and modern management</p>

		<p>approach.</p> <p>2. Getting knowledge of planning &amp; decision making.</p> <p>3. Creating knowledge about organising.</p> <p>4. Developing knowledge about directing and controlling.</p> <p>5. Developing knowledge about production &amp; inventory management.</p> <p>6. Getting knowledge of quality management.</p> <p>7. Creating knowledge about Indian financial system.</p> <p>8. Creating knowledge about recent trends in finance.</p>
<b>Business Law P.I &amp; II</b>		
6.	All units	<p>1. Introduction to business law as well as other laws.</p> <p>2. Achieving the knowledge of Indian contract.</p> <p>3. Knowing the information the sale of good act, 1932.</p> <p>4. Awareness of legal liability of the negotiable instrument.</p> <p>5. Developing the knowledge about company act.</p> <p>6. Creating legal awareness among the students about partnership act.</p> <p>7. Acquainting with the Consumer Protection act and competition act.</p> <p>8. Understanding the intellectual property right length.</p>
<b>T. Y.B.Com.</b>		
<b>Financial Accounting and Auditing P. VII &amp; IX</b>		
Financial Accounting		
7.	All units	1. Creating knowledge about the issue of shares and

		<p>debentures of the company.</p> <p>2. Attainment of knowledge about accounting procedure of company final account.</p> <p>3. Understanding the accounting procedure for amalgamation and absorption of company</p> <p>4. Ability to get the knowledge about valuation of shares.</p> <p>5. Understanding the accounting procedure of liquidation of Ltd. company.</p> <p>6. Understanding the transactions of foreign currency.</p>
<p><b>Financial Accounting and Auditing P. VIII &amp; X</b></p> <p><b>Cost Accounting</b></p>		
8.	All units	<p>1. Creating knowledge about accounting for material, labour and overheads.</p> <p>2. Developing knowledge about preparation of cost sheets, tenders, quotations, etc. and reconciliation of cost accounts with financial accounts.</p> <p>3. Developing knowledge about preparation of cost control accounts.</p> <p>4. Developing knowledge about procedure for accounting for contract accounts and process accounts.</p> <p>5. Developing knowledge about accounting for marginal and standard costing.</p>
<p><b>Marketing &amp; Human Resource Management P.V &amp; VI</b></p>		
9.	All units	<p>1. Developing knowledge about marketing and marketing research</p>

	<ol style="list-style-type: none"><li>2. Getting knowledge of marketing mix</li><li>3. Creating knowledge about marketing ethics</li><li>4. Getting acquitted with key marketing dimension</li><li>5. Creating knowledge about introduction to human resource management</li><li>6. Developing knowledge about human recourse development</li><li>7. Getting acquitted with human relations</li><li>8. Developing knowledge about current issue in human resource management</li></ol>
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**Rayat Shikshan Sanstha's**  
**Arts & Science & Commerce Science College, Mokhada**  
**Department of English**  
**Programme Name: B.A. English**  
**Programme Outcome**

<b>Sr.No</b>	<b>Programme Outcome</b>
1	Students will develop oral and written communication skills in the English language.
2	Students will learn business ethics with the help of writing skills
3	Awareness about environmental consciousness.
4	Development of employability and soft-skills.
5	Students should be able to understand the process of communicating and interpreting human experiences.

**Course Outcome**

<b>Sem.</b>	<b>Course</b>	<b>Outcomes</b>
I	UASCS101 Communication skills in English	<ol style="list-style-type: none"> <li>1. The learner will learn to understand and interpret any text they are reading from different perspectives.</li> <li>2. Learner will acquire proficiency in the skills of listening; speaking reading and writing that will help them meet the challenge of the world.</li> <li>3. Students enhance comprehension skills.</li> </ol>
II	Communication skills in English UASCS201	<ol style="list-style-type: none"> <li>1. Students learn usage of English language with the help of variety of English.</li> <li>2. Students enhance reading competencies.</li> <li>3. Students develop various skills such as presentation skills , interview skills, group discussion skills.</li> </ol>
I	Business Communication UBCOMFSI.4	<ol style="list-style-type: none"> <li>1. Students develop awareness of the complexity of the communication process</li> <li>2. To develop effective listening skills in students so as to enable them to comprehend instructions and become a critical listener</li> <li>3. Develop effective oral skills so as to enable students to speak confidently interpersonally as well as in large groups</li> <li>4. To develop effective writing skills so as enable students write in a clear, concise, persuasive and audience centered manner</li> <li>5. Develop ability to communicate effectively with the help of electronic media.</li> </ol>
II	Business Communication	<ol style="list-style-type: none"> <li>1. Students learn group communication skills like interview, group discussion public relations and committees.</li> </ol>



	USBCOMFSII.4	<p>2. Students able to face crises management</p> <p>3. Students should be able to enhance his listening ,speaking ,reading and writing skills to meet the challenges of the world</p>
I	<p>Foundation course I</p> <p>UBAFSI.6.1</p>	<p>1. Students understand the multi cultural diversity of Indian society.</p> <p>2. Students understand inequalities faced by people with disabilities and issues of people physical and mental disabilities.</p> <p>3. Students understand Indian constitution and political party system.</p>
II	<p>Foundation course I</p> <p>UBAFSII.6.1</p>	<p>1. Students learn liberalization ,privatization and globalization</p> <p>2. Students learn management of stress and conflict in today's challenging world.</p> <p>3. Students inculcate human values and ethics in the society.</p>
III	<p>Foundation course II</p> <p>UAFC301</p>	<p>1. General Problem-Solving Skills</p> <p>2. Communication Skills</p> <p>3. Stress and Conflict Management</p> <p>4. Understanding Other Disciplines</p> <p>5. Time Management</p> <p>6. Groom student to live dignified life.</p>
IV	<p>Foundation course II</p> <p>UAFC401</p>	<p>1. Realization of moral, ethical and human values.</p> <p>2. Students understand about issue related to human rights, violations and environmental ethics.</p> <p>3. Students get basic information on competitive examinations.</p> <p>4. Students understand the need, uses and advantage of the technology.</p>

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**Tal-Mokhada Dist. Palghar**

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**Course Outcomes**

<b>Sem</b>	<b>Course</b>	<b>Outcomes</b>
<b>I</b>	Fundamentals of Psychology-UAPSY 101	After successful completion of this course students will be able to: 1. Understand Identity the parts of neuron and the function of each. 2. Identify the structures of the brain they are involved in emotion, learning, memory 3. Understand the concepts of classical conditioning as demonstrated in Pavlov classic experiment. 4. Identify the three processes of memory. 5. Understand the biological bases of memory
<b>II</b>	Fundamentals of Psychology-UAPSY 201	1. Knowledge of this subject student are understood Emotions are a part of everything we do affection our relationships with others and our own health, as well as influencing important decision. 2.Learners will understand how mental images are involved in the process of thinking. 3. students understood the theories of Personality.
<b>III</b>	Social Psychology-UAPSY 301	1 Learners will be understanding of the basic concepts of Compliance. 2.Importance of nonverbal cues in job interviews.
<b>IV</b>	Social Psychology-UAPSY 401	1.Learners will be understood how groups and norms influence our behavior. 2. understood concept of Prejudice and stereotyping and techniques for countering its effects. 3. Learners will be understood causes of human aggression and its prevention.
<b>III</b>	Developmental Psychology-UAPSY 302	1.Learners will be understood what physical changes do adolescents how does the development of self-concepts, self-esteem, and identity proceed during adolescence. 2.How does the body develop during early adulthood, and to what risks are young adults exposed.
<b>IV</b>	Developmental Psychology-	1.Knowledge of this subject will help Students to understand physical and cognitive development in middle adulthood. 2. Students understood what happens to a person intelligence

	UAPSY 402	in middle adulthood.
<b>V</b>	Psychology of human behavior at work-I	1.Knowledge of this subject will help Students to understand people better and if you understand people better it will help you to manage them better. It will also help you lead a more satisfying and fulfilling life It will bring happiness to you and those around you.
<b>VI</b>	Psychology of human behavior at work-II	1.Students get knowledge about negotiation play an important role not only in work life but also in our personal life. 2. Understand the concepts of Emotion and its application in the workplace.
<b>I</b>	Foundation Course-I UBAFSI.6.1	1.Develop a basic understanding about issues related to Human rights of weaker sections, ecology, and science and technology.
<b>II</b>	Foundation Course UBAFSII.6.1	1.Students learn liberalization, privatization and globalization 2.Understanding concept of environment, ecology and their interconnectedness.
<b>III</b>	Foundation Course UAFC 301	1.Learners will be understanding the need for laws in a huge and diversified democracy like India. 2.Threats to environment from extinction of species. Women Constitution and legal right, Forms of violations, Redressal mechanisms. 3.Student learn verbal and non-verbal communication public speaking and presentation skills. Self-awareness and body language.
<b>IV</b>	Foundation Course UAFC 401	1. Student learn soft skill required for competitive examinations. 2.Basic information on competitive examination the pattern, eligibility criteria and local centers.



**Rayat Shikshan Sanstha's,**  
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**Dist. Palghar Maharashtra 401604**

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**B. Sc.**

**Foundation Course**

**Course Outcomes**

<b>Sem.</b>	<b>Course</b>	<b>Outcomes</b>
<b>I</b>	<b>Foundation Course-I</b>	<p><b>On successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"><li>1. The students will understand the multi-cultural diversity of Indian society through its demographic composition.</li><li>2. The students will come to know about the concept of the disparity as arising out of stratification and inequality.</li><li>3. The students will come to know the structures of the Indian Constitution, the main body, and schedules and basic features of the Indian Constitution. They will also understand about fundamental duties of Indian citizen.</li><li>4. Students will also understand various social problems in Indian Society.</li><li>5. Constitution, the main body, and schedules and basic features of the Indian Constitution. They will also understand about fundamental duties of Indian citizen.</li><li>6. The students will understand the party system in Indian politics.</li><li>7. Students will also understand various social problems in Indian Society.</li></ol>
<b>II</b>	<b>Foundation Course-II</b>	<p><b>On Successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"><li>1. The students will understand the concept of liberalization,</li><li>2. privatization, globalization, communication, and technology and its impact in everyday life.</li><li>3. They will also come to the concept of Human rights- its origin and evolution.</li><li>4. They will also understand the importance of Environment</li><li>5. Studies in the current developmental context and concept</li></ol>

		<p>of environment, ecology, and their interconnections.</p> <ol style="list-style-type: none"> <li>6. They will be able to identify the causes stress and conflict in individuals and society.</li> <li>7. They will learn about various types of conflicts and various ways to manage the stress and conflicts.</li> </ol>
<b>III</b>	<b>Foundation Course-III</b>	<p><b>On Successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Students should learn about Children's, Women-Constitutional and legal rights, Forms of violations, Redressal mechanisms.</li> <li>2. Students should learn about Disasters on human life-physical, psychological, economic, environmental disasters and social effects.</li> <li>3. Students should learn about science and technology.</li> <li>4. Students should learn about Soft Skills for Effective Interpersonal Communication.</li> </ol>
<b>IV</b>	<b>Foundation Course-IV</b>	<p><b>On Successful completion of this course students will be able to:</b></p> <ol style="list-style-type: none"> <li>1. Students should learn about various Rights of Consumers, Right to Information and important provisions of the Consumer Protection Act.</li> <li>2. Students should learn about Significant, contemporary Rights of Citizens.</li> <li>3. Students should learn about Environmental Principles and their sustainability principle.</li> <li>4. Students should learn about Significant Modern Technologies, Features and Applications.</li> <li>5. Students should learn about Competitive Examinations- the pattern, eligibility criteria and soft skills required for competitive examinations.</li> </ol>