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Date:- 27/06/2024

DECLARATION


This is declare that the information, reports, true copies of the Supporting documents, numerical data etc. submitted/presented in this file is verified by Internal Quality Assurance Cell (IQAC) and is correct as per the records. This declaration is for the purpose of NAAC accreditation of HEI for 1st Cycle period 2019-20 To 2023-24.

Date:- 27/06/24

Place:- Talegaon Dighe


IQAC CO-ORDINATOR
LOKNETE BALASAHEB THORAT ARTS,
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According to Savitribai Phule Pune University,Pune.

- **Programme Outcomes**
- **Course Outcomes**
- **Programme Specific Outcomes**



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Criteria 2- Teaching Learning And Evaluation

2.6 : Student Performance and Learning Outcome

CO-PO OF B.Sc .FACULTY

INTRODUCTION :-

For every stream, broad expectations listed by the university as well as Institution. The goal of creating an academic program assessment plan is to facilitate continuous program level improvement. A program assessment plan should be developed collaboratively among faculty who teach the program. A program level outcome assessment plan provide faculty with a clear understanding of how their program is assessed.

Program Outcomes (POs) is a systematic method for collecting, analyzing, and using information to answer questions about projects, policies and programs particularly about their effectiveness and efficiency. In both the public and private sectors, stakeholders often want to know whether the programs they are funding, implementing, voting for, receiving or objecting to are producing the intended effect. While program evaluation first focuses around this definition, important considerations often include how much the program costs per participant, how the program could be improved, whether the program is worthwhile, whether there are better alternatives, if there are unintended outcomes, and whether the program goals are appropriate and useful. Evaluators help to answer these questions, but the best way to answer the questions is for the evaluation to be a joint project between evaluators and stakeholders

Programme Specific Outcomes (PSOs) are narrow statements that describe what the students are expected to know and would be able to do upon the graduation. Program outcomes represent broad statements that incorporate many areas of inter-related knowledge and skills developed over the duration of the program through a wide range

of courses and experiences. They represent the big picture, describe broad aspects of behaviour, and encompass multiple learning experiences.

Course outcomes (Cos) also referred as learning outcomes are measurable statements that concretely formally state what students are expected to learn in a course. While goals or objectives can be written more broadly, learning outcomes describe specifically how learners will achieve the goals.




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FACULTY OF SCIENCE

PO-1: Conduct research relevant to a scientific issue, evaluate different sources of information including secondary data, understanding that a source may lack detail or show bias.

PO-2: Appreciate the role of science in society; and its personal, social and global importance; and how society influences scientific research.

PO-3: To understand and analyze the data (qualitatively/quantitatively) to identify patterns and relationships, identify anomalous observations, draw and justify conclusions.

PO-4: To recognize questions that are appropriate for scientific investigation, pose testable hypotheses, and evaluate and compare strategies for investigating hypotheses.

PO-5: Students should appreciate the role of science in society; and its personal, social and global importance.

PO-6: Understanding environmental concerns by the students at the undergraduate level.

PO-7: Understanding the relationship of man with the environment and help them change his attitude for more positive, proactive, eco-friendly and sustainable lifestyles.

PO-8: Getting information about climate change, Global warming, Acid rain, Green house effect, Ozone, layer depletion.

PO-9: Cultivating attitudes to safeguard the environment built particularly with field experience.

PO-10: Realization of the impact of human actions on the immediate environment and the linkage with the larger issues.




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Department of Chemistry

Programme Outcomes, Programme Specific Outcomes, Course Outcomes

Choice Based Credit System [CBCS] 2019 Pattern

FYBSc SEM-I

CH- 101: Physical Chemistry

After completing the course work learner will be acquired with knowledge of chemical energetics, .Chemical equilibrium and ionic equilibria. After completion of this course students should be able to

1. Students will be able to apply thermodynamic principles to physical and chemical process
2. Calculations of enthalpy, Bond energy, Bond dissociation energy , resonance energy
3. Variation of enthalpy with temperature –Kirchoff's equation
4. Third law of thermodynamic and its applications'
5. Chemical Equilibrium Knowledge of Chemical equilibrium will make students to understand
6. Relation between Free energy and equilibrium and factors affecting on equilibrium constant.
7. Exergonic and endergonic reaction
8. Gas equilibrium, equilibrium constant and molecular interpretation of equilibrium constant
9. Van't Haff equation and its application.

10. Ionic equilibria will lead students to understand

- a). Concept to ionization process occurred in acids, bases and pH scale
- b). Related concepts such as Common ion effect hydrolysis constant, ionic product, solubility product
- c). Degree of hydrolysis and pH for different salts, buffer solutions.

CH- 102: Organic Chemistry

After completion of this course students should be able to

1. The students are expected to understand the fundamentals, principles, and recent developments in the subject area.
2. It is expected to inspire and boost interest of the students towards chemistry as the main subject.
3. To familiarize with current and recent developments in Chemistry.
4. To create foundation for research and development in Chemistry.

CH- 103: Chemistry Practical Course I

After completion of this course students should be able to

1. Knows the Importance of chemical safety and Lab safety while performing experiments in laboratory.
2. Determination of thermochemical parameters and related concepts.
3. Techniques of pH measurements.
4. Preparation of buffer solutions.
5. Elemental analysis of organic compounds (non instrumental).
6. Chromatographic Techniques for separation of constituents of mixtures




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FYBSC SEM-II

CH-201: Inorganic Chemistry

After completion of this course students should be able to

1. Various theories and principles applied to reveal atomic structure.
2. Origin of quantum mechanics and its need to understand structure of hydrogen atom.
3. Schrodinger equation for hydrogen atom.
4. Radial and angular part of hydrogenic wave functions.
5. Significance of quantum numbers.
6. Shapes of orbitals.
7. Explain rules for filling electrons in various orbitals- Aufbau's principle, Pauli exclusion principle, Hund's rule of maximum multiplicity.
8. Discuss electronic configuration of an atom and anomalous electronic configurations
9. Describe stability of half-filled and completely filled orbitals.
10. Discuss concept of exchange energy and relative energies of atomic orbitals.
11. Design Skeleton of long form of periodic table.
12. Describe Block, group, modern periodic law and periodicity.
13. Classification of elements as main group, transition and inner transition elements.
14. Write name, symbol, electronic configuration, trends and properties.
15. Explain periodicity in the following properties in details:

a. Effective nuclear charge, shielding or screening effect; some numerical problems.

b. Atomic and ionic size.

c. Crystal and covalent radii

d. Ionization energies

e. Electronegativity- definition, trend, Pauling electronegativity scale. f. Oxidation state of elements

16. Attainment of stable electronic configurations.

17. Define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond' 18. Explain characteristics of ionic bond, types of ions, energy consideration in ionic bonding, lattice and solvation energy and their importance in the context of stability and solubility of ionic compounds.

19. Summarize Born-Landé equation and Born-Haber cycle.

20. Define Fajan's rule, bond moment, dipole moment and percent ionic character.

21. Describe VB approach, Hybridization with example of linear, trigonal, square planer, tetrahedral, TBP, and octahedral.

22. Discuss assumption and need of VSEPR theory

23. Interpret concept of different types of valence shell electron pairs and their contribution in bonding.

24. Application of non-bonded lone pairs in shape of molecule .

25. Basic understanding of geometry and effect of lone pairs with examples such as ClF_3 , Cl_2O , BrF_5 , XeO_3 and XeOF_4 .




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CH- 202: Analytical Chemistry

Students will know about basics of analytical chemistry, some techniques of analysis and able to do calculations essential for analysis. After completion of this course students should be able to

1. Introduction to Analytical Chemistry
i. Analytical Chemistry –branch of chemistry
ii. Perspectives of analytical Chemistry
iii. analytical problems
2. Calculations used in Analytical Chemistry
 - i. Calculations of mole, molar concentrations and various units of concentrations which will be helpful for preparation of solution
 - ii. Relation between molecular formula and empirical formula
 - iii. Stoichiometric calculation
 - iv. Define term mole, millimole, molar concentration, molar equilibrium concentration and Percent Concentration.
 - v. SI units, distinction between mass and weight
 - vi. Units such as parts per million, parts per billion, parts per thousand, solution-dilutant volume ratio, function density and specific gravity of solutions.
- 3 Qualitative Analysis of Organic Compounds Basics of type determination, characteristic tests and classifications, reactions of different functional groups
 - . i. Separation of binary mixtures and analysis
 - ii. Elemental analysis -Detection of nitrogen, sulfur, halogen and phosphorous by Lassaigne's test.
 - iii. Purification techniques for organic compounds.

4. Chromatographic Techniques – Paper and Thin layer Chromatography
- Basics of chromatography and types of chromatography
 - Theoretical background for Paper and Thin Layer Chromatography
5. pH metry
- pH meter and electrodes for pH measurement
 - Measurement of pH
 - Working of pH meter
 - Applications of pH meter.

CH- 203: Chemistry Practical –II

After completion of this course students should be able to

- Inorganic Estimations using volumetric analysis
- Synthesis of Inorganic compounds
- Analysis of commercial products
- Purification of organic compounds
- Preparations and mechanism of reactions involved




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Choice Based Credit System [CBCS] 2019 Pattern
Second Year Bachelors of Science (S. Y. B. Sc.)
From Academic Year 2020-21 S.Y. B.Sc. Chemistry

Programme Outcomes

After completion of Second Year Students should be able to

1. To understand basic concept/principles of Physical, Analytical, Organic and Inorganic chemistry.
2. To impart practical skills and learn basics behind experiments.
3. To prepare background for advanced and applied studies in chemistry.

Course Outcomes S.Y. B.Sc. Chemistry Sem III

CH-301 Physical and Analytical Chemistry

After completion of this course students should be able to

1. Define / Explain concept of kinetics, terms used, rate laws, molecularity, order.
2. Explain factors affecting rate of reaction.
3. Explain / discuss / derive integrated rate laws, characteristics, expression for half-life and examples of zero order, first order, and second order reactions.
4. Determination of order of reaction by integrated rate equation method, graphical method, half-life method and differential method.

5. Explain / discuss the term energy of activation with the help of energy diagram. 6. Explanation for temperature coefficient and effect of temperature on rate constant k .

7. Derivation of Arrhenius equation and evaluation of energy of activation graphically.

8. Derivations of collision theory and transition state theory of bimolecular reaction and comparison.

9. Define / explain adsorption, classification of given processes into physical and chemical adsorption.

10. Discuss factors influencing adsorption, its characteristics, differentiates types as physisorption and Chemisorption

11. Classification of Adsorption Isotherms, to derive isotherms.

12. Explanation of adsorption results in the light of Langmuir adsorption isotherm, Freundlich's adsorption Isotherm and BET theory.

13. Apply adsorption process to real life problem.

14. Solve / discuss problems using theory.

15. Define, explain and compare meaning of accuracy and precision.

16. Apply the methods of expressing the errors in analysis from results.

17. Explain / discuss different terms related to errors in quantitative analysis.

18. Apply statistical methods to express his / her analytical results in laboratory.

19. Solve problems applying equations.

20. Explain / define different terms in volumetric analysis such as units of concentration, indicator, equivalence point, end point, standard solutions, primary and secondary standards, complexing agent,

precipitating agent, oxidizing agent, reducing agent, redox indicators, acid base indicators, metallo-chrome indicators, etc.

21. Perform calculations involved in volumetric analysis.
22. Explain why indicator show color change and pH range of colour change.
23. To prepare standard solution and b. perform standardization of solutions.
24. To construct acid – base titration curves and performs choice of indicator for particular titration.
25. Explain / discuss acid-base titrations, complexometric titration / precipitation titration / redox titration.
26. Apply volumetric methods of analysis to real problem in analytical chemistry / industry


CH-302 Inorganic and Organic chemistry

After completion of this course students should be able to

1. Define terms related to molecular orbital theory (AO, MO, sigma bond, pi bond, bond order, magnetic property of molecules, etc.)
2. Explain and apply LCAO principle for the formation of MO's from AO's.
3. Explain formation of different types of MO's from AO's
4. Distinguish between atomic and molecular orbitals, bonding, anti-bonding and nonbonding molecular orbitals.
5. Draw and explain MO energy level diagrams for homo and hetero diatomic molecules. Explain bond order and magnetic property of molecule.

6. Explain formation and stability of molecule on the basis of bond order.
7. Apply MOT to explain bonding in diatomic molecules other than explained in syllabus.
8. Define different terms related to the coordination chemistry (double salt, coordination compounds, coordinate bond, ligand, central metal ion, complex ion, coordination number, magnetic moment, crystal field stabilization energy, types of ligand, chelate effect, etc.)
9. Explain Werner's theory of coordination compounds. Differentiate between primary and secondary valency. Correlate coordination number and structure of complex ion.
10. Apply IUPAC nomenclature to coordination compound.
11. Identify and draw the structures aromatic hydrocarbons from their names or from structure name can be assigned.
12. Explain / discuss synthesis of aromatic hydrocarbons. 3. Give the mechanism of reactions involved.
13. Explain /Discuss important reactions of aromatic hydrocarbon.
14. To correlate reagent and reactions.
15. Identify and draw the structures alkyl / aryl halides from their names or from structure name can be assigned.
16. Explain / discuss synthesis of alkyl / aryl halides.
17. Write / discuss the mechanism of Nucleophilic Substitution (SN1 , SN2 and SNi) reactions.
18. Explain /Discuss important reactions of alkyl / aryl halides.
19. To correlate reagent and reactions.
20. Identify and draw the structures alcohols / phenols from their names or from structure name can be assigned.




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Course Outcomes S.Y. B.Sc. Chemistry Sem IV

CH-401 Physical and analytical Chemistry

After completion of this course students should be able to

1. Define the terms in phase equilibria such as- system, phase in system, components in system, degree of freedom, one / two component system, phase rule, etc.
2. Explain meaning and Types of equilibrium such as true or static, metastable and unstable equilibrium. Discuss meaning of phase, component and degree of freedom.
3. Derive of phase rule. Explain of one component system with respect to: Description of the curve, Phase rule relationship and typical features for i) Water system ii) Carbon dioxide system iii) Sulphur system.
4. Define various terms, laws, differentiate ideal and non-ideal solutions.
5. Discuss / explain thermodynamic aspects of Ideal solutions-Gibbs free energy change, Volume change, Enthalpy change and entropy change of mixing of Ideal solution.
6. Differentiate between ideal and non-ideal solutions and can apply Raoult's law.
7. Interpretation of i) vapour pressure-composition diagram ii) temperature- composition diagram.
8. Explain distillation of liquid solutions from temperature – composition diagram.
9. Explain / discuss azeotropes, Lever rule, Henry's law and its application.
10. Discuss / explain solubility of partially miscible liquids- systems with upper critical. Solution temperature, lower critical solution temperature and having both UCST and LCST.
11. Explain / discuss concept of

21. Able to differentiate between alcohols and phenols
22. Explain / discuss synthesis of alcohols / phenols.
23. Write / discuss the mechanism of various reactions involved.
24. Explain /Discuss important reactions of alcohols / phenols.
25. To correlate reagent and reactions of alcohols / phenols
26. Give synthesis of expected alcohols / phenols.

CH-303 Chemistry Practical-III

After completion of this course students should be able to

1. Verify theoretical principles experimentally.
2. Interpret the experimental data on the basis of theoretical principles.
3. Correlate theory to experiments. Understand/verify theoretical principles by experiment observations; explain practical output / data with the help of theory.
4. Understand systematic methods of identification of substance by chemical methods.
5. Write balanced equation for the chemical reactions performed in the laboratory.
6. Perform organic and inorganic synthesis and is able to follow the progress of the chemical reaction by suitable method (colour change, ppt. formation, TLC).
7. Set up the apparatus / prepare the solutions - properly for the designed experiments.
8. Perform the quantitative chemical analysis of substances explain principles behind it.
9. Systematic working skill in laboratory will be imparted in student.

distribution of solute amongst pair of immiscible solvents. 12. Derive distribution law and its thermodynamic proof. 13. Apply solvent extraction to separate the components of from mixture interest.

14. Solve problem by applying theory.

15. Explain / define different terms in conductometry such as electrolytic conductance, resistance, conductance, Ohm's law, cell constant, specific and equivalent conductance, molar conductance, Kohlrausch's law, etc.

16. Discuss / explain Kohlrausch's law and its Applications, Conductivity Cell, Conductivity Meter, Whetstone Bridge.

17. Explain / discuss conductometric titrations.

18. Apply conductometric methods of analysis to real problem in analytical laboratory.

19. Solve problems based on theory / equations.

20. Correlate different terms with each other and derive equations for their correlations.

21. Explain / define different terms in Colorimetry such as radiant power, transmittance, absorbance, molar, Lamberts Law, Beer's Law, molar absorptivity

22. Discuss / explain / derive Beer's law of absorptivity.

23. Explain construction and working of colorimeter.

24. Apply colorimetric methods of analysis to real problem in analytical laboratory.

25. Solve problems based on theory / equations.

26. Discuss / explain separation of ionic substances using resins.

27. Discuss / explain separation of substances using silica gel / alumina.

28. Apply column chromatographic process for real analysis in analytical laboratory.

CH-402 Inorganic and Organic Chemistry

After completion of this course students should be able to

1. Explain Isomerism in coordination complexes
2. Explain different types of isomerism in coordination complexes.
3. Apply principles of VBT to explain bonding in coordination compound of different geometries.
4. Correlate no of unpaired electrons and orbitals used for bonding.
5. Identify / explain / discuss inner and outer orbital complexes.
6. Explain / discuss limitation of VBT
7. Explain principle of CFT.
8. Apply crystal field theory to different type of complexes (Td, Oh, Sq. Pl complexes)
9. Explain: i) strong field and weak field ligand approach in Oh complexes
ii) Magnetic properties of coordination compounds on the basis of weak and strong ligand field ligand concept. iii) Origin of colour of coordination complex.
10. Explain spectrochemical series, tetragonal distortion / Jahn-Teller effect in Cu(II) Oh complexes only.
11. Identify and draw the structures aldehydes and ketones from their names or from structure name can be assigned.
12. Explain / discuss synthesis of aldehydes and ketones.
13. Write / discuss the mechanism reactions aldehydes and ketones.
14. Explain /Discuss important reactions of aldehydes and ketones.
15. To correlate reagent and reactions of aldehydes and ketones

16. Perform inter conversion of functional groups.
17. Identify and draw the structures carboxylic acids and their derivatives from their names or from structure name can be assigned.
18. Explain / discuss synthesis of carboxylic acids and their derivatives.
19. Write / discuss the mechanism reactions carboxylic acids and their derivatives.
20. Explain /Discuss important reactions of carboxylic acids and their derivatives.
21. Correlate reagent and reactions of carboxylic acids and their derivatives
22. Give synthesis of expected carboxylic acids and their derivatives.
23. Identify and draw the structures amines from their names or from structure name can be assigned.
24. Explain / discuss synthesis of carboxylic amines. Write / discuss the mechanism reactions carboxylic amines.
25. Give synthesis diazonium salt from amines and reactions of diazonium salt.
26. Draw the structures of different conformations of cyclohexane.
27. Define terms such as axial hydrogen, equatorial hydrogen, confirmation, substituted cyclohexane.
28. Draw structures of different conformations of methyl / t-butyl monosubstituted cyclohexane (axial, equatorial) and 1, 2 dimethyl cyclohexane.
29. Identify cis- and trans-isomers of 1, 2 dimethyl substituted cyclohexane and able to compare their stability.

CH-403 Chemistry Practical –IV

After completion of this course students should be able to

1. Verify theoretical principles experimentally.
2. Interpret the experimental data on the basis of theoretical principles.
3. Correlate the theory to the experiments. Understand / verify theoretical principles by experiment or explain practical output with the help of theory.
4. Understand systematic methods of identification of substance by chemical methods.
5. Write balanced equation for all the chemical reactions performed in the laboratory.
6. Perform organic and inorganic synthesis and able to follow the progress of the chemical reaction.
7. Set up the apparatus properly for the designed experiments.
8. Perform the quantitative chemical analysis of substances and able to explain principles behind it.




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Choice Based Credit System [CBCS] 2019 Pattern

Third Year Bachelors of Science

(T.Y. B.Sc. CHEMISTRY)

Programme Outcomes

After successful completion of three-year degree program in Chemistry student should be able to;

PO-1. Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry.

PO-2. Solve the problem and also think methodically, independently and draw a logical conclusion.

PO-3. Employ critical thinking and the scientific knowledge to design, carryout, record and analyse the results of chemical reactions.

PO-4. Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.

PO-5. Find out the green route for chemical reaction for sustainable development.

PO-6. To inculcate the scientific temperament in the students and outside the scientific community.

PO-7. Use modern techniques, decent equipment's and Chemistry software's.

Programme Specific Outcomes.

PSO-1. Gain the knowledge of Chemistry through theory and practical's.

PSO-2. To explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions.

PSO-3. Identify chemical formulae and solve numerical problems.

PSO-4. Students will acquire knowledge how to use modern chemical tools, Models, Chem-draw, Charts and various instruments in chemical analysis.

PSO-5. Know structure-activity relationship.

PSO-6. Understand good laboratory practices and safety.

PSO-7. Develop research-oriented skills.

PSO-8. To make aware and handle the sophisticated instruments/equipment's.

PSO-9 Students will have knowledge of preparation of Various basic chemical compounds. **PSO 10-** Students will acquire knowledge of chemical analysis of Various organic and inorganic chemical compounds.




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Course Outcomes

B. Sc. Chemistry Semester-VI (2019 pattern)

DSEC-I:CH-501: Physical Chemistry-I

After completion of this course students should be able to

CO-1. Know historical of development of quantum mechanics in chemistry.

CO-2. Understand and explain the differences between classical and quantum mechanics.

CO-3. Understand the term specific volume, molar volume and molar refraction

CO-4 Applications to conjugated systems, zero-point energy and quantum tunnelling,

CO-5. Derive the expression for rotational spectra for the transition from J to $J+1$

CO-6. Classification of molecules on the basis of moment of Inertia.

CO-7. Explain the difference between Rayleigh, Stokes and anti-Stokes lines in a Raman spectrum.

DSEC-I:CH-502: Analytical Chemistry-I

After completion of this course students should be able to

CO-1. Define basic terms in gravimetry, spectrophotometry, qualitative analysis and parameters in instrumental analysis. Such as: Gravimetry, precipitation, solubility product, ionic product, common ion effect, precipitating agent, washing of ppt., drying and ignition of ppt., linearity range, detection limit, precision, accuracy, Sensitivity, Selectivity, Robustness and Ruggedness, electromagnetic radiations,

spectrophotometry, Beers law, absorbance, transmittance, molar absorptivity, monochromator, wavelength of maximum absorbance.

CO-2. Explain different principles involved in the gravimetry, spectrophotometry, parameters in instrumental analysis, qualitative analysis.

CO-3. Understand the principles of Spectro-photometric analysis and properties of electromagnetic radiations.

CO-4. Study the Voltammetry and Polarography as an analytical tool.

CO-5. Perform quantitative calculations depending upon equations student has studied in the theory. Furthermore, student should be able to solve problems on the basis of theory.

CO-6 Differentiate / distinguish / Compare among the different analytical terms, process and analytical methods.

CO-7. Apply whatever theoretical principles he has studied in theory during practical session in laboratory.

DSEC-I:CH-503: Physical Chemistry Practical-I

After completion of this course students should be able to

CO1To determine the specific refractivity's of the given liquids A and B and their mixture and hence determine the percentage composition their mixture C.

CO-2 To determine the molecular refractivity of the given liquids A, B, C and D.

CO-3 To determine the molar refraction of homologues methyl, ethyl and propyl alcohol and show the constancy contribution to the molar refraction by-CH₂group.

CO-4 Determine the refractive index of a series of salt solutions and determine the concentration of a salt of unknown solution CO-3
Titrate Cu²⁺ ions with EDTA photometrically.

CO-4 To determine the indicator constant of methyl red indicator.

CO-5 To estimate of Fe³⁺ ions by thiocyanate method.

CO-6 To determine Cobalt by using R-nitroso salt method.

CO-7 To determine the order of reaction for the oxidation of alcohol by potassium dichromate and potassium permanganate in acidic medium calorimetrically.

CO-8 Simultaneous determination of Cu²⁺ and Ni²⁺ ions by colorimetry/spectrophotometry method.

CO-9 Titrate of a mixture of weak acid and strong acid with strong alkali.

CO-10 determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conductometric method.

CO-11 To determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method.

CO-12 To determine λ^∞ of strong electrolyte (NaCl or KCl) and to verify Onsager equation. CO-13 To estimate the amount of lead present in given solution of lead nitrate by conductometric titration with sodium sulphate.

CO-14 To determine the relative strength of monochloroacetic acid and acetic acid conductometrically.

CO-15 To determine the molecular weight of a high polymer by using solutions of different concentrations.

CO16 Determine the radius of glycerol molecule from viscosity measurement.

CO17 Analysis of Riboflavin from vitamin supplementary capsules / syrup / tablet sample by Photo fluoro-metry.

DSEC-II:CH-504: Inorganic Chemistry-I

After completion of this course students should be able to

CO-1 Explain electroneutrality principle and different types of pi bonding.

CO-2. Able to compare the different approaches to bonding in Coordination compounds.

CO-3. To understand about inert and labile complexes and stability of complexes in aqueous solutions.

CO-4. Classification of reactions of coordination compounds

CO-5. Gain the knowledge of inorganic reaction mechanisms available in the literature to solve chemical problems.

DSEC-II:CH-505: Industrial Chemistry-I

After completion of this course students should be able to

CO-1. Know the importance of chemical industry.

CO-2. Classify various insecticides.

CO-3. Study the nutritive aspects of food constituents.

CO-4. Understand the characteristics of some food starches.

CO-5. Study the manufacture of cement, dyes, Glass, Soap and Detergents by modern methods.

CO-6. Different types of soap products.

DSEC-II:CH-506: Inorganic Chemistry Practical-I

After completion of this course students should be able to

CO-1 Estimate of Fe as Fe_2O_3 Gravimetrically.

CO-2 Estimate of Ba as BaSO_4 using homogeneous precipitation method.

CO-3 Estimate of Nickel as Ni –DMG Gravimetrically.

CO-4 Analyse of sodium bicarbonate from mixture by thermal decomposition method.

CO-5 Determine water of crystallization by thermal decomposition.

CO-6 Analyse of Food/Pharmaceutical sample for as hand sulphate dash example-Aspirin.

CO-7 Prepare inorganic complexes of hexamine nickel (II)chloride, $[\text{Ni}(\text{NH}_3)_6]\text{Cl}_2$.

CO-8 Prepare inorganic complexes of Potassium trioxalato ferrate (III), $\text{K}_3[\text{Fe}(\text{C}_2\text{O}_4)_3]$.

DSEC-III:CH-507: Organic Chemistry-I

After completion of this course students should be able to

CO-1. Polynuclear and Heteronuclear Aromatic Compounds: After studying the polynuclear and heteronuclear aromatic compounds, students will be able to define and classify polynuclear and heteronuclear aromatic hydrocarbons, write the structure, synthesis of polynuclear and heteronuclear aromatic hydrocarbons.

CO-2. Meaning of active methylene group.

CO-3. Understand stereochemistry by using models and learn reactivity of geometrical isomers

CO-4. Compare between E1 and E2 reactions.

CO-5. Understand the evidences, reactivity and mechanism of various elimination and substitution reactions

CO-6. Hoffmann and Saytzeff's Orientation.

CO-7. Effect of factors on the rate elimination reactions

DSEC-III:CH-508: Chemistry of Biomolecules

After completion of this course students should be able to

CO-1. The student will be understanding of Cell types, Difference between a bacterial cell, Plant cell and animal cell. Biological composition and organization of cell membrane, structure and function of various cell organelles of plant and animal cell. Concepts of biomolecules, Bonds that link monomeric units to form macromolecules.

CO-2. The student will understand the types of carbohydrates and their biochemical significance in living organisms, structure of carbohydrates and reactions of carbohydrates with Glucose as example. Properties of carbohydrates.

CO-3. The student needs to know the types of lipids with examples, structure of lipids, properties of lipids.

CO-4. The student will understand the structure and types of amino acids. Reactions of amino acids. Properties of amino acids. Peptide bond formation. Types of proteins. Structural features in proteins. Effect of pH on structure of amino acid, Determination of N and C terminus of peptide chain.

CO-5 The student know the classes of enzymes with subclasses and examples. Enzyme specificity, Equations of enzyme kinetics K_m and its significance, features of various types of enzyme inhibitions, industrial applications of enzymes.

CO-6. Basic concepts of Endocrinology. Types of Endocrine glands and their hormones. Biochemical nature of hormones. Mechanism of action of lipophilic and hydrophilic hormones

DSEC-III:CH-509: Organic Chemistry Practical-I

After completion of this course students should be able to

A) Separation of Binary Mixtures and Qualitative Analysis The students will be able to

CO-1 Perform the quantitative chemical analysis of binary mixture, explain principles behind it.

CO-2 Separate, purify and analyse binary water insoluble mixture.

CO-3 Separate, purify and analyse binary water-soluble mixture.

CO-4 Understand the techniques involving drying and recrystallization by various method.

CO-5 Familiarize the test involving identification of special elements.

CO-6 Learn the confirmatory test for various functional groups.

B) Preparations The students will be able to

CO-1 Systematic working skill in laboratory will be imparted in student.

CO-2 Learn the basic principles of green and sustainable chemistry.

CO-3 Synthesis of various organic compounds through greener approach.

CO-4 Do and understand stoichiometric calculations and correlate the green process metrics.

CO-5 Learn alternative solvent media and energy sources for chemical processes.

CO-6 Learn the preparations of derivative various functional groups aspects of electrical experiments.

CO-7 Understand the techniques involving drying and recrystallization by various method.

CO-8 Expertise the various techniques of preparation and analysis of organic substances.

CO-9 Understand principle of Thin Layer Chromatographic techniques.

CO-10 Understand the purification technique used in organic chemistry.

SEC-I:CH-510: Skills Enhancing Course-I

CH-510(B): Polymer Chemistry

After completion of this course students should be able to

Course Outcome: The students are expected to learn the following aspects of Polymer Chemistry:

- 1) History of polymers, Difference between simple compounds and polymer, Names of polymers, Various ways of nomenclature.
- 2) Difference between natural, synthetic, organic and inorganic polymers, Terms Monomer, Polymer, Polymerization, Degree of polymerization, Functionality, Number average, Weight average molecular weight, Mechanisms of polymerization, Polymerization techniques, Uses & properties




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SEC-II:CH-511: Skills Enhancing Course-II

CH-511(A): Environmental Chemistry

After completion of this course students should be able to

CO-1. Importance and conservation of environment.

CO-2. Importance of biogeochemical cycles

CO-3 Students should know i. Water resources ii. Hydrological Cycle iii. Organic and inorganic pollutants iv. Water quality parameters.

CO-4. Water pollutants, Eutrophication, Waste water treatment (domestic waste water, aerobic treatment, anaerobic treatment, up flow aerobic sludge bed, industrial waste water treatment, drinking water supplies, Trace elements in water, chemical speciation.

Course Outcomes B. Sc. Chemistry Semester-VI (2019 pattern)

DSEC-IV:CH-601: Physical Chemistry-II

After completion of this course students should be able to

CO-1. photochemical laws: Grothus - Draper law, Stark-Einstein law,

CO-2. Photochemical reactions: photosynthesis, photolysis, photocatalysis, photosensitization

CO-3. Various photochemical phenomena like fluorescence and phosphorescence, Chemiluminescence,

CO-4. Electrochemical cells: Explanation of Daniell cell, Conventions to represent electrochemical cells

CO-5. Types of concentration cells: Concentration cells without and with transference Concentration cells with liquid junction potential.

CO-6. Fuel Cells: Types of fuel cells, advantages, disadvantages of these fuels' cells, comparison of battery Vs fuel cell

CO-7. Methods of Crystal structure analysis: The Laue method and Bragg's method: Derivation of Bragg's equation.

CO-8. Detection and Measurement of Radioactivity: Cloud chamber, Ionization Chamber, Geiger-Muller Counter, Scintillation Counter, Film Badges.

DSEC-IV:CH-602: Physical Chemistry-III

After completion of this course students should be able to

CO-1. Meaning of the terms-Solution, electrolytes, nonelectrolytes and colligative properties

CO-2. Lowering of vapour pressure of solvent in solution.

CO-3. Application of colligative properties to determine molecular weight of nonelectrolyte, abnormal molecular weight.

CO-4. Relation between Vant Hoff's factor and degree of dissociation of electrolyte by colligative property.

CO-5. Factors affecting on solid state reactions.

CO-6. Rate laws for reactions in solid state.

CO-7. Applying rate laws for solid state reactions.

CO-8. Cohesive Energy of ionic crystals based on coulomb's law and Born Haber Cycle

CO-9. Correspondence between energy levels in the atom and energy bands in solid

CO-10. Conductors and insulators – Its correlation with Extent of energy in energy bands

CO-11. Semiconductors – Role of impurity in transformation of insulator into semiconductor

CO-12. Chemical bonding & Molecular forces in Polymer

CO-13. Practical significance of polymer molecular weights.

DSEC-IV:CH-603: Physical Chemistry Practical-II

After completion of this course students should be able to

- 1) To determine the PK_a value of given monobasic weak acid by potentiometric titration.
- 2) To determine the formal redox potential of Fe^{2+}/Fe^{3+} system potentiometrically.
- 3) To determine the amount of NaCl in the given solution by potentiometric titration against silver nitrate.
- 4) To determine the solubility product and solubility of AgCl potentiometrically using chemical cell.
- 5) Estimate the amount of Cl^- , Br^- and I^- in given unknown halide mixture by titrating it against standard $AgNO_3$ solution (mixture of any two ions).
- 6) To prepare standard 0.2 M Na_2HPO_4 and 0.1 M Citric acid solution, hence prepare four different buffer solutions using them. Determine the pH value of these and unknown solution.
- 7) To determine the composition of Zinc ferrocyanide complex potentiometrically.
- 8) To determine the standard electrode potentials of Cu and Ag electrodes and to determine the EMF of a concentration cell.
- 9) To determine the degree of hydrolysis of aniline hydrochloride.

- 10) To determine the dissociation constant of oxalic acid by pH-metric titration with strong base.
- 11) Determination of Pka of given weak acid by pH metry titration with strong base
- 12) To determine the acid and base dissociation constant of an amino acid and hence the isoelectric point of an acid.
- 13) pH metric titration of strong acid against strong base by pH measurement and hence determine the concentration and strength of strong acid.
- 14) To determine plateau voltage of the given G M counter.
- 15) To determine the molecular weight of solute by depression in freezing point method
- 16) To study the association of Benzoic acid in benzene by Beckmann Method
- 17) Determine the molecular weight of given electrolyte and non-electrolyte by Landsberger's method and to study the abnormal molecular weight of electrolyte
- 18) Determination of SO_4^{2-} and Cl^- by turbidimetric method (turbidimetric titration or calibration curve method)
- 19) To determine the molecular weight of a given polymer by turbidometry.

DSEC-V:CH-604: Inorganic Chemistry –II

After completion of this course students should be able to

CO-1. To know trends in periodic properties of these elements w.r.t. size of atom and ions, reactivity, catalytic activity, oxidation state, complex

formation ability, colour, magnetic properties, nonstoichiometry, density, melting point, boiling point.

CO-2. The meaning of term f-block elements, Inner transition elements, lanthanides, actinides.

CO-3. Lanthanide contraction and effects of lanthanide contraction on post-lanthanides.

CO-4. The meaning of metal & semiconductor.

CO-5. Explain the effect of temperature and impurity on conductivity of metals and semiconductors.

DSEC-V:CH-605: Inorganic Chemistry-III

After completion of this course students should be able to

CO-1. To understand M-C bond and to define organometallic compounds

CO-2. To understand the structure and bonding using valence electron count (18 ele. rule)

CO-3. Define and differentiate homogeneous and heterogeneous catalysis.

CO-4. Understand the essential properties of homogeneous catalysts- Give the catalytic reactions for Wilkinson's Catalysis, hydroformylation reaction, Monsanto acetic acid synthesis, Heck reaction.

CO-5. Identify the biological role of inorganic ions & compounds.




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DSEC-V:CH-606: Inorganic Chemistry Practical-II

After completion of this course students should be able to

1. Analyze of Phosphate (PO_4^{3-}) from Fertilizer.
2. Analyze of Iodine from Iodized salt.
3. Determine Strength of medicinal H_2O_2 .
4. Analyze of Calcium from milk powder.
5. Analyze of Cu from Cu-Fungicide.
6. Estimate of Na by flame photometry by calibration curve method.
7. Estimation of K by flame photometry by regression method.
8. Purification of water using cation/anion exchange resin and analysis by qualitative analysis /conductometry.
9. Synthesize of Silver nano-particles.
10. Synthesize of ZnO nanoparticles.
11. Verify of periodic trends using solubility of alkaline earth metal hydroxides $\text{Ca}(\text{OH})_2$, $\text{Mg}(\text{OH})_2$, $\text{Cr}(\text{OH})_2$, $\text{Ba}(\text{OH})_2$.
12. Synthesize of amine complexes of Ni(II) and its ligand exchange reaction (bidentate ligands like acac, DMG, Glycine) by substitution method.

DSEC-VI:CH-607: Organic Chemistry-II

After completion of this course students should be able to

- CO-1.** Students will learn the principle of mass spectroscopy, its instrumentation and nature of mass spectrum.

CO-2. Students will understand the principle of UV spectroscopy and the nature of UV spectrum. They will learn types of electronic excitations.

CO-3. Students will understand the principle of NMR spectroscopy and will understand various terms used in NMR spectroscopy. They will learn measurement of chemical shift and coupling constants.

CO-4. Students will be able to determine the structure of simple organic compounds on the basis of spectral data such as λ max values, IR frequencies, chemical shift (δ values).

CO-5. The use of models to draw different types of disubstituted cyclohexanes in chair form.

DSEC-VI:CH-608: Organic Chemistry-III

After completion of this course students should be able to

CO-1. Students will learn different terms used – Disconnection, Synthons, Synthetic equivalence, FGI, TM. One group disconnection, Retrosynthesis and Synthesis of target molecules: Acetophenone, Crotonaldehyde, Cyclohexene, Benzyl benzoate, and Benzyl diethyl malonate.

CO-2. Chemistry of reactive intermediates (carbocations, carbanions, free radicals, carbenes, nitrenes, benzyne etc...)

CO-3. Functional group interconversions and structural problems using chemical reactions.

CO-4. Preparation and Applications of oxidising and reducing reagents.

CO-5. Students will learn extraction, Purification, Some examples of alkaloids and their natural resources. Ephedrine- structure determination using chemical methods, Synthesis of Ephedrine by Nagai

DSEC-VI:CH-609: Organic Chemistry Practical-II

After completion of this course students should be able to

A) Interpretations of IR and PMR Spectra The students will be able to

1. Explain "fingerprint region" of an infrared spectrum can used in the identification of an unknown compound.
2. Identify the functional group or groups presenting a compound.
3. Identify the broad regions of the infrared spectrum in which occur absorptions caused by N-H, C-H, and O-H, $C\equiv C$ and $C\equiv N$, C=O, C=N, and C=C.
4. Understand use NMR spectra to determine the structures of compounds.
5. Interpret integration of NMR spectra
6. Calculate coupling constants from $^1\text{H-NMR}$ spectra.
7. Interpret elemental analysis technique

B) Organic Estimations The students will be able to

1. Practical knowledge of handling chemicals.
2. Achieve the practical skills required to estimations of glucose and glycine.
3. Achieve the practical skills required to Saponification value of oil.
4. Determine the molecular weight of given tribasic acids.

C) Organic Extractions The students will be able to

1. Apply the principles of extraction
2. Understand the equipment for extraction.
3. Gain practical hands-on experience of modern Extraction
4. Develop basic design of extractor

5. Describe the extraction separation process.

D) Column chromatography The students will be able to

1. Defines the basic parameters in chromatography
2. Explain the processes of a chromatography analysis.
3. Describes the types and materials of column.
4. Explains the types of mobile phase and elution.
5. Realize the selection of appropriate mobile phase, column and detector.

SEC-III:CH-610: Skill Enhancing Course-III

CH-610(A): Chemistry of Soil and Agrochemicals Course Outcomes:

After studying this course, student is expected to

- 1) Understood various components of soil and soil properties and their impact on plant growth.
- 2) Understood the classification of the soil.
- 3) Explored the problems and potential of soil and decided the most appropriate treatment for land use.
- 4) Understood the Reclamation and management of soil physical and chemical constraints.
- 5) Useful in making decisions on nutrient dose, choice of fertilizers and method of application etc. Practiced in crop production.
- 6) Got experience on advanced analytical and instrumentation methods in the estimation of soil.

7) Understood various Nutrient management concepts and Nutrient use efficiencies of major and micro nutrients and enhancement techniques.

8) Proper understanding of chemistry of pesticides will be inculcated among the students.

9) Imparts knowledge on different pesticides, their nature and, mode of action and their fate in soil so as to monitor their effect on the environment.

SEC-IV:CH-611: Skill Enhancing Course-IV

CH-611(A): Analytical Chemistry-II

After studying this course, student is expected to

CO-1. Know the different analytical techniques.

CO-2. To understand different types of separation techniques.

CO-3. To study principle, construction and working of GC and HPLC.

CO-4. To give an extended knowledge about chromatographic techniques used for separation of amino acids.

CO-5. Discuss the problem based on distribution coefficient and extraction techniques.

CO-6. Identify important parameters in analytical processes or estimations. Example: minimum analyte concentration in particular method, reagent concentration for particular analysis, reagent for particular analysis, reaction condition to convert analyte into measurable form, wavelength selection in HPLC with spectrophotometric and fluorometric detector, solvent or carrier gas in HPLC and GC, choice method for the sample preparation in atomic spectroscopic methods, choice of filter and HCL in atomic spectroscopic methods.

CO-7. Explain different principles involved in the analyses using solvent extraction, basics of instrumental chromatography, HPLC, GC, and atomic spectroscopic techniques.

CO-8. Perform quantitative calculations depending upon equations students has studied in the theory. Furthermore, student should able to solve problems on the basis of theory.

CO-9. Select particular method of analysis if analyte sample is given to him. Differentiate / distinguish / compare among the different analytical terms, process and analytical methods.




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Department of Botany

Programme Outcomes

PO1. Knowledge and understanding of:

1. The range of plant diversity in terms of structure, function and environmental relationships.
2. The evaluation of plant diversity.
3. Plant classification and the flora of Maharashtra.
4. The role of plants in the functioning of the global ecosystem.
5. A selection of more specialized, optional topics.
6. Statistics as applied to biological data.

PO2. Intellectual skills – able to:

1. Think logically and organize tasks into a structured form.
2. Assimilate knowledge and ideas based on wide reading and through the internet.
3. Transfer of appropriate knowledge and methods from one topic to another within the subject.
4. Understand the evolving state of knowledge in a rapidly developing field.
5. Construct and test hypothesis.
6. Plan, conduct and write a report on an independent term project.

PO3. Practical skills: Students learn to carry out practical work, in the field and in the laboratory, with minimal risk. They gain introductory experience in applying each of the following skills and gain greater proficiency in a selection of them depending on their choice of optional modules.

1. Interpreting plant morphology and anatomy.
2. Plant identification.

3. Vegetation analysis techniques.

4. A range of physiochemical analyses of plant materials in the context of plant physiology and biochemistry.

5. Analyze data using appropriate statistical methods and computer packages.

6. Plant pathology to be added for sharing of field and lab data obtained.

PO4. Transferable skills:

1. Use of IT (word-processing, use of internet, statistical packages and databases).

2. Communication of scientific ideas in writing and orally.

3. Ability to work as part of a team.

4. Ability to use library resources.

5. Time management.

6. Career planning.

PO5. Scientific Knowledge: Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.

PO6 . Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany.

PO7. Design/development of solutions: Design solutions from medicinal plants for health problems, disorders and disease of human beings and estimate the phytochemical content of plants which meet the specified needs to appropriate consideration for the public health.

PO8. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and development of the information to provide valid conclusions.

PO9. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern instruments and equipment's for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations.

PO10. The Botanist and society: Apply reasoning informed by the contextual knowledge to assess plant diversity, its importance for society, health, safety, legal and environmental issues and the consequent responsibilities relevant to the biodiversity conservation practice.

PO11. Environment and sustainability: Understand the impact of the plant diversity in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO12. Ethics: Apply ethical principles and commit to environmental ethics and responsibilities and norms of the biodiversity conservation.

PO13. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO14. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO15. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO16. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Course Outcomes

CO1. Critically evaluation of ideas and arguments by collection relevant information about the plants, so as recognize the position of plant in the broad classification and phylogenetic level.

CO2. Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise in the field of Plant Identification.

CO3. Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy.

CO4. Students will be able to apply the scientific method to questions in botany by formulating testable hypotheses, collecting data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses.

CO5. Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists.

CO6. Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works.

CO7. Students will be able to apply fundamental mathematical tools (statistics, calculus) and physical principles (physics, chemistry) to the analysis of relevant biological situations.

CO8. Students will be able to identify the major groups of organisms with an emphasis on plants and be able to classify them within a phylogenetic framework. Students will be able to compare and contrast the characteristics of plants, algae, and fungi that differentiate them from each other and from other forms of life.

CO9. Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped plant morphology, physiology, and life history.

CO10. Students will be able to explain how Plants function at the level of the gene, genome, cell, tissue, Flower development. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and mode of life cycle followed by different forms of plants.

CO11. Students will be able to explain the ecological inter connectedness of life on earth by tracing energy and nutrient flow through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities, and ecosystems.

CO12. Students will be able to demonstrate proficiency in the experimental techniques and methods of analysis appropriate for their area of specialization within biology.




PRINCIPAL
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Class – F.Y. B.Sc. SEM I

To create foundation for advanced studies, research and development in Botany.

Course Outcomes(CO): F.Y.B.Sc.

BO-111: PLANT LIFE AND UTILIZATION I

1. The learner will be acquired with sound knowledge of Lower Cryptogams (Thallophytes and Bryophytes).
2. The learner will be acquainted with knowledge of life cycle pattern in Algae (Spirogyra), Fungi (Mushroom- Agaricus bisporus) & Bryophytes (Riccia).
3. The learner will be acquired with sound knowledge with utilization of Algae, Fungi, Lichens and

1. The learner will be acquired with sound knowledge of importance of plant morphology in identification, nomenclature, classification, phylogeny and Plant breeding.

2. The students will be making familiar with morphology of reproductive parts of plants.

3. The learner will be gain with sound knowledge of various tissues and internal organization of plant body.

BO-112: PLANT MORPHOLOGY AND ANATOMY

4. The fundamentals, principles, practical skills and recent developments in the subject area.
5. Inspire and boost interest of the students towards Botany as the main subject and understand.

Class – F.Y. B.Sc. SEM II

BO-121: PLANT LIFE AND UTILIZATION-II

4. The learner will be acquired the information of plant diversity with reference to vascular plants like Pteridophytes, Gymnosperms and Angiosperms.

5. The learner will be acquired with sound knowledge of general characters, Outline classification, Life cycle, Habit, habitat, distribution, morphology, anatomy, reproduction and utilization of Pteridophytes, Gymnosperms and Angiosperms.

Bryophytes in Food and Fodder, agriculture, fuel, ecological indicators and pharmaceuticals.

BO-122: PRINCIPLES OF PLANT SCIENCE

1. The students will be making familiar with fundamental concepts of plant physiology.

2. The learner will be acquired with sound knowledge of cell, cell organelles and cell cycle.

3. The students will be making familiar with nature of genetic material, DNA replication, DNA organization in chromosome, structure and type of RNA and application of molecular biology.

BO 113 and BO 123: PRACTICAL COURSE

1. Correlation between practical's with theory to improve the understanding.

2. To organize educational tour for study of flora.

3. To develop plant related practical skills in students.

4. To imbibe research related methodology in students.




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Department of zoology

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1.To foster curiosity in the students for Zoology.

PSO2.To create awareness amongst students for the basic and applied areas of Zoology. PSO3.

To orient students about the importance of abiotic and biotic factors of environment and their conservation.

PSO4.To provide an insight to the aspects of animal diversity.

PSO5.To inculcate good laboratory practices in students and to train them about proper handling of lab instruments.

PSO6. To understand the Animal diversity around us.

PSO7. To understand the underlying principles of classification of animals.

PSO8. To understand the terminology needed in classification.

PSO9. To understand the differences and similarities in the various aspects of classification.

PSO10. To classify invertebrates and to be able to understand the possible group of the invertebrate observed in nature.

PSO11. To understand our role as a caretaker and promoter of life.

PSO 12. To understand the origin and advancement of higher vertebrates (tetrapoda).

PSO 13. To understand general characters of different groups of higher vertebrates.

PSO 14. To classify vertebrates and to become able to understand the possible group of vertebrates observed in nature.

PSO15. To understand different behaviours and adaptations in higher vertebrates

PSO16. To understand affinities among different groups of higher vertebrates.

PSO17. To provide thorough knowledge about various animal sciences from primitive to highly evolved animal groups.

PSO 18. To make the students aware of applications of Zoology subject in various industries.

PSO19 .To highlight the potential of various branches of Zoology to become an entrepreneur.

PSO 20. To equip the students with skills related to laboratory as well as field based studies.

PSO 21. To make the students aware about conservation and sustainable use of biodiversity.

PSO 22. To inculcate interest and foundation for further studies in Zoology.

PSO 23. To address the socio-economical challenges related to animal sciences

F.Y.B.Sc. COURSE OUTCOMES SEM I

ZO 111 ANIMAL DIVERSITY –I

CO1. The student will be able to understand classify and identify the diversity of animals.

CO 2. The student understands the importance of classification of animals and classifies them effectively using the six levels of classification.

CO 3. The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.

ZO 112-ANIMAL ECOLOGY

CO1. The learners will be able to identify and critically evaluate their own beliefs, values and actions in relation to professional and societal standards of ethics and its impact on ecosystem and biosphere due to the dynamics in population.

CO 2.To understand anticipate, analyse and evaluate natural resource issues and act on a lifestyle that conserves nature.

CO3.The Learner understands and appreciates the diversity of ecosystems and applies beyond the syllabi to understand the local lifestyle and problems of the community.

CO4.The learner will be able to link the intricacies of food chains, food webs and link it with human life for its betterment and for non-exploitation of the biotic and abiotic components.

CO 5.The working in nature to save environment will help development of leadership skills to promote betterment of environment.

F.Y.B.Sc. COURSE OUTCOMES SEM II

ZO 121 ANIMAL DIVERSITY –II

CO1. The student will be able to understand classify and identify the diversity of animals.

CO 2. The student understands the importance of classification of animals and classifies them using the six levels of classification.

CO 3. The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.

BO 122: CELL BIOLOGY COURSE

CO1. Learning outcomes for Cell Biology.

CO2. The learner will understand the importance of cell as a structural and functional unit of life.

CO3. The learner understands and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.

CO4. The dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life.

CO5. The cellular mechanisms and its functioning depends on endo-membranes and structures. They are best studied with microscopy.

S.Y.B.Sc. COURSE OUTCOMES (CO)

(Sem. I and II) : ANIMAL DIVERSITY III & IV

CO1. The students will be able to understand, classify and identify the diversity of higher vertebrates.

CO2. The students will be able to understand the complexity of higher vertebrates

CO3. The students will be able to understand different life functions of higher vertebrates.

CO4. The students will be able to understand the linkage among different groups of higher vertebrates.

CO5. The student will become aware regarding his role and responsibility towards nature as a protector, to understand his role as a trustee and conservator of life which he has achieved by learning, observing and understanding life.

APPLIED ZOOLOGY I AND II

CO1. To understand the basic life cycle of the honeybees, beekeeping tools and equipments.

CO 2. To learn for managing beehives for honey production and pollination.

CO 3. To understand the basic information about fishery, cultural and harvesting methods of fishes.

CO 4. To understand fish preservation techniques.

CO 5. To understand the biology, varieties of silkworms and the basic techniques of silk production and harvesting of cocoons.

CO 6. To learn the different silkworm species and their host plants.

CO 7. To study types of agricultural pests and Major insect pests of agricultural importance.

CO 8. To study Pest control practices.


CO 9. The learner understands the basics about beekeeping tools, equipment, and managing beehives.

CO10. The learner understands the basic information about fishery, cultural and harvesting methods of fishes and fish preservation techniques.

CO11. The learner understands the biology, varieties of silkworms and the basic techniques of silk production.

CO12. The learner understands the types of agricultural pests, Major insect pests of agricultural importance and Pest control practices.




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Department of Physics

PROGRAMME SPECIFIC OUTCOMES (PSO):

PSO1: 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.

PSO2: Students are also expected to develop written and oral communication skills in communicating physics-related topics.

PSO3: Students should learn how to design and conduct an experiment (or series of experiments) demonstrating their understanding of the scientific method and processes. Not only that they are expected to have an understanding of the analytical methods required to interpret and analyze results and draw conclusions as supported by their data.

PSO4: Students will develop the proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data.

PSO5: Students will learn the applications of numerical techniques for modelling physical systems for which analytical methods are inappropriate or of limited utility.

PSO6: Students will realize and develop an understanding of the impact of physics and science on society.

PSO7: Apply conceptual understanding of the physics to general real-world situations.

PSO8: Describe the methodology of science and the relationship between observation and theory.

PSO9: Learn to minimize contributing variables and recognize the limitations of equipment.

PSO10: Discover of physics concepts in other disciplines such as mathematics, computer science, engineering, and chemistry.

PSO11: Develop the following experimental tools: Numerically model simple physical systems using Euler's method, curve fitting, and error analysis.

PSO12: Analyze physical problems and develop correct solutions using natural laws

Course Outcomes

Mechanics (PHY-111)

On successful completion of this course students will be able to do the following:

1. Demonstrate an understanding of Newton's laws and applying them in calculations of the motion of simple systems.
2. Use the free body diagrams to analyse the forces on the object.
3. Understand the concepts of energy, work, power, the concepts of conservation of energy and be able to perform calculations using them.
4. Understand the concepts of elasticity and be able to perform calculations using them.
5. Understand the concepts of surface tension and viscosity and be able to perform calculations using them.
6. Use of Bernoulli's theorem in real life problems.
7. Demonstrate quantitative problem solving skills in all the topics covered

Physics Principles and Applications (PHY-112)

On successful completion of this course students will be able to do the following:

1. To understand the general structure of atom, spectrum of hydrogen atom.
2. To understand the atomic excitation and LASER principles.
3. To understand the bonding mechanism and its different types.
4. To demonstrate an understanding of electromagnetic waves and its spectrum.
5. Understand the types and sources of electromagnetic waves and applications.

6. To demonstrate quantitative problem solving skills in all the topics covered.

Heat and Thermodynamics (PHY-121)

After successfully completing this course, the student will be able to do the following:

1. Describe the properties of and relationships between the thermodynamic properties of a pure substance.
2. Describe the ideal gas equation and its limitations.
3. Describe the real gas equation.
4. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.
5. Analyse the heat engines and calculate thermal efficiency.
6. Analyse the refrigerators, heat pumps and calculate coefficient of performance.
7. Understand property 'entropy' and derive some thermo dynamical relations using entropy concept
- . 8. Understand the types of thermometers and their usage.

Electricity and Magnetism (PHY-122)

On successful completion of this course students will be able to do the following:

- 1) To understand the concept of the electric force, electric field and electric potential for stationary charges.

- 2) Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law.
- 3) To understand the dielectric phenomenon and effect of electric field on dielectric.
- 4) To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws.
- 5) To study magnetic materials and its properties.
- 6) Demonstrate quantitative problem solving skills in all the topics covered.

Physics paper III: Practical (PHY 123)

After successfully completing this laboratory course, the students will be able to do the following:

1. Acquire technical and manipulative skills in using laboratory equipment, tools, and materials.
2. Demonstrate an ability to collect data through observation and/or experimentation and interpreting data.
3. Demonstrate an understanding of laboratory procedures including safety, and scientific methods.
4. Demonstrate a deeper understanding of abstract concepts and theories gained by experiencing and visualizing them as authentic phenomena.
5. Acquire the complementary skills of collaborative learning and teamwork in laboratory settings.

Mathematical Methods in Physics (Phy 231)

Learning Outcomes: After the completion of this course students will be able to

- Understand the complex algebra useful in physics courses.
- Understand the concept of partial differentiation.
- Understand the role of partial differential equations in physics.
- Understand vector algebra useful in mathematics and physics.
- Understand the concept of singular points of differential equations.

Electronics(phy 232)

1. Understand the relation in electricity.
2. Design circuits using transistors & operational amplifiers.
3. Understand the Boolean algebra & logic circuits

Practical Course I (Phy 233)

After completing this practical course students will be able to

- Use various instruments and equipment.
- Design experiments to test a hypothesis and/or determine the value of an unknown quantity.
- Investigate the theoretical background of an experiment.

- Setup experimental equipment to implement an experimental approach.
- Analyse the data, plot appropriate graphs and reach conclusions from data analysis.
- Work in a group to plan, implement and report on a project/experiment.
- Keep a well-maintained and instructive laboratory logbook

Oscillations, waves and Sound (Phy 241)

On completion of this course, the learner will be able:

- To study underlying principles of oscillations and its scope in development.
- To understand and solve the equations / graphical representations of motion for simple harmonic, damped, forced oscillators and waves.
- To explain oscillations in terms of energy exchange with various practical applications.
- To solve numerical problems related to undamped, damped, forced oscillations and superposition of oscillations.
- To study characteristics of sound, decibel scales and applications.

Optics (Phy 242)

On successful completion of this course the students will be able to

- Acquire the basic concept of wave optics.
- Describe how light can constructively and destructively interfere.

- Explain why a light beam spread out after passing through an aperture
- Summarize the polarization characteristics of electromagnetic wave
- Understand the operation of many modern optical devices that utilize wave optics
- Understand optical phenomenon such polarization, diffraction and interference in terms of the wave model
- Analyze simple example of interference and diffraction.

Practical Course II (Phy 243)

After completing this practical course students will be able to

- Use various instruments and equipment.
- Design experiments to test a hypothesis and/or determine the value of an unknown quantity.
- Investigate the theoretical background of an experiment
- Setup experimental equipment to implement an experimental approach.
- Analyse the data, plot appropriate graphs and reach conclusions from data analysis.
- Work in a group to plan, implement and report on a project/experiment.
- Keep a well-maintained and instructive laboratory logbook.




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Department of Mathematics

Programme Specific Outcomes (PSO)

1. Enhancing students' overall development and to equip them with mathematical modelling abilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
2. Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study
3. A student should get adequate exposure to global and local concerns that explore them many Aspects of Mathematical Sciences
4. A student be able to apply their skills and knowledge, that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion
5. A student should be made aware of history of mathematics and hence of its past, present and Future role as part of our culture.

Course Outcomes (CO): F.Y.B.Sc SEM I

MT-111 : Algebra

- i) The Mathematical maturity of students in their current course and future courses shall develop.

ii) The student develops theoretical, applied and computational skills in Algebra.

MT-112 Calculus-I

i) Give the students a sufficient knowledge of fundamental principles, methods and a clear perception of in numerous power of mathematical ideas and tools for solving Calculus Problems and know how to use them by Modelling, solving and interpreting.

MT-113 : Mathematical Practical Course:

i) The student get knowledge of Maxima Software, using this software they can solve mathematics problems.

ii)The students get knowledge and Skill of command of Mathematics language.

MT-121 : Analytical Geometry

i) A student should be able to recall basic facts about Analytical Geometry and should be able to display knowledge of conventions such as notations, terminology and recognize basic geometrical figures and graphical displays, state important facts resulting from their studies.

ii) A student should get a relational understanding of Analytical Geometry concepts and concerned structures, and should be able to follow the patterns involved, mathematical reasoning

MT-122 : Calculus-II

i) Reflecting the broad nature of the Calculus and developing mathematical tools for continuing further study in various fields of science and technology.

ii) The student gains confidence in proving theorems and solving

problems in Calculus.

MT-123: Mathematical Practical Course:

i) Maxima software is employed in education and research by mathematicians, physicists, engineers, and economists, coping with the major commercial CAS systems of today. Therefore students will get updated.

S.Y.BSc SEM I

Course MT211: Multivariable Calculus

After successfully completing this course, students will be able to:

CO1: Recall the definitions of the topics in multivariable calculus.

CO2: Recognize all the definitions and concepts by giving examples of multivariable calculus.

CO3: Describe the concepts and solve simple examples of multivariable calculus by using basic definitions.

CO4: Solve tricky examples of multivariable calculus by using correct methods

CO5: Illustrate theorems in multivariable calculus by using basic concepts and definitions.

CO6: Classify and apply concepts for solving problems in multivariable calculus by using correct method.

CO7: Analyze and draw diagrams for solving examples of multivariable calculus.

CO8: Choose appropriate method for solving examples in multiple integrals by using double or triple integrals.

Course MT212: Discrete Mathematics

After successfully completing this course, students will be able to:

CO1: Recall basics of logics, permutations (arrangements), combinations(selections)

CO2: Define concepts as Proposition, Quantifier, its types universal and existential, Principle of Addition, Principle of multiplication

CO3: Describe the methods such as direct method and indirect method to check validity of Argument

CO4: Explain the truth values of Nested quantifier, Validity of arguments and provide counter examples where necessary

CO5: Apply the formula of Advanced counting technique to solve the problems

CO6: Solve the sums based on counting like arrangement and selections using repetition and non-repetition

CO7: Classify the problems of arrangements and selections with repetitions and without repetitions

CO8: Explain the counting arrangements using Venn diagrams

Course MT213: Practical based on MT211, MT212

CO1: Solve propositions by truth tables

CO2: Calculate limit continuity and differentiability of function in two variables

CO3: Discuss the validity of a proposition using direct and indirect method

CO4: Discuss the maxima and minima of functions

CO5: Solve examples such as finding intersection and union of two or more sets using inclusion exclusion principle

CO6: Calculate area and volume for function using double and triple integration

CO7: Classify the problems of arrangements and selections with repetitions and without repetitions

CO8: Draw level curves for various functions using graph such as $f(x,y) = x^2 + y^2$

S. Y. B Sc (Mathematics) (Sem – II)

Course MT221: Linear Algebra

After successfully completing this course, students will be able to:

CO1: Recall the algebraic properties, commutative, associative laws etc of real numbers.

CO2: Define concepts as Vector Spaces, subspace, span, kernel, linearly dependent etc.

CO3: Describe spanning of vector space, inner product of vectors, linear transformation for set of vectors

CO4: Give counter examples for set not satisfying properties of subspace

CO5: Solve examples to find inverse of a linear transformation and check whether linear transformation is bijective or not.

CO6: Apply dimension theorem to find nullity and dimension of vector space.

CO7: Calculate coordinate vector, orthogonality, orthonormality, norm of vectors using formulas.

CO8: Explain Gram Schmidt process to convert basis to orthonormal basis

Course MT222: Numerical techniques

After successfully completing this course, students will be able to:

CO1: Recall definitions and formulae of various numerical methods for finding roots of the equations, interpolation,

CO2: Define concepts as Aitken's D process

CO3: Describe methods of solving algebraic and non-algebraic equations

CO4: Give original examples for concepts in numerical methods

CO5: Solve the problems in Numerical methods

CO6: Apply theorem to find numerical solution

CO7: Calculate numerical integration

CO8: Explain concepts of numerical methods and evaluate problems

Course MT223: Practical based on MT221, MT222

After successfully completing this course, students will be able to:

CO1: List solutions of algebraic and transcendental equations

CO2: Discuss linear independence of a set

CO3: Solve examples by using interpolation formula

CO4: Solve examples of finding rank, nullity using dimension theorem

CO5: Solve the problems in Numerical methods

CO6: Solve differential equations using Euler's method and Runge Kutta method

CO7: Calculate numerical integration




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**Department of
Commerce**

Programme outcomes: After successful completion of three-year degree programme in commerce student should be able to...

1. The powers conferred by the RBI and its guidelines are the parameter is made known to the students. 2. An Understanding solved and recognised practical. The students are well acquainted with the development in the industries.
3. The new trends in banking sector is made loan to the students with the help of Banking Regulation Act,1949
4. Use of modern technology such as Tally ERP -9.00 and GST
5. The Role of GST in the economic prosperity and its practical Application is familiar to the students.
6. SEBI guideline and its impact on stock exchange is been an important contribution to the society is imparted to the students.
7. Awareness of income tax and structure is made familiar to the students.
8. Corporate social Responsibility of the company and its implementation according to the companies Act 2013 has to be practice are mandatory

• **Programme specific outcomes:**

- PSO-1 To know the marketing Mix concepts
- PSO-2.Gain the knowledge of banking through theory and practical
- PSO-3.Importance of soft skill is well-known to the students.
- PSO-4.The theories of Maslow, McGregor, Henry Fayola, ,F.W.Taylor, Ouchi,has practical relevance.
- PSO-5.Accounting standards and its various concept has been made known to the students
- PSO-6 Employee provident funds and Bonus Act usefulness is being made known to the students
- PSO-7 Understand the GST & Income tax concept up-to-date.
- PSO-8 Gain the knowledge of ascertainment of cost through theory and practical.

F.Y.B.Com (Credit pattern 2019) Sem I

Course outcomes:

After completion of this courses student should be able to.....

112 FinancialAccounting:

1. To impart the knowledge of various accounting concepts
2. To instill the knowledge about accounting procedures, methods and techniques.
3. To acquaint them with practical approach to accounts writing by using software package.

113 Business Economics (Micro)

1. To expose Students of Commerce to basic micro economic concepts and inculcate an analytical Approach to the subject matter.
2. To stimulate the student interest by showing the relevance and use of various economic theories.
3. To apply economic reasoning to problems of business.

115 – b. Banking and Finance [Fundamentals of Banking]

1. To acquaint the students with the fundamentals of banking.
2. To develop the capability of students for knowing banking concepts and Operations.
3. To make the students aware of banking business and practices.
4. To give thorough knowledge of banking operations.
5. To enlighten the students regarding the new concepts introduced in the banking system

116 – c. Marketing and Salesmanship [Fundamentals of Marketing]

- a) To understand the basic concept of marketing.
- b) To understand marketing philosophy and generating ideas for marketing research.
- c) To know the relevance of marketing in modern competitive world.
- d) To develop an analytical ability to plan for various marketing strategy.

Sem II 122 Financial Accounting:

1. To impart knowledge of various software used in accounting
2. To impart knowledge about final accounts of charitable trusts
3. To impart knowledge about valuation of intangible assets
4. To impart knowledge about accounting for leases.

123 Business Economics (Micro)

1. To understand the basic concepts of micro economics.
2. To understand the tools and theories of economics for solving the problem of decision making by consumers and producers.
3. To understand the problem of scarcity and choices.

125 – b. Banking and Finance [Fundamentals of Banking]

1. To develop the working capability of students in banking sector
2. To Make the Students aware of Banking Business and practices.
3. To enlighten the students regarding the new concepts introduced in the banking system

126 – c. Marketing and Salesmanship [Fundamentals of Marketing]

1. To introduce the concept of Salesmanship.
2. To give insight about various techniques required for the salesman.
3. To inculcate the importance of Rural Marketing.
4. To acquaint the students with recent trends in marketing and social media marketing

S.Y. B.Com. (Credit pattern 2019) Sem III

231. Business Communication.

1. To understand the concept, process and importance of communication.
2. To develop awareness regarding new trends in business communication.
3. To provide knowledge of various media of communication.
4. To develop business communication skills through the application and exercises.

232. Corporate Accounting

1. To make aware the students about the conceptual aspect of corporate accounting
2. To enable the students to develop skills for Computerized Accounting
3. To enable the students to develop skills about accounting standards

233. Business Economics (Macro)

1. The objective of the course is to familiarize the students the basic concept of Macro Economics and Application.
2. To Study the behaviour of the economy as a whole.
3. To Study the relationship among broad aggregates.
4. To apply economic reasoning to problems of the economy.

234. Business Management

1. To provide basic knowledge & understanding about business management concept.
2. To provide an understanding about various functions of management.

235. Elements of Company Law.

- 1) To impart students with the knowledge of fundamentals of Company Law.
- 2) To update the knowledge of provisions of the Companies Act of 2013.
- 3) To apprise the students of new concepts involving in company law regime.
- 4) To acquaint the students with the duties and responsibilities of Key Managerial Personnel.
- 5) To impart students the provisions and procedures under company law.

b. Banking & Finance I

- 1) To evaluate the student and knowledge impart of the banking sector
- 2) To know the importance of RBI and it guidelines
- 3) To seek opportunities in the banking sector e.

Sem IV

241. Business Communication.

1. To understand the concept, process and importance of communication.
2. To acquire and develop good communication skills requisite for business correspondence.
3. To develop awareness regarding new trends in business communication.
4. To provide knowledge of various media of communication.
5. To develop business communication skills through the application and exercises.

242. Corporate Accounting

1. To acquaint the student with knowledge of corporate policies of investment for expansion and growth through purchase of stake in or absorption of smaller units.
2. To develop the knowledge among the student about consolidation of financial statement with the process of holding.
3. To update the students with knowledge of the process of liquidation of a company
4. To introduce the students with the recent trends in the field of accountancy

243. Business Economics (Macro)

1. To familiarize the students to the basic theories and concepts of Macro Economics and their application.
2. To understand the theories of money.
3. To understand the phases of trade cycle and policy measures to elongate the trade cycle.
4. To understand various concepts related to public finance.
5. To understand credit creation of banks and money measures of RBI.

244. Business Management

1. To provide basic knowledge & understanding about business management concept.
2. To provide an understanding about various functions of management.

245. Elements of Company Law.

1. To develop general awareness among the students about management of company

2. To have a comprehensive understanding about Key managerial Personnel of company and their role in Company administration.
3. To acquaint the students about E Governance and E Filing under the Companies Act, 2013.
4. To equip the students about the various meetings of Companies and their importance.
5. To make students capable of becoming good human resource of the corporate sector

b. Banking & Finance I

1. To provide the knowledge of Cooperative Banking in India
2. To analyze the functioning of Development Banking
3. To create the awareness about Banking Sector Reforms
4. To understand the role of various committees on Banking Sector Reforms e.

T.Y.B. Com (2019 pattern)

Sem V

351 - Business Regulatory Framework

- a. To provide conceptual knowledge about the framework of business Law in India.
- b. To orient the students about the legal aspect of business.
- c. To create awareness among the students about legal environment relating to the Contract Law, Partnership Act, Sale of Goods Act in India.
- d. To understand the emerging issues relating to e-commerce, e-transaction issues and E Contracts

352- ADVANCED ACCOUNTING

- a. To acquaint the student with knowledge about various concepts, objectives, and applicability of some important accounting standards.
- b. To develop the knowledge among the students about reorganization of business regarding restructuring the capital.
- c. To update the students with knowledge for preparation of final accounts of a Banking Companies with the provisions of Banking Regulation Act 1949.
- d. To empower to students with skills to prepare the investment account in simple and summarized manner.

353- Indian & Global Economic Development

- a. Students will be able to understand present Economic Scenario of Indian Economy as well as World Economy.

b. Students will be able to understand the various aspects of development in Agricultural, Industrial and service sector in India.

c. Student will be able to critically evaluate the role of India in international economy.

d. Students will be able to evaluate the working of international financial organization and institutions.

354- Auditing& Taxation

a. To acquaint themselves about the Definition, Nature, Objectives and Advantages of Auditing, Types of Audit, Errors and Fraud, Audit Program, Notebook, Working Paper, Internal Control, Check.

b. To get knowledge about concept of Checking, Vouching, Verification and Valuation, Types of Audit Report and Auditing Assurance Standard.

c. To understand the provision related Qualification, Disqualification, Appointment, Removal, Rights ,Duties and Liability of Company Auditor and Provisions regarding Tax Audit as per Income Tax Act 1961 (Section 44 AA to 44AE).

d. To know the various new concepts in computerized system and Forensic Audit.

355- Special Paper II b. Banking and Finance-Special Paper II

a. To acquaint the students with Indian Financial System and its various segments.

b. To make the students aware about Indian Money Market.

c. To analyse and understand the functions of Indian Capital Market. d. To enable the students the functioning of Foreign Exchange Market.

Banking and Finance-Special Paper III

a. To familiarize the Banking Laws and Practice in correlation to the Banking System in India.

b. To understand the legal aspects of Banking transactions and its implication as a Banker and as a customer.

c. To familiarize the students with the Banking Laws and Practices in India.

d. To make students capable of understanding and applying the legal and practical aspects of banking to help them technically sound in banking parlance.

SEM VI

361 - Business Regulatory Framework

1. To develop general awareness of Business Law among the students.

2. To understand the various statutes containing regulatory mechanism of business and its relevant provisions including different types of partnerships.

3. To have a understanding about the landmark cases/decisions having impact on business laws

362- Advanced Accounting

1. To instill the knowledge about accounting procedures, methods and techniques.

2. To impart students' knowledge of various Advanced Accounting Concepts.

363- Indian & Global Economic Development

1. To develop ability of students to analyze economic development process of India.
2. To acquaint the students with the knowledge of recent trends in Human Development Index.
3. To acquaint students with the emerging issues in policies of India's foreign trade.
4. To update the students about International institutions and organizations.

364- Auditing & Taxation

1. To understand the basic concepts of Income Tax Act, 1961 and create awareness of direct taxation among the students.
2. To understand the income tax rules and regulations and its provisions.
3. To have a comprehensive knowledge of calculation various types of income.
4. To know the recent changes made by the finance bill (Act) every year and its impact on taxation of person.
5. To acquaint the students on Income tax department portal (ITD), e-filing and e-services mechanism relating to Assesses.

365- Special Paper II b. Banking and Finance-Special Paper II

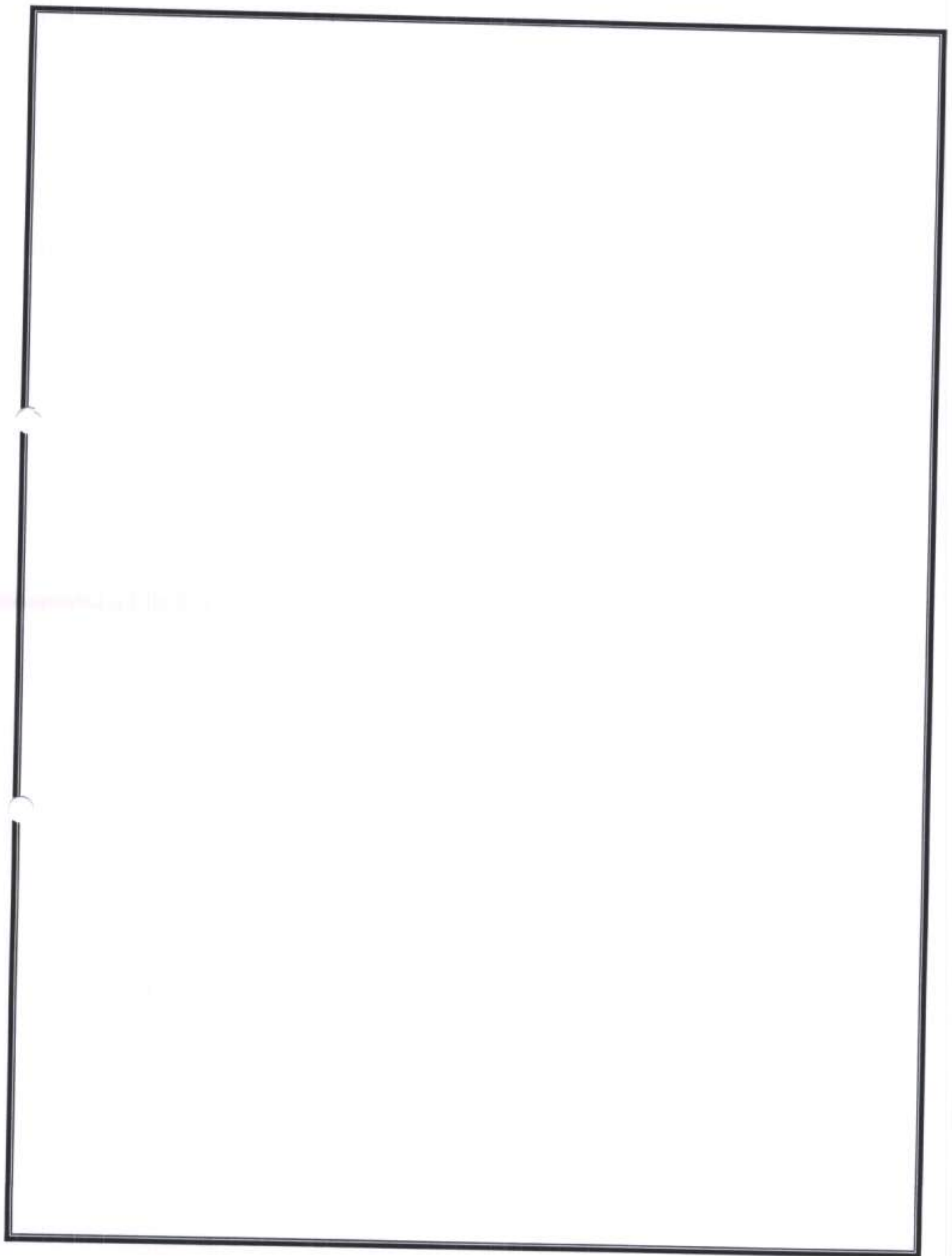
1. To familiarize students about various basic concepts of stock market.
2. To analyse the types and process of stock trading.
3. To enable the students to understand the functions and working of Non -Banking Financial Institutions in India .

366- Special Paper III b. Banking and Finance-Special Paper III

1. To familiarize students about concept and types cybercrimes in banking.
2. To understand the aspects of paying and collecting banker.
3. To analyse the banker and customers relationship.
4. To enable the students to apply the legal and practical aspects of bank advances.




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TAL. SANGAMNER DIST. A. NAGAR



Department of Arts

PROGRAMME OUTCOMES (PO)

: The programmes under Arts faculty are broadly categorized into Languages and Social Sciences.

PO:1- Specific, measurable statements of what graduating / existing students should know, be able to do , believe or value after completing the program.

PO:2- Depends on the program mission statements.

PO:3- Students summarize Language acquisition theory and research.

PO:4- Students evaluate pedagogical materials.

PO:5- Students build the multidimensional personality and able to correlate Languages with social sciences.

PO:6- Demonstrate proficiency in a range of techniques and media.

PO:7- Communication: Demonstrate familiarity with and ability to analyze both verbally and in writing issues and forms of contemporary art with a clear understanding of historical precedents.

PO:8- Critical Thinking: Demonstrate the ability to articulate an insightful response and analysis of a work of art in order to participate in discussions and studio critiques.

DEPARTMENT OF MARATHI

F.Y.B.A. COURSE OUTCOMES Course –

मराठी साहित्य कथा एकांकिका आणि भाषिक कौशल्य विकास

Objectives

१) मराठी भाषा, मराठी साहित्य आणि मराठी संस्कृती यांचे अध्ययन करणे.

(२) साहित्य आस्वाद आणि मूल्यमापन क्षमता विकसित

विकसित करणे.

मराठी भाषेची उपयोजनाको विकसित करणे

Outcomes

१) मराठी भाषा, मराठी साहित्य अभ्यासक्रमा

विद्यार्थ्यांनी अध्ययन केले.

२ साहित्यविषयक कथा एकांकिका) आकलन आस्वाद आणि मूल्य मापनमा

३) कथा आणि कविता या साहित्य जीव विकसित केली

४) मराठी भाषेची उपयोजनात्मक कौशल्ये उदा वाचन लेखन मद
-लेखन, कल्पनाविस्तार.

S.Y.B.A. COURSE OUTCOMES

course (CG-2) आधुनिक मराठी साहित्य आणि उपयोजित मराठी

Objectives

१) शुद्धाची ओळख देणे.

२) पारिभाषिक शब्दाची ओळख करून देणे.

३) चार या साहित्य प्रकारांच्या तात्विक पटक देणे

४) आधुनिक मराठी साहित्यातील निवडक चरित्र आत्मचरित्रात्मक याचे आकलन
आस्वाद आणि मूल्यमापन परवांची क्षमता विद्यार्थीमध्ये निर्माण करणे.

Outcomes

1) पारिभाषिक शब्दांची ओळख करून घेतली.

2) चरित्र व आत्मचरित्र या साहित्य प्रकारांच्या तात्विक घटकांचे ज्ञान विद्यार्थी
घेतले

3) व माझी जडण घडण (आत्मच लेखन याविषयीचे आकलन

आस्वादमूल्यमापन करण्याची क्षमता विकसित झाली.

[23 Course [31] मराठी साहित्यातील विविध साहित्य प्रकार

Objectives

- १) मराठी साहित्यप्रकाराच्या घटकाचे ज्ञान देणे.
- २) अभिसाहित्य संस्कार पवि
- ३) साहित्य कृतीचे आकलन आस्वाद व मूल्यमापन करण्याची दृष्टी निर्माण
- ४) साहित्याची क्षमता विकसित करणे.

Outcomes

- १) प्रकारांचे ज्ञान घेतले
- २) अभिजात साहित्यकृतींचा संस्कार
- ३) 'फकिरा' (टमाटक) या साहित्यकृतीचे आकलन आद मूल्यमापन केले गेले.
- ४) साहित्याचा सूक्ष्म पातळीवर अभ्यास करण्याची क्षमता विद्यार्थ्यांकसित झाली.
- 3) Course (9-2) ची मराठी वाङ्मयाचा इतिहास (इ.स.१८१८ ते १९६०)

Objectives

- १) मराठी साहित्याच्या ऐतिहासिक परंपरेचे स्थान देणे
- २) विशिष्ट कालखंडाच्या पार्श्वभूमीवर साहित्यामागील प्रेरणा प्रवृत्तीचे ज्ञान करून देणे
- ३) साहित्य विकसनशील परंपरेचे स्थूल दे
- ४) अभ्यास करण्याची पूर्वतयारी करणे.

Outcomes

- १) मराठी साहित्याच्या ऐतिहासिक परंपरेचे ज्ञान विद्यार्थ्यांनी करून घेतले
- २) विशिष्ट कालखंडाच्या पार्श्वभूमीवर माहिण्यामागील प्रेरणा प्रवृत्तीचे ज्ञान विद्यार्थ्यांनी झाले.
- ३) साहित्य प्रकाशाच्या विकसनशील परंपरेचे स्थूल ज्ञान विद्यार्थ्यांना झाले
- ४) पदनुसार अभ्यास करण्याची पूर्वतयारी विद्यार्थ्यांनी केली.

T.Y.B.A COURSE OUTCOMES:

Course (G-3)

आधुनिक मराठी साहित्य आणि व्यावसायिक व उपयोजित मराठी व आस्वाद घेण्याची क्षमता अभिवनील विविध साहित्यांचा परिचय व त्याचे आकलन

- २) नेमलेल्या कलाकृतीचा संदर्भ साहित्य परंपरा स्थूल परिचय करून देणे.
- ३) भाषेचे योचित आकलन करण्याची वापर करण्याची क्षमता.
- ४) प्रावर्णन या साहित्य प्रकारांचे तात्विक विवेचन करणे.
- ५) विद्यार्थ्यांचा लेखन क्षमता विकसित करून त्यांना परीक्षणाची आवड निर्माण व्हावी यासाठी प्रवृत्त कर

Outcomes

- १) आधुनिकातील विविध साहित्यांचा विद्यार्थ्यांनी परिचय करून घेऊन त्याचे आकलन व स्वाक्षरीसाठी अध्ययन केल
- २) साहित्य परंपरेत परिचित आकलन वापर करण्याची क्षमता विकसित केली गेली
- ३) निबंध या साहित्यप्रकाराचे विवेचन करण्याची क्षमता विकसित केली गेली.
- ५) वाचन लेखन व परीक्षण याविषयी आनिर्माण होण्याची क्षमता विकसित केली गेली.

T.Y.B.A. COURSE OUTCOMES

Course (5-3) साहित्य विचार

Objectives

- १) साहित्याचे स्वरूप समजावून घेणे
- २) साहित्य प्रयोजावून घेणे.
- ३) त्या समजावून
- ४) साहित्याची भाषा समजावून घेणे
- ५) साहित्याची आस्वादप्रक्रिया समजावून घेणे
- ६) साहित्यिक अभिरुची समजावून घेणे
- ७) वाङ्मयीन मूल्य समजावून घेणे
- ८) साहित्यातील पेणे

Outcomes

- (१) विद्यार्थ्यांनी साहित्याचे स्वरूप समजावून घेतले.
- (३) साहित्य निर्मिती प्रक्रिया समजावून घेतली
- ४) साहित्य भाषा समजावून घेतली,
- ५) साहित्याची आस्वादप्रक्रिया समजावून घेतली.
- ६) साहित्यिक समजावून घेतली
- (७) वाङ्मयीन मूल्य समजावून घेतली.
- ८) साहित्य आणि समाजातील परस्परसंबंध समजावून घेत

Course (S4) भाषाविज्ञान: वर्णनात्मक व ऐतिहासिक

Objectives

- १) भाषेचे स्वरूप का महत्व आणि भाषेची प्रमुख अंग जागून पे
- २) वरूप महत्व जाणून घेणे
- ३) या रचना व कार्य आणि स्वनिर्मितीची प्रक्रिया सम
- ४) ऐतिहासिक भाषा पद्धतीचे स्वरूप महत्व लक्षात घेणे.
- (५) मराठी भाषेचा उत्पत्ती काळ मराठी भाषेची ऐतिहासिक वाटा आणून घेणे.

Outcomes

- १) भाषेचे स्वरूप का महत्व आणि भाषेची प्रमुख जाणून
- २) भाषा पद्धतीचे स्वरूप महत्व जाणून घेतले.
- ३) नवर्य आणि स्वनिर्मितीप्रक्रिया समजावून घेतली
- ४) पद्धतीचे स्वरूप महत्व लक्षा
- (५) मराठी भाषेचा उत्पत्ती काळ मराठी भाषेची ऐतिहासिक पेतली

एफ. वाय. बी. ए. तथा बी. कॉम. (वैकल्पिक हिन्दी)

१. छात्रो को हिन्दी साहित्य से परिचित किया ।
२. हिन्दी कहानी साहित्य से अवगत किया ।
३. हिन्दी भाषा द्वारा संवाद कौशल विकसित किया ।

४. मौलिक लेखन की ओर रुझान बढ़ा दिया ।
५. विज्ञापन लेखन कौशल विकसित किया।
६. अनुवाद संबंधी जानकारी दी।
- ७ हिन्दी कम्प्यूटिंग का परिचय दिया ।
८. हिन्दी काव्य साहित्य का परिचय दिया।
९. विज्ञापन लेखन कौशल विकसित किया।

एस. वाय. बी. ए.

पेपर G2

1. छात्रों को प्रतिनिधी कहानी कारो तथा कविओ का परिचय काराया ।
2. छात्रों को कहानी तथा कविता की विशेषताओं से परिचय काराया ।
3. छात्रों को व्यावहारिक तथा कार्यालय पत्र लेखन से अवगत काराया ।
४. छात्रों को व्यावहारिक क्षेत्र से परिचित काराया ।
५. छात्रों को शब्द युग्म ज्ञान का काराया

पेपर S1

१. छात्रों को भाषा की परिभाषा, विशेषताए तथा भाषा के विविध रूपों की जानकारी दी ।
2. छात्रों को बोलीयों तथा भाषा विकास के प्रमुख वाद से परिचित किया।
3. छात्रों में भाषा के वैज्ञानिक अध्ययन की दृष्टी विकसित किया।
४. भाषा विज्ञान के अंगों तथा भाषा विज्ञान के शाखाओं का परिचय काराया ।

५. भाषा विज्ञान अन्य विज्ञान से परिचय कराया ।

पेपर S1

१. छात्रों में नाटक और उपन्यास समीक्षा की क्षमता विकसित की।
२. छात्रों में नाटक और उपन्यास आस्वादन की क्षमता विकसित की।
३. मध्ययुगीन काव्य से परिचित किया।
४. साहित्य के शिल्प एवं सौंदर्य से परिचित किया ।
५. मध्ययुगीन कवियों के योगदान से परिचित किया

टी. वाय. बी. ए.

पेपर G3

१. छात्रों को आत्मकथा विधा तथा काव्य नाटक के स्वरूप का परिचय दिया। छात्रों को पारिभाषिक शब्द तथा संक्षिप्त यो के माध्यम से
२. सरकारी कार्यालयों में प्रयुक्त की जानेवाली कार्यालयीन हिन्दी का परिचय दिया।
३. छात्रों को सरकारी पत्र लेखन से अवगत कराया।
४. छात्रों को पत्रकारिता के विभिन्न पाहलूओं से परिचित कराया।
५. छात्रों में अंग्रेजी से हिन्दी में अनुवाद की कला को विकसित किया।

पेपर S3 (हिन्दी साहित्य का इतिहास)

1. हिन्दी साहित्य के इतिहास की लेखन परंपरा से अवगत किया।
2. पारिभाषिक शब्द तथा संक्षिप्त यो के माध्यम से परिचय दिया।
3. छात्रों को। सरकारी कार्यालयों में प्रयुक्त की जानेवाली कार्यालयीन हिन्दी का परिचय दिया
4. छात्रों को सरकारी पत्र लेखन से अवगत कराया।
5. छात्रों को पत्रकारिता के विभिन्न पाहलूओं से परिचित कराया।
6. छात्रों में अंग्रेजी से हिन्दी में अनुवाद की कला को विकसित किया।

पेपर S3 (हिन्दी साहित्य का इतिहास)

- 1.. हिन्दी साहित्य के इतिहास की लेखन परंपरा से अवगत किया।
- 2 हिन्दी साहित्य के इतिहास कालखंडी का परिचय दिया।
3. हिन्दी साहित्य की प्रति निधी राचनाओ तथा रचना कारो का परिचय दिया ।
4. हिन्दी साहित्य के विकसक्रम तथा साहित्य परिवर्तनों का परिचय दिया।
5. हिन्दी साहित्य के इतिहास के माध्यम से साहित्य और युग जीवन का संबंध अवगत कराया ।

पेपर S4 (काव्यशास्त्र)

1. छात्रों को काव्य साहित्य की परिभाषा, स्वरूप, काव्य प्रयोजन, काव्य हेतुओं से परिचित किया।
2. छात्रों को काव्य के तत्व, भेद तथा शब्द शक्ति का ज्ञान कराया
3. छात्रों को छंद और अलंकारों का परिचय दिया।
4. छात्रों को नाटक तथा अन्य गद्य भेदों का परिचय दिया।




PRINCIPAL
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५. छात्रों को रस के विभिन्न अंगों का परिचय दिया।

DEPARTMENT OF ENGLISH

PROGRAMME SPECIFIC OUTCOMES (PSO):

PSO:1- Use correct English in oral as well as written form.

PSO:2- Inculcate the human values for one's transformation of behaviour.

PSO:3- Interpret the literary works by critical analysis.

PSO:4- Compare literary works of the great writers and philosophers by using their logic and literary competency. Nurture themselves in soft skills and develop research aptitude.

PSO:5- Find jobs for their livelihood. Be motivated for their further education.

F. Y. B. A. COURSE OUTCOMES (CO) (SEM. I and II) F. Y. B. A. :

COMPULSORY ENGLISH- I AND II

CO1. To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English.

CO2. To instill human values and develop the character of students as responsible citizens of the world.

CO3. To develop the ability to appreciate ideas and think critically.

CO4. To enhance employability of the students by developing their linguistic competence and communicative skills. CO5. To revise and reinforce structures already learnt in the previous stages of learning.

F. Y. B. A- OPTIONAL ENGLISH (GENERAL PAPER-1)

CO1. To expose students to the basics of literature and language and develop an integrated view about language and literature in them.

CO2. To acquaint them with minor forms of literature in English and help them to appreciate the creative use of language in literature.

CO3. To introduce them to the basics of phonology of English so that they can pronounce better and speak English correctly.

CO4. To prepare students to go for detailed study and understanding of literature and language

CO5. To enhance the job potential of students by improving their language skills

S. Y. B. A. COMPULSORY ENGLISH

CO1. To develop competence among the students for self-learning

CO2. To familiarize students with excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English

CO3. To develop students' interest in reading literary pieces

CO4. To expose them to native cultural experiences and situations in order to develop humane values and social awareness

CO5. To develop overall linguistic competence and communicative skills of the students

S. Y. B. A. GENERAL ENGLISH (G-2)

. Title of the Paper: Study of English Language and Literature

CO1. To expose students to the basics of short story, one of the literary forms.

CO2. To familiarize them with different types of short stories in English.

CO3. To make them understand the literary merit, beauty and creative use of language

CO4. To introduce some advanced units of language so that they become aware of the technical aspects and their practical usage.

CO5. To prepare students to go for detailed study and understanding of literature and language

CO6. To develop integrated view about language and literature in them.

S. Y. B. A. SPECIAL PAPER-I (S-1)

Title of the Paper: Appreciating Drama

CO1. To acquaint and familiarize the students with the terminology in Drama Criticism (i.e. the terms used in Critical Analysis and Appreciation of Drama)

CO2. To encourage students to make a detailed study of a few sample masterpieces of English Drama from different parts of the world

CO4. To develop interest among the students to appreciate and analyze drama independently

CO5. To enhance students awareness in the aesthetics of Drama and to empower them to evaluate drama independently

S. Y. B. A SPECIAL PAPER-II (S-2)

Title of the Paper: Appreciating Poetry

CO1. To acquaint and familiarize the students with the terminology in poetry criticism (i.e. the terms used in critical analysis and appreciation of poems)

CO2. To encourage students to make a detailed study of a few sample masterpieces of English poetry

CO3. To enhance students awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate the poetry independently.

T. Y. B. A. COMPULSORY ENGLISH

CO1. To introduce students to the best uses of language in literature.

CO2. To familiarize students with the communicative power of English

CO3. To enable students to become competent users of English in real life situations

CO4. To expose students to varied cultural experiences through literature

CO5. To contribute to their overall personality development by improving their communicative and soft skills.

T. Y. B. A. GENERAL ENGLISH

(G-3) Title of the Paper: Advanced Study of English Language and Literature

CO1. To expose students to some of the best samples of Indian English Poetry

CO2. To make the students see how Indian English poetry expresses the ethos and culture of India

CO3. To make them understand creative uses of language in Indian English Poetry

CO4. To introduce students to some advanced areas of language study

CO5. To prepare students to go for detailed study and understanding of literature and language

CO6. To develop integrated view about language and literature among the students.

T.Y.B.A. SPECIAL PAPER III (S-3)

Title of the Paper: Appreciating Novel

- CO1. To introduce students to the basics of novel as a literary form
- CO2. To expose students to the historical development and nature of novel
- CO3. To make students aware of different types and aspects of novel
- CO4. To develop literary sensibility and sense of cultural diversity in students
- CO5. To expose students to some of the best examples of novel.

T.Y.B.A. SPECIAL PAPER IV(S-4)

Title of the Paper: Introduction to Literary Criticism

- CO1. To introduce students to the basics of literary criticism
- CO2. To make them aware of the nature and historical development of criticism
- CO3. To make them familiar with the significant critical approaches and terms
- CO4. To encourage students to interpret literary works in the light of the critical approaches
- CO5. To develop aptitude for critical analysis.

Department of Economics

Programme Outcomes

After successfully completion of three year degree program in Economics student should be able to;

- PO-1. Present economic theory and applications in written and oral form
- PO-2. Demonstrate an understanding of microeconomic and macroeconomic theory
- PO-3. Apply economic theory to issues in fields of economics
- PO-4.

carry out economic and policy analyses that draw on microeconomic theory, apply economic analysis to everyday problems in real world situations, to understand current events and evaluate specific policy proposals.

- PO-5. Explain the function of market and prices as allocative mechanisms.

PO-6. Apply the concept of equilibrium to both microeconomics and macroeconomics.

PO-7. Identify key macroeconomic indicators and measures of economics change, growth, and development.

PO-8. Identify and discuss the key concepts underlying comparative advantage

PO-9. Identify and explain major types of market failures.

Programme Specific Outcomes

PSO-1. To able to understand basic concepts of economics.

PSO-2. To able to analyse economic behaviour in practice.

PSO-3. Understand the economic way of thinking.

PSO-4. The ability to analyse historical and current events from an economic perspective.

PSO-5. The ability to write clearly expressing an economic point of view.

PSO-6. Be exposed to alternative approaches to economic problems through exposure to coursework in allied fields.

PSO-7. To create students' ability to suggest of the various economic problems.

Course outcomes of Economics

F.Y. B. A Economics (Indian Economic Environment)

1. To familiarize the students with the recent developments in the Indian Economy
2. To provide the students with the background of the Indian Economy with focus on contemporary issues like economic environment.
3. To help the students to prepare for varied competitive examinations
4. To enable students to understand and comprehend the current business scenario, agricultural scenario and other sectorial growth in the Indian context.
5. To make the student aware of the developments such as MSMEs, Digital Economy, E-Banking, BPO & KPO, etc.

Programme Outcome:-

1. Ability to develop an understanding of the economic environment and the factors affecting economic environment.
2. Ability to develop awareness on the various new developments in the different sectors of an economy – agriculture, industry, services, banking, etc.
3. Ability to compare and contrast Indian Economy with other world economies.
4. At the end of the course, the student should be able discuss and debate on the various issues and challenges facing the Indian Economic Environment.

S.Y.B.A Choice Based Credit System (CBCS)

G -2. Financial System Objectives (Course Outcomes) of the Paper:

1. To understand fundamentals of modern financial system.
2. To understand the recent trends and developments in banking system.
3. To understand the role of the Reserve Bank of India in Indian financial system.
4. To provide the knowledge of various financial and non-financial institutions.
5. To provide the students the intricacies of Indian financial system for better financial decision making.

S.Y.B.A. Economics (Revised Syllabus) S -1. Micro Economics Objectives (Course Outcomes) of the Paper:

1. To develop an understanding about subject matter of Economics.
2. To impart knowledge of microeconomics.
3. To clarify micro economic concepts
 - To analyse and interpret charts, graphs and figures.
4. To develop an understanding of basic theories of micro economics and their application.
5. To demonstrate that the theories discussed in class will usually be applied to real-life situations.
6. To help the students to prepare for varied competitive examinations Method of Teaching: Classroom lectures, Use of ICT, YouTube lectures,

S.Y.B.A. Economics (Revised Syllabus) S -2. Macro Economics Preamble – Objectives (Course Outcomes) of the Paper:

1. To introduce students to the historical background of the emergence of macroeconomics.
2. To familiarize students with the differences between microeconomics and macroeconomics.
3. To familiarize students with various concepts of national income.
4. To familiarize students with Keynesian macroeconomic theoretical framework of consumption and investment functions.
5. To introduce students to the role of money in an economy.
6. To introduce students to the conceptual and theoretical frameworks of inflation, deflation and stagflation, Business Cycle.

T.Y.B.A Economics spl 3 International Economics

1 Sem- V

1. To relate and recall the concept of International Economics and International Trade
2. To describe and apply the theories of international trade

3. To explain and comprehend the issues relating to terms of trade and Balance of Payment International Economics

Sem VI

1. Ability to relate and explain the concept of exchange Rate and foreign exchange Markets.
 2. Ability to describe the trends in growth, composition and Direction of India foreign Trade.
 3. Ability to comprehend the issue relating to foreign capital and Regional and international co-operative.
- Skill Enhancement Course Business Management 1. Management of Business.
2. Business planning and decision-making Leadership skills – Ability to work in teams at the same time, ability to show leadership quality.

T.Y.B.A Economics SPL VI Public Finance

1. To explain and assess the components and instruments of Fiscal Policy.
 2. To related to the concepts of budget and its components
 3. To describe and analyse the concept of deficit financing and its effect.
 4. To describe and explain the centre and state financial Relationship.
1. To related and recognize the nature and scope of public finance.
 2. To describe and analyse the concept of Public Revenue and its components.
 3. To explain types of public expenditure and reasons for rising public expenditure.
 4. To explain the types of Public Debt and its effect.

T.Y.B.A Economics General Paper 3 Indian economic Development Sem-V

- 1- To relate and recognize the concept will have ability
- 2- To describe and analyse the concept and indicators of Human Development.
- 3- To explain the characteristics of Development and Developed countries
- 4- To describe the constraints to the process of economic Development.

Indian economic Development Sem-VI

1. To describe and explain the process of Economic Planning.
 2. To describe and examine the changing structure of planning process in India.
- To describe and explain the relation between Economic Development and Environment.

T.Y.B.COM Course code 353 Indian & Global Economic Development

- 1- Students will be able to understand present Economic Scenario of Indian Economy as well as World Economy
2. Students will be able to understand the various aspects of development in Agricultural, Industrial and service sector in India.

3. Students will be able to critically evaluate the role of India in international economy. Students will be able to evaluate the working of international financial organization and institutions.

DEPARTMENT OF POLITICAL SCIENCE

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1. To foster curiosity in the students for Political Science.

PSO2. To create awareness amongst students for the basic of Political Science.

PSO3. To orient students about the importance of Indian Constitution.

PSO4. To provide an insight to the aspects of Political Theory.

PSO5. To understand the Local Self Government of Maharashtra. •

F.Y.B.A. COURSE OUTCOMES (CO) (Sem. I and II):

COURSE TITLE: INTRODUCTION TO INDIAN CONSTITUTION

CO1. To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government.

CO 2. To familiarize students with the working of the Constitution of India. •

S.Y.B.A. COURSE OUTCOMES (CO)

COURSE TITLE: - POLITICAL THEORY & CONCEPTS

CO1. This is an introductory paper to the concepts, ideas and theories in political theory. It seeks to explain the evolution and usage of these concepts, ideas and theories with reference to individual thinkers both historically and analytically. CO2. The different ideological standpoints with regard to various concepts and theories are to be critically explained with the purpose of highlighting the differences in their perspectives and in order to understand their continuity and change. CO3. Furthermore there is a need to emphasize the continuing relevance of these concepts today and explain how an idea and theory of yesteryears gains prominence in contemporary political theory.

COURSE TITLE: - WESTERN POLITICAL THOUGHT

CO1. This paper studies the classical tradition in political theory from Plato to Marx with the view to understand how the great Masters explained and analyzed political events and problems of their time and prescribed solutions.

CO2. The texts are to be interpreted both in the historical and philosophical perspectives to understand the universality of the enterprise of political theorizing. The limitations of the classical tradition, namely its neglect of women's concerns and issues and the non-European world are critically examined.

CO3. The legacy of the thinkers is explained with the view to establish the continuity and Change within the Western political tradition.

COURSE TITLE: - POLITICAL SOCIOLOGY

CO1. To introduces students to the basic social processes of society, social institutions and patterns of social behaviour. CO2. To train students to understand and to interpret objectively the role of social processes, social institutions and social interactions in their lives. •

T.Y.B.A. COURSE OUTCOMES (CO)

COURSE TITLE: -LOCAL SELF GOVERNMENT IN MAHARASHTRA

CO1. To introduce the students to the structure of Local Self Government of Maharashtra.

CO2. To make students aware of the various Local Self Institutions, their functions, Compositions and importance. CO3. To identify the role of Local Government and Local Leadership in development.

DEPARTMENT OF GEOGRAPHY

PO.1. Ability of Problem Analysis: Student will be able to analyses the problems of physical as well as cultural environments of both rural and urban areas. Moreover, they will try to find out the possible measures to solve those problems.

PO.2. Conduct Social Survey Project: They will be eligible for conducting social survey project, which is needed for measuring the status of development of a particular group or section of the society

PO.3. Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO.4. Application of modern instruments: Students will be able to learn the application of various modern instruments and by these; they will be able to collect primary data.

PO.5. Application of GIS and modern Geographical Map Making Techniques: They will learn how to prepare map based on GIS by using the modern geographical map-making techniques.

PO.6. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions from different perspectives.

PO.7. Development of Observation Power: As a student of Geography Course, they will be capable to develop their observation power through field experience and in future, they will be able to identify the socio-environmental problems of a locality.

PO.8. Development of Communication Skill and Interaction Power: After the completion of the course, they will be efficient in their communication skill as well as power of social interaction. Some of the students are being able to understand and write effective reports and design credentials, make effective demonstrations, and give and receive clear instructions.

PO.9. Effective Citizenship: Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO.10. Enhancement of the ability of Management: Demonstrate knowledge and understanding of the management principles and apply these to their own work, as a member and leader in a team, to manage projects. They will perform effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO.11. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.

PO.12. Understand Environmental Ethics and Sustainability: Understand the impact of the acquired knowledge in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.

PO.13. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context social, environmental and technological changes.

PROGRAMME SPECIFIC OUTCOMES GEOGRAPHY (PSO)

PSO1. Acquireing Knowledge of Physical Geography: Student will gain the knowledge of physical geography. Student will have a general understanding about the geomorphological and geotechnical process and formation. They will be able to correlate the knowledge of physical geography with the human geography.

PSO2. Acquireing Knowledge of Human Geography: They will be able to acquire the knowledge of Human Geography and will correlate it with their practical life.

PSO3. Ability of Problem Analysis: Student will be able to analyse the problems of physical as well as cultural environments of both rural and urban areas. Moreover they will try to find out the possible measures to solve those problems.

PSO4. Conduct Social Survey Project: They will be eligible for conducting social survey project which is needed for measuring the status of development of a particular group or section of the society.

PSO5. Application of modern instruments: Students will be able to learn the application of various modern instruments and by these they will be able to collect primary data.

PSO6. Application of GIS and modern Geographical Map Making Techniques: They will learn how to prepare map based on GIS by using the modern geographical map making techniques.

PSO7. Development of Observation Power: As a student of Geography Course they will be capable to develop their observation power through field experience and in future they will be able to identify the socioenvironmental problems of a locality

PSO8. Development of Communication Skill and Interaction Power: After the completion of the project they will be efficient in their communication skill as well as power of social interaction. Some of the students are being able to understand and write effective reports and design credentials, make effective demonstrations, and give and receive clear instructions.

PSO9. Enhancement of the ability of Management: Demonstrate knowledge and understanding of the management principles and apply these to their own work, as a member and leader in a team, to manage projects. They will perform effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PSO10. Understand Environmental Ethics and Sustainability: Understand the impact of the acquired knowledge in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.

PSO11. Life-long learning: Identify the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of societal and environmental change

COURSE OUTCOMES (CO) GEOGRAPHY (UG) GEOMORPHOLOGY (GEO- SEM-I)

CO1. Develop an idea about geomorphology and different types of fundamental concepts.

CO2. Explain different types of geomorphic processes like weathering and mass wasting and cycle of erosion.

CO3. Understand the processes of erosion, deposition and resulting landforms.

CO4. Acquire knowledge about slope forms and processes.

PRACTICALS (GEO- SEM-I)

CO1. Gain knowledge about topographical maps and apply this knowledge in ground surface.

CO2. Identification of different types of rock and minerals

HUMAN GEOGRAPHY (GEO- SEM-II)

- CO1. Gain knowledge about major themes of human geography.
- CO2. Develop an idea about space and society.
- CO3. Build an idea about population growth and distribution of population.
- CO4. . Know about population –resource relationship.

PRACTICALS (GEO-, SEM-II)

- CO1. Know about diagrammatic data presentation like line, bar and circle.
- CO2. Develop an idea about different types of thematic mapping techniques

SETTLEMENT GEOGRAPHY (GEO-, SEM-II)

- CO1. Build an idea about urban and rural settlements, and its relationship with environment and also different theories related to settlement geography.
- CO2. Know about classification and morphology of settlements.
- CO3. Understand the trends and patterns of world urbanization.
- CO4. Know about different theories of urban growth.

PRACTICALS (GEO- SEM-II)

- CO1. Brings direct interaction of different types of surveying instruments like Dumpy level and Theodolite with environment.
- CO2. Develop an idea about different types of thematic mapping technique

PHYSICAL GEOGRAPHY- PART I

- CO1. Understand different theories of the earth.
- CO2. Develop history of geomorphic ideas of different schools.

- CO3. Gain knowledge about earth's interior.
- CO4. Develop an idea about concept of earth's movements and related topography
- CO5. Acquire knowledge about different process of denudation.

PHYSICAL GEOGRAPHY - PART II

- CO1. Understand the processes of erosion, deposition and resulting landforms.
- CO2. Explain the development of drainage system in uniclinal and folded structure.
- CO3. Understand concept of normal cycle of erosion and its interruption.
- CO4. Develop an idea about types of coastal landforms.
- CO5. Acquire knowledge about hydrology.

Department of Hindi

Program Outcome of Bachelor of Arts (B.A.)

Students seeking admission for B.A. programme are expected to imbue with following quality which help them in their future life to achieve the expected goals.

- PO-1: Realization of human values.
- PO-2: Sense of social service.
- PO-3: Responsible and dutiful citizen.
- PO-4: Critical temper.
- PO-5: Creative ability. Programmes Specific Outcomes B.A. (Hindi)
- PSO-1: Creating an interest in literature.
- PSO-2: Availing the job opportunities in transformation and media.
- PSO-3: Developing language. PSO-4: Increasing the critical attitude about literary studies.
- PSO-5: Imbuing the literary research attitude.

Course Outcomes F.Y.B.A. SEM-I (Hindi)

- CO-1. Understanding the interrelation between literature and society.
- CO-2. Explaining the nature of Language and Literature.
- CO-3. Obtaining the skills of literary criticism.
- CO-4. Imbuing the essay writing skills.
- CO-5. Illustrating the nature of literary forms like one-act-play, travelogue and short-story.

B.A. SEM-II (Hindi)

CO-1. Introduction of medieval Hindi language and literature.

CO-2. Introduction of the contemporary literary works.

CO-3. Acquiring the skill of translation.

CO-4. Explanation of the need and significance of editing.

S.Y.B.A.(G2) SEM-III (Hindi) Poetry

CO-1. Acquaintance with oriental poetry.

CO-2. Understanding the nature and features of poetry.

CO-3. Creating the skills of critical appreciation of poems.

CO-4. Developing the poetic devices and their uses.

SEM-III (S1) Linguistics:

CO-1. Getting acquainted with modern linguistics.

CO-2. Understanding origin, nature and function of language.

CO-3. Getting information about phonetics.

CO-4. Enhancing the interest in Hindi Language.

SEM-III (S2) Medieval Hindi Literature:

CO-1. Introduction of the historical survey of medieval Hindi literature.

CO-2. Introduction of the literary forms in medieval literature.

CO-3. Explanation of the trends and structure of medieval Hindi Literature.

III Utility and Creativity of Hindi Language:

CO-1. Understanding the formal and informal language.

CO-2. Developing various language skills.

CO-3. Getting motivation for creative writing.

CO-4. Understanding the technique of mass communication

TYBA HINDI (G3) Kathher Gadya Sahitya Sem-V

1. To make students aware of memoir literature.

2. To make students aware of Resvachitra literature.

3. To develop students from the point of view of evaluation.

4. To develop the development of meeting chronicle writing skills.

5. Build dialogue-writing skills. Sem-VI Ghazal literature

1. To make students aware of Ghazal literature.
2. To make the students aware of the personality of the Ghazalkar.
3. To develop the attitude of assessment to the students.
4. To make students aware of government letter writing.

S4 Sem-V Bhasha Vighyan

1. Introducing the nature of linguistics.
2. To explain the scope of Linguistics to the students.
3. Introducing the directions of linguistics.
4. To explain the application aspect of linguistics.
5. To explain the utility of linguistics in the study of literature.

Sem-VI Hindi Bhasha our Vikas

1. Introducing the nature of linguistics.
2. To explain the scope of Linguistics to the students.
3. Introducing the directions of study of linguistics.
4. Explaining the Application aspect of Linguistics.
5. To explain the utility of linguistics in the study of literature.

S3 Sem-V History of Hindi Literature

1. To acquaint the students with the background of modern times.
2. To make students aware of the poetry of Bharattendu era.
3. To get acquainted with the creators of the modern period.
4. To sensitize the students about the origin and development of Hindi poetry.

Sem-VI History of Hindi Literature

1. Introduction to Hindi Literature Writing.
2. To introduce the period division and nomenclature of Hindi literature.
3. To get acquainted with the compositions of the ancient, devotional, ritual, creators

MA-I Hindi Sem-I/Sem-II Course out comes

1. To give information about the poetic lines of the carpet and the devotional period under Hindi literature.

2. To give information about the poetic lines of Bhakti period.
3. To develop critical vision in students through the study of ancient and medieval poetry
4. Introducing the elemental form of the main genres of mattresses, increasing the ability to understand and evaluate the importance of a particular composition in the context of the elemental nature of the genre and historical development.
5. To give information about the development sequence of major prose genres.
6. Importance of literary review to students introducing
7. Introducing the Indian literature to students
8. Introducing the poetic power and limitations of Kabir to students
9. Introducing the personality and work of Kabir to the students in the context of the then circumstances, giving information about his delivery to Hindi

MA-II Hindi Sahithya Sem-III/IV Course out comes

- 1 To make students aware of modern poetry
- 2 Develop poetic radiance vision 3 Introduce the nature of linguistics
- 4 Introduce communication media and communication concepts
- 5 Develop communication skills.
- 6 Introducing the major literary trends of the ancient devotional rituals, creators and compositions.
- 7 Introducing the multifaceted role of the media .
- 8 Explaining the scope of linguistics to the students.




PRINCIPAL
LORNETE BALASABH THORAT ARTS,
COMMERCE & SCIENCE COLLEGE, SANGAMNER,
TAL. SANGAMNER DIST. AMAGAR



**SBVP Samaj Loknete
Balasaheb Thorat Arts,
Commerce & Science College
Talegaon Dighe**

Quality Policy Manual

**(Implementation of NEP-2020 as per SPPU Guidelines
with effective from 1st June 2024)**



Sahyadri Bahujan Vidya Prasarak Samaj's
LOKNETE BALASAHEB THORAT
ARTS, COMMERCE & SCIENCE COLLEGE,
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Talegaon Dighe Tal.Sangamner, Dist.Ahmednager - 422611
<https://lbtcollege.in/>. Email - lbtcollege853@gmail.com / sbvnsacsctd@gmail.com



PREFACE

A policy is like a roadmap that guides decisions, helping to make choices today and in the future. Policies and procedures are crucial in the realm of higher education, providing a framework for understanding. Cooperation, efficiency, and unity among the teaching and non-teaching staff. The SBVP Samaj Loknete Balasaheb Thorat Arts, Commerce & Science College Talegaon Dighe. Quality Policy Manual is the college's commitment to maintain high standards in education, ensuring fairness, and promoting a sense of togetherness with the college community.

SBVP Samaj Loknete Balasaheb Thorat Arts, commerce & Science College, Talegaon Dighe college policies are designed to create a inclusive platform for everyone involved in the college, irrespective of background or identity. These guidelines are written down to help the college govern effectively, stay compliant with regulations, and ensure the smooth flow of processes within the institution.

The primary commitment of the college is to provide top-notch educational programs. This commitment involves the active participation of the Governing Board, staff, and all stakeholders. The college management is dedicated to maintaining a highly qualified and productive staff, offering the necessary facilities, resources, and conducive working conditions.



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This policy's purpose is to inform students, teaching and non-teaching staff about the policies, regulations, and expectations that govern their roles and relationships within the college.

To ensure college policies stay relevant and effective, this manual undergoes an annual review by the Internal Quality Assurance Cell (IQAC). The Principal has the authority to approve non-substantive changes or revisions required by the Governing Board. SBVP Samaj Loknete Balasaheb Thorat Arts, Commerce & Science College Talegaon Dighe believe in continuous improvement to align with the ever-evolving needs of our institution.

Stakeholder can consider this manual as compass. It's made to guide everyone involved in making decisions that align with the goals of institution. The policies within this manual became effective upon approval by the Governing Board of the College and revised from time to time. The college reserves the right to modify, revoke, suspend, or change any part of these policies at any time, with or without notice, based on factors like funding limitations, legal requirements, or changing conditions.

IQAC CO-Ordinator

IQAC CO-ORDINATOR
LOKNETE BALASAHEB THORAT ARTS,
COMMERCE & SCIENCE COLLEGE TALEGAON DIGHE,
TAL. SANGAMNER DIST. A.NAGAR

Principal

PRINCIPAL
LOKNETE BALASAHEB THORAT ARTS,
COMMERCE & SCIENCE COLLEGE TALEGAON DIGHE,
TAL. SANGAMNER DIST. A.NAGAR



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NEP-2020 Implementation Policy

Introduction:

SBVP Samaj Loknete Balasaheb Thorat Arts, Commerce & Science College Talegaon Dighe has been focused on implementing the National Education Policy 2020 (NEP 2020) introduced by GOI to transform the education system in the country. College has been taken necessary initiatives for smooth implementation from the year 2024-25 as laid by (https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf) government.

Scope:

The NEP implementation plan shall aim on:

- Equity and inclusion in higher education
- Global outreach of higher education
- Integrated higher education system
- Motivated, energized and capable faculty
- Multidisciplinary and holistic education
- Promotion of Indian knowledge systems, Languages, culture and values.

- Research, innovation and ranking
- Technology use and integration

The scope of the NEP implementation strategy is comprehensive, touching upon various facets of education to bring about systemic changes and improve the overall quality and relevance of education. The scope of the implementation policy has included curricular aspects, assessment reforms, vocation education, skill development, inclusive and equitable education, multilingual education, Technology integration, etc.



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Implementation of NEP 2020 at SBVP Samaj Loknete Balasaheb Thorat Arts, Commerce & Science College Talegaon Dighe.

College has been focused on

1. Adherence to UGC, Maharashtra Government, and University of Pune Guidelines.

The college has strictly followed the guidelines and directions provided by the University Grants Commission (UGC), the Maharashtra Government, and the SP Pune University for the implementation of NEP 2020.

2. Curriculum Restructuring

The curriculum has been restructured to align with the multidisciplinary and flexible approach of NEP 2020. The present focus is on a holistic and integrated learning experience, allowing students to select courses from a wide range of disciplines under Credit Base Choice System implemented by SP Pune University since 2019.

3. Credit-based System

A credit-based system has been implemented since 2019 by SP Pune University to facilitate student mobility and transfer of credits across affiliated of SP Pune University. The college has ensured the smooth functioning of this Credit Base Choice System in collaboration with the SP Pune University.

4. Multidisciplinary Approach

The college has introduced programs and courses that promote a multidisciplinary approach, integrating arts, science, technology, and humanities. This includes offering majors, minors, and elective courses across different disciplines. To insure interdisciplinary & Multidisciplinary approach & implemented in affiliated colleges of SP Pune University .In Academic Bank of Credit we have offered Three Common Subject & 8 subjects are domain related for Interdisciplinary studies.

5. Skill Development and Vocational Education

The college has incorporated skill development and vocational education into the curriculum, in line with NEP 2020's emphasizing on employability. Industry partnerships and internships to enhance practical learning & Industry made.

6. Focus on Research and Innovation

The college has promoted research and innovation at the undergraduate level, encouraging students to engage in research projects, publish papers, and participate in conferences. Collaboration with research institutions and industries has encouraged through working MOU with the industries located at Sinner MIDC, Nashik MIDC & Nagar MIDC.

7. Teacher Training and Capacity Building

Regular training and capacity-building programs has been organized for teachers to familiarize them with the new pedagogical approaches and technological tools required for the effective implementation of NEP 2020.

8. Inclusivity and Accessibility

The college has ensured that the NEP 2020 programs are inclusive and accessible to all students, including those from disadvantaged backgrounds.

Scholarships, financial aid, and support services have been provided made available to ensure equal opportunities for all as per the provisions of SP Pune University & Government of Maharashtra.

9. Exit and Re-entry Options:

Under NEP, The SP Pune University has made provision of multiple entry and exit points with appropriate certification.

(e.g., certificate after 1 year, diploma after 2 years, and degree after 3 year & Honours with Research after 4 years).



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Formation of NEP Cell

The college has been formed an NEP cell for the implementation of NEP 2020 from the academic session 2024-25. The college has established NEP Implementation Cell under the aegis of its IQAC. The members of the NEP Cell are as under :

Sr.No.	Name	Designation
1	Prof. Dr. Dattatray Pawar	Chairperson
2	Asst. Prof. Ramdas Aher	IQAC Coordinator
3	Asst. Prof Swapnali Sonawane	NEP Coordinator
4	Asst. Prof. Jyoti Hase	HOD of Arts
5	Asst. Prof. Shafiq Pathan	HOD of Commerce
6	Asst. Prof. Jayshri Bhagwat	HOD of Science
7	Miss. Divya Adhe	Art Student
8	Miss. Jagruti Abhang	Commerce Student
9	Miss. Sakshi Jorvekar	Science Student

The NEP cell has been prepared a road map for smooth implementation of NEP. NEP cell in association with IQAC and faculty members has focused on smooth implementation.



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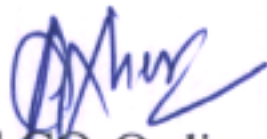
Completion of program and awarding degree

On successful completion of three years and obtaining 132 credits, a student can option for an exit with a bachelor's degree in their domain, e.g., B.Sc./B.A./B.Com etc. On successful completion of the UG fourth year and obtaining 176 credits, a student will get a Bachelor's Degree with Honors. If a student opts for an Honors degree by Research, the eligibility criteria will be at the discretion of the College. The total credits that a student will collect in each semester is 22. This is as per the directives of Maharashtra State. A student is free to exit at the end of each academic year as per guidelines.

The college has ensured collaborative environment for smooth communication of collaboration teachers, students, and other stakeholders for successful implementation of the NEP. The college has been monitored and evaluate the progress regularly, considering the dynamic nature of the NEP implementation process & The rules & norms prescribed by SP Pune University.



NEP CO-Ordinator



IQAC CO-Ordinator

IQAC CO-ORDINATOR
LOKNETE BALASAHEB THORAT ARTS,
COMMERCE & SCIENCE COLLEGE TALEGOAN DIGHE,
TAL. SANGAMNER DIST. AHMEDNAGER



Principal

PRINCIPAL
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Implementation of National Education Policy -2020

Sr.No	Title of the Activity	Status
1	Staff Meeting Held for NEP-2020 Awareness	07
2	Participation in Workshop on NEP-2020	06
3	School Connect Workshop arrange on college Level	01
4	Admission process in AY 2024-25 as per NEP 2020 Guideline	Implemented for FYBA/Bcom/BSc
5	NEP cell established as per SPPU Guideline	20 June 2024


NEP Co-Ordinator


Principal
PRINCIPAL
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Savitribai Phule Pune University

(Formerly University of Pune)

Faculty of Humanities
Board of Studies in Economics

New Syllabus for Affiliated Colleges of SPPU
FYBA Economics
[Semester I & II]

Choice Based Credit System Syllabus
NEP 2020

To be implemented from Academic Year 2024-25

Programme Specific Outcomes (PSOs):

- PSO - 1. Knowledge of Economic Theories:** Graduates of a B.A. in Economics will possess a strong understanding of economic theories, including microeconomics, macroeconomics and other specialized areas of economics.
- PSO - 2. Analytical Skills:** Graduates will be able to apply economic concepts and theories to analyse real-world economic issues, such as market behaviour, policy implications, and economic trends. They will also be able to critically evaluate economic research and data using statistical and econometric techniques.
- PSO - 3. Research and Writing Skills:** Graduates will have developed advanced research and writing skills, including the ability to conduct independent research, analyse economic data, and communicate their findings effectively through written reports, policy briefs, and other forms of economic writing.
- PSO - 4. Policy Analysis:** Graduates will be able to assess the impact of economic policies on various stakeholders and evaluate their effectiveness in achieving desired outcomes. They will also be able to propose evidence-based policy recommendations to address economic challenges and promote economic growth.
- PSO - 5. Quantitative Skills:** Graduates will develop a strong foundation in quantitative methods, including statistical and econometric techniques, and be able to apply these skills to analyse economic data and conduct empirical research.
- PSO - 6. Communication Skills:** Graduates will be able to communicate complex economic concepts and findings to different audiences, including policymakers, business leaders, and the general public, in a clear and concise manner.
- PSO - 7. Critical Thinking:** Graduates will develop critical thinking skills and be able to analyse economic problems from multiple perspectives, consider trade-offs, and propose innovative solutions based on economic principles and evidence.
- PSO - 8. Professional Ethics:** Graduates will understand and adhere to the professional ethics and standards of the economics, including academic integrity, objectivity, and confidentiality in research and policy analysis.
- PSO - 9. Professional Development:** MA Economics programs often include professional development components, such as internships or seminars, to prepare students for careers in economics.

Credit Distribution Structure for BA Economics SPPU- as per NEP 2020

With effect from Academic Year 2024-2025

Level/ Difficulty	Semester	Subject DSC-1 (Group A - Languages)	Subject DSC-2 (Group B)	Subject DSC-3 (Group C)	GE / OE	SEC	IKS	AEC	VEC	CC	Total
4.5/100 [1 st Year]	I	2 (T) + 2 (T/P)	2 (T) + 2 (T/P)	2 (T) + 2 (T/P)	2 (T)	2 (T/P)	2 (T)	2 (T)	2	--	22
	II	2 (T) + 2 (T/P)	2 (T) + 2 (T/P)	2 (T) + 2 (T/P)	2 (T/P)	2 (T/P)	--	2 (T)	2	2	22

Exit option: Award of UG Certificate in Discipline Specific Course with 44 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor

Continue option: Students will select one subject among (subject I, subject II and subject III) as major and another as minor and third subject will be dropped.

Level/ Difficulty	Semester	Credits Related to Major					Minor / RM	GE / OE	SEC	AEC	VEC	CC	Total
		Major Core	Major Elective	VSC	IKS	FP/OJT / CEP/R P							
Vertical [V]		V-1		V-4	V-5	V-6	V-2	V-3	V-4	V-5	V-5	V-6	
5.0/200 [2 nd Year]	III	[4T+2T/P]	-	[2T/P]	[2T]	[2CP]	[2T+2P]	[2T]	-	[2T]	-	2	22
	IV	[4T+2T/P]	-	[2T/P]	-	[2CEP]	[2T+2T/P]	[2T/P]	2 (T/P)	[2T]	-	2	22
UG Diploma		20	0	6	4	4	16	8	6	8	4	6	88
Exit Option – Award of UG Diploma in Major with 88 Credits and an additional 4 Credits core NSQF course/Internship or Continue Major & Minor													
5.5/300 [3 rd Year]	V	[8T+4T/P]	[2T+2T/P]	[2T/P]	-	[2FP/CE P]	[2T]	-	-	-	-	-	22
	VI	[8T+4T/P]	[2T+2T/P]	[2T/P]	-	[4OJT]	-	-	-	-	-	-	22
UG Degree		44	8	8	4	10	18	8	6	8	4	6	132
Exit Option – Award of UG Degree in Major with 132 Credits or Continue Major & Minor													
6.0/400 [4 th Year]	VII	[6T+4T/P]	[2T+2T/P]	-	-	[4RP]	[4RM][T]	-	-	-	-	-	22
	VIII	[6T+4T/P]	[2T+2T/P]	-	-	[8RP]	-	-	-	-	-	-	22
UG Honors with Research		68	16	8	4	22	22	8	6	8	4	6	176
Four year UG Honors with Research Degree in Major and Minor with 176 credits													

6.0/400 [4 th Year]	VII	[10T+4T/P]	[2T+2T/P]	-	-	-	4 [RM] [T]	-	-	-	-	-	22
	VIII	[10T+4T/P]	[2T+2T/P]	-	-	4[OJT]	-	-	-	-	-	-	22
UG Honors Degree		76	16	8	4	14	22	8	6	8	4	6	176
Four year UG Honors Degree in Major and Minor with 176 credits													

Notes:

1. VSC, FP/OJT/CEP should be related to the Major subject
2. OE is to be chosen compulsorily from faculty other than that of the Major.
3. SEC to be selected from the basket of Skill Courses approved by college.
4. Student has to choose three subjects from the same faculty in First Year and at the start of Second year he has to opt one subject as Major subject and one another subject as Minor subject and the last one subject will be dropped by the student. Therefore, the student after completion of three year will be awarded degree in Major and Minor subject.
5. Student cannot select a subject as major or minor other than the subjects taken in first year
6. Frame each course having even number of credits such as 2 or 4 credit.
7. This UG credit structure is applicable for all the programme across all faculties, except the programmes required approval from apex bodies like AICTE, PCI, BCI, COA, NCTE, etc.



सावित्रीबाई फुले पुणे विद्यापीठ, पुणे
[Savitribai Phule Pune University, Pune]

अभ्यासक्रम

मानव विज्ञान शाखेतील प्रमाणपत्र / पदवी, वर्ष-१ (सत्र- १ व २)

(शैक्षणिक वर्ष २०२४-२५ पासून)

[Level 4.5, UG- Certificate in Humanities / UG Degree, Year-I]

(w.e.f. academic year 2024-25)

1] विषय – DSC : मराठी

2] विषय – SEC : मराठी

अभ्यासक्रम

प्रमाणपत्र / पदवी, वर्ष-१ (सत्र- १ व २)

विषय : खुले वैकल्पिक- मराठी

(शैक्षणिक वर्ष २०२४-२५ पासून)

[Level 4.5, UG- Certificate / UG Degree, Year-I]

(w.e.f. academic year 2024-25)

Open Elective: Marathi

(Only for the students of the faculties other than Humanities

i.e. Commerce, Science etc.)

पदवी (UG)- मराठी

(पुनर्रचित अभ्यासक्रम - शैक्षणिक वर्ष २०२४-२५ पासून)

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१. प्रास्ताविक [PREAMBLE OF THE SYLLABUS] :

सावित्रीबाई फुले पुणे विद्यापीठाच्या मराठी विषयातील पदवीसाठी (UG-Marathi) राष्ट्रीय शैक्षणिक धोरणाला अनुसरून अभ्यासक्रम तयार करत असताना विद्यार्थीकेंद्रितता, आंतरविद्याशाखीयता, रोजगाराभिमुखता, कौशल्याधिष्ठितता ही आधारभूत तत्त्वे स्वीकारली आहेत. राष्ट्रीय शैक्षणिक धोरणाची उद्दिष्टे भाषा व साहित्याच्या अभ्यासक्रमांतून प्रत्यक्षात आणत असतानाच विद्यार्थ्यांच्या जीवनविषयक जाणवा समृद्ध होण्यासाठी तसेच कौशल्यविकासासाठी भाषा, साहित्य व कला ही माध्यमे अधिक परिणामकारकतेने समजून घेणे आवश्यक झाले आहे. विद्यार्थ्यांमध्ये साहित्यिकक्षमता, भाषिकक्षमता विकसित करणे व जीवनाच्या आकलनासाठी त्यांना सिद्ध करणे ही काळाची गरज बनली आहे. या बरोबरच विद्यार्थ्यांना मराठी भाषा आणि साहित्याचे सखोल ज्ञान व्हावे, त्यांच्यामध्ये संशोधनाची तसेच आंतरविद्याशाखीय अभ्यास करण्याची वृत्ती वृद्धिंगत व्हावी असे विविध हेतू समोर ठेवून सावित्रीबाई फुले पुणे विद्यापीठाच्या मराठी विषयातील पदवीचा (UG-Marathi) अभ्यासक्रम तयार केला आहे. या अभ्यासक्रमाची पुनर्रचना पुढील क्रमाने करण्यात आलेली आहे.

१. **First Year UG 2024-25 (Level 4.5)**
२. **Second Year UG 2025-26 (Level 5.0)**
३. **Third Year UG 2026-27 (Level 5.5)**
४. **Fourth Year UG 2027-28 (Level 6.0)**

राष्ट्रीय शैक्षणिक धोरणाला अनुसरून मराठी विषयातील पदवीचा (UG-Marathi) पुनर्रचित अभ्यासक्रम तीन/चार वर्षांचा आणि सहा/आठ सत्रांमध्ये विभागलेला आहे. महाराष्ट्र शासनाच्या उच्च शिक्षण विभागाने दिलेल्या मार्गदर्शक सूचनांप्रमाणे प्रथम वर्षात ४४ श्रेयांकांचा, तीन वर्षांच्या पदवीचा एकूण १३२ श्रेयांकांचा; तर चार वर्षांच्या पदवीचा एकूण १७६ श्रेयांकांचा अभ्यासक्रम असणार आहे. या अभ्यासक्रमात विद्यार्थ्यांना मुख्य विषयाबरोबरच इतर विषय निवडीची संधी दिली गेली आहे. शिवाय सैद्धांतिक अभ्यासक्रम व प्रात्यक्षिके यांना विशेष महत्त्व देण्यात आले आहे.

२. अभ्यासक्रमाचा कालावधी [PROGRAM DURATION AND EXIT OPTIONS]

Sr. No.	Type of Award	Stage of Exit	Mandatory Credits to be Secured for the Award
1	Undergraduate Certificate in Humanities	After successful completion of First year (2 Semesters)	44
2	Undergraduate Diploma in Humanities- Marathi	After successful completion of Second Year (4 Semesters)	88
3	Bachelor's Degree in Humanities- Marathi	After successful completion of Third year (6 Semesters)	132
4	Bachelor's Degree in Humanities- Marathi (Honours) OR Research	After successful completion of Fourth year (8 Semesters)	176

३. पदवी अभ्यासक्रमाची उद्दिष्टे [PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)] :
मराठी विषयातील पदवीच्या अभ्यासक्रमाची उद्दिष्टे खालील प्रमाणे निश्चित करण्यात आलेली आहेत.

PEO-1	मराठी भाषा, साहित्य आणि त्यांच्या इतिहासाचे ज्ञान देणे. विद्यार्थ्यांच्या वाङ्मयीन आणि जीवनविषयक जाणिवेला समृद्ध करणे.
PEO- 2	मराठीतील साहित्यविचाराचे ज्ञान देणे.
PEO- 3	मराठी समीक्षा व्यवहाराचे ज्ञान देणे.
PEO- 4	विद्यार्थ्यांमध्ये प्रात्यक्षिकांच्या माध्यमातून भाषिक कौशल्ये विकासाची जाणीव-जागृती घडवून आणणे आणि त्यांच्यात मराठीतील भाषिक कौशल्यांचा विकास करणे.
PEO- 5	विद्यार्थ्यांमध्ये प्रात्यक्षिकांच्या माध्यमातून मराठी भाषेतील रोजगाराची कौशल्ये आणि क्षमता विकसित करणे.
PEO- 6	मराठीतील विविध साहित्यप्रकारांचा परिचय करून देणे.
PEO- 7	साहित्यनिर्मितीच्या प्रेरणा व प्रवृत्ती लक्षात घेऊन साहित्याचे आकलन करून घेणे.
PEO- 8	साहित्यकृतींच्या चिकित्सक अभ्यासाची प्रवृत्ती वृद्धिंगत करणे.
PEO- 9	भारतीय ज्ञानपरंपरेची विद्यार्थ्यांना ओळख करून देणे.
PEO- 10	विद्यार्थ्यांचा सर्वांगीण व्यक्तिमत्त्वविकास साधून त्याला सुसंस्कारित नागरिक म्हणून सिद्ध होण्यास मदत करणे.

४. पदवी अभ्यासक्रमाची अध्ययननिष्पत्ती :

[PROGRAMME OUTCOMES(POs) AND PROGRAMME SPECIFIC OUTCOMES(PSOs)]:

हा अभ्यासक्रम पूर्ण केल्यानंतर विद्यार्थ्यांमध्ये पुढील क्षमतांचा विकास होईल.

Sr. No.	Graduate Attributes	POs
PO- 1	Disciplinary Knowledge	मराठी भाषा आणि साहित्यातील पायाभूत सैद्धान्तिक घटकांचे आकलन होईल.
PO- 2	Communication Skills	विविध दृष्टिकोनातून स्पष्टतापूर्ण वाचन आणि अभिव्यक्ती करता येईल.
PO- 3	Critical Thinking	चिकित्सक विचार करण्याचे कौशल्ये आत्मसात होतील.
PO- 4	Problem Solving	भाषिक समस्यांचा शोध घेऊन योग्य ते उपाय शोधण्याचा प्रयत्न करू शकेल.
PO- 5	Analytical reasoning	प्राप्त माहितीचे वस्तुनिष्ठपणे विश्लेषण आणि कारणमीमांसा करता येईल.
PO- 6	Research-related skills	संशोधनवृत्ती निर्माण होईल.
PO- 7	Cooperation/ Team work	सामूहिक ध्येयप्राप्तीसाठी एकत्रित येऊन काम करणे.
PO- 8	Scientific reasoning	तार्किकदृष्ट्या प्राप्त माहितीचे परीक्षण करेल.
PO- 9	Reflective thinking	वैचारिक प्रगल्भता विकसित होईल.
PO- 10	Self-directed learning	वैयक्तिकरित्या वेगवेगळ्या कृती स्वतंत्रपणे करता येतील.
PO- 11	Information/ Digital literacy	सहजपणे दृकश्राव्य माध्यमांची हाताळणी करता येईल.
PO- 12	Multicultural Competence	विद्यार्थ्यांमध्ये सामाजिक व सांस्कृतिक जाण विकसित होऊन सामाजिक सामंजस्य निर्माण होईल.
PO- 13	Moral & Ethical Values	सर्वांचा आदर करणे आणि विश्वबंधुत्वाची भावना विकसित होण्यास मदत होईल.
PO- 14	Leadership Readiness	अनेकविध क्षेत्रात नेतृत्व करण्याचे कौशल्ये आत्मसात होतील.
PO- 15	Life-long Learning	सतत अध्ययन व संशोधन करण्याची शाश्वत आवड निर्माण होईल.

५. पदवी अभ्यासक्रमाची विशेष निष्पत्ती [PROGRAM SPECIFIC OUTCOMES]

Sr. No.	Attributes	PSOs
PSO- 1	Domain Knowledge	साहित्यविषयक विविध संकल्पना आणि साहित्याचे सौंदर्यशास्त्र यांचे आकलन होईल.
PSO- 2	Professional Skills	भाषिक कौशल्ये आत्मसात होतील आणि तंत्रज्ञानाचा भाषिक व्यवहारात कौशल्यपूर्ण वापर करता येईल.
PSO- 3	Research	मराठी भाषा आणि साहित्यविषयक संशोधनवृत्ती निर्माण होईल.
PSO- 4	Social Responsibility	व्यक्तिमत्त्व विकासास चालना मिळून जबाबदार नागरिक म्हणून जडणघडण होण्यास मदत होईल.

६. पदवी अभ्यासक्रमाची संरचना [STRUCTURE OF PROGRAM] आणि विषय निवडीबाबतचा साधारण मार्गदर्शक तत्वे [GENERAL GUIDELINES FOR THE SELECTION OF SUBJECTS]

Savitribai Phule Pune University, Pune
Credit Framework for Under Graduate (UG) (2024 – 25) (3 Subjects) for Faculty of Humanities

Level / Difficulty	Sem	Subject DSC-1 Course	Subject DSC-2 Discipline Specific Course	Subject DSC-3 Discipline Specific Course	GE/OE Generic / Elective	SEC Skill Enhancement Course	IKS Indian Knowledge System	AEC Ability Enhancement Course	VEC Value Education Course	CC Co-curricular Courses	Total		
4.5 / 100	I	2 (T) + 2 (T/P) (T – Theory/ P- Practical)	2 (T)+2(T/P)	2(T)+2 (T/P)	2 (T) From Other Faculty	2 (T/P)	2 (T) Generic	2 (T) English	2 Indian Constitution/ EVS	--	22		
	II	2 (T) + 2 (T/P)	2(T)+2(T/P)	2(T)+2 (T/P)	2 (T/P)	2 (T/P)	--	2 (T) English	2 Indian Constitution/ EVS	2 NSS/NCC/Others	22		
<p>Exit option: Award of UG Certificate in Major with 44 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor Continue option: Students will select one subject among (subject I, subject II and subject III) as major and another as minor and third subject will be dropped</p>													
Credits Related to Major													
Level / Difficulty	Sem	Major Core	Major Elective	VSC Vocational Skill Course	FP / OJT/ CEP Field Project/On Job Training / Community Engagement Programme	Minor	GE/OE	SEC	IKS	AEC	VEC	Total	
5.0 / 200	III	4 (T) + 2 (T/P)	--	2 (T/P)	2 (FP)	2(T)+2(P)	2 (T)	--	2 (T) (Major Subject Specific)	2 (T)	--	22	
	IV	4 (T) + 2 (T/P)	--	2 (T/P)	2 (CEP)	2(T)+2(T/P)	2 (T/P)	2 (T/P) E	--	2 (T)	--	22	
5.5 / 300	V	Exit option: Award of UG Diploma in Major and Minor with 88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major and Minor					2(T)	--	--	--	--	--	22

(Signature)
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Dean, Faculty of Humanities
Savitribai Phule Pune University

Dean
Faculty of Humanities
Savitribai Phule Pune University, Pune

	VI	8(T)+4(T/P)	2(T)+2(T/P)	2(T/P)	4(OJT)	--	--	--	--	--	--	22
Total 3 Years		44	8	8	10	18	8	4	8	4	8	6
Exit option Award of UG Degree in Major with 132 credits OR Continue with Major and Minor												
6.0 /400	VII	6(T)+4(T/P)	2(T)+2(T/P)	--	4(RP)	4(RM)(T)	--	--	--	--	--	--
	VIII	6(T)+4(T/P)	2(T)+2(T/P)	--	8(RP)	0	0	0	0	0	0	22
Total 4 Years		64	16	8	22	22	8	4	8	4	8	176
Four Year UG Honours with Research Degree in Major and Minor with 176 credits OR												
6.0 /400	VII	10(T)+4(T/P)	2(T)+2(T/P)	0	0	4(RM)(T)	0	0	0	0	0	22
	VIII	10(T)+4(T/P)	2(T)+2(T/P)	0	4(OJT)	0	0	0	0	0	0	22
Total 4 Years		72	16	8	14	22	8	4	8	4	8	176
Four Year UG Honours Degree in Major and Minor with 176 credits												

Notes:

Abbreviation: VSC: Vocational Skill Course, IKS: Indian Knowledge System, FP: Field Project, OJT: On Job Training, CEP: Community Engagement and Service, GE/OE: Generic Elective / Open Elective, SEC: Skill Enhancement Course, AEC: Ability Enhancement Course, VEC: Value Education Course, CC: Co-curricular Courses, T – Theory, P – Practical

1. VSC, FP/OJT/CEP should be related to the Major subject
2. OE is to be chosen compulsorily from faculty other than that of the Major.
3. SEC to be selected from the basket of Skill Courses approved by college.
4. Student has to choose three subjects from the same faculty in First Year and at the start of Second year he has to opt one subject as Major subject and one another subject as Minor subject and the last one subject will be dropped by the student. Therefore, the student after completion of three year will be awarded degree in Major and Minor subject.
5. Student cannot select a subject as major or minor other than the subjects taken in first year
6. Frame each course having even number of credits such as 2 or 4 credit.
7. This UG credit structure is applicable for all the programme across all faculties, except the programmes required approval from apex bodies like AICTE, PCI, BCI, COA, NCTE, etc.



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७. मराठी विषयातील पदवी प्रमाणपत्र / पदवीचे प्रथम वर्षाचे विषय [LIST OF COURSES FOR UG CERTIFICATE IN MARATHI / UG-1, BA IN MARATHI]

DSC : मराठी (Marathi)

Level/ Year/ Sem.	Type	Course Code	Course Title	Credits	Theory/ Practical/ Oral	Int. Exam [Marks]	Ext. Exam [Marks]	Total Marks
L- 4.5 Yr.- 1 st Sem- I	DSC	MAR-101-T	साहित्याचे स्वरूप (निवेदनात्म साहित्यप्रकार) अभ्यासपुस्तक : 'मन में है विश्वास' (लेखक- विश्वास नांगरे पाटील)	2 (T)	Theory	15	35	50
		MAR-102-P	साहित्यप्रकारांचे सादरीकरण	2 (P)	Practical	15	35	50
L- 4.5 Yr.- 1 st Sem- II	DSC	MAR-151-T	साहित्याचे स्वरूप (काव्यात्म साहित्यप्रकार) अभ्यासपुस्तक : 'गीतमाला' (संपादित गीतसंग्रह)	2 (T)	Theory	15	35	50
		MAR-152-P	साहित्यप्रकारांचे अवलोकन / लेखन	2 (P)	Practical	15	35	50

SEC : मराठी (Marathi)

Level/ Year/ Sem.	Type	Course Code	Course Title	Credits	Theory/ Practical/ Oral	Int. Exam [Marks]	Ext. Exam [Marks]	Total Marks
L- 4.5 Yr.- 1 st Sem- I	SEC	SEC-101-MAR	उपयोजित मराठी लेखनकौशल्ये	2(T)	Theory	15	35	50
L- 4.5 Yr.- 1 st Sem- II	SEC	SEC-151-MAR	व्यावसायिक मराठी लेखनकौशल्ये	2(P)	Practical	15	35	50

Open Elective: Marathi

(Only for the students of the faculties other than Humanities i.e. Commerce, Science etc.)

Level/ Year/ Sem.	Type	Course Code	Course Title	Credits	Theory/ Practical/ Oral	Int. Exam [Marks]	Ext. Exam [Marks]	Total Marks
L- 4.5 Yr.- 1 st Sem- I	OE	OE-101-MAR	व्यक्तिमत्त्व विकास आणि भाषा	2(T)	Theory	15	35	50
L- 4.5 Yr.- 1 st Sem- II	OE	OE-151-MAR	व्यावहारिक मराठी	2(P)	Practical	15	35	50



SAVITRIBAI PHULE PUNE UNIVERSITY
FACULTY OF COMMERCE & MANAGEMENT
(COMMERCE)

Structure and Syllabus for
Four Year B.Com Degree Program
As per National Education Policy-2020

With Effect From June-2024
(Academic Year 2024-2025)

Preamble:

Business education provides a foundation of knowledge, skills, and perspectives that are highly beneficial for individuals entering the professional world. It equips them to navigate the complexities of the business environment, make informed decisions, and contribute to the success of organizations.

Following aspects highlight the importance of business education:

- 1) **Skill Development:** Business education provides individuals with a diverse set of skills essential for the corporate environment. These skills include critical thinking, problem-solving, decision-making, communication, teamwork, and leadership.
- 2) **Entrepreneurial Knowledge:** For those interested in entrepreneurship, business education equips them with the knowledge and tools necessary to start and manage a business. It covers topics such as business planning, finance, marketing, and strategy.
- 3) **Global Perspective:** In today's interconnected world, businesses often operate on a global scale. Business education exposes individuals to international business concepts, cultural understanding, and global economic trends, preparing them for a globalized marketplace.
- 4) **Adaptability:** The business landscape is dynamic and constantly evolving. Business education helps individuals develop adaptability and a willingness to embrace change. This is crucial for success in an environment where technological advancements and market shifts are frequent.
- 5) **Networking Opportunities:** Business education provides opportunities for networking with peers, professors, and professionals. Networking is a valuable aspect of the business world, offering opportunities for collaboration, mentorship, and career advancement.
- 6) **Understanding Economic Principles:** Business education often includes courses on economics, helping individuals understand the principles that govern markets, supply and demand, inflation, and other economic factors. This knowledge is crucial for making appropriate business decisions.
- 7) **Ethical Considerations:** Business education emphasizes the importance of ethical behavior in the business world. Understanding ethical principles is essential for making responsible decisions and maintaining integrity in professional settings.
- 8) **Financial Literacy:** Business education helps individuals develop financial literacy, including understanding financial statements, budgeting, and financial planning. These skills are valuable for personal financial management as well as for making sound business decisions.
- 9) **Job Opportunities:** Many employers value candidates with a background in business education. Whether pursuing a career in finance, marketing, human resources, or any other business-related field, having a solid business education can open up a wide range of job opportunities.
- 10) **Continuous Learning:** Business is a field that requires continuous learning and adaptation to stay competitive. Business education instills a mindset of lifelong learning, encouraging individuals to stay updated about industry trends, new technologies, and evolving business practices.

Objectives of the Programme:

- 1) To provide students with a strong foundation in financial and cost accounting principles, enabling them to understand, prepare, and interpret financial statements accurately.
- 2) To equip students with mathematical and statistical skills relevant to commerce, enabling them to solve complex problems and analyze data for decision-making.
- 3) To develop students' effective communication skills for diverse business contexts, with an emphasis on clarity, professionalism, conflict resolution, and cultural sensitivity.
- 4) To enhance students' English language proficiency for academic and professional purposes, including reading, writing, and speaking, while using standard grammar and vocabulary.
- 5) To cultivate students' understanding of environmental issues and their implications for business decisions and sustainability.
- 6) To provide students with a comprehensive understanding of cost and management accounting principles, enabling them to calculate costs, apply cost accounting techniques, and optimize financial management.
- 7) To equip students with an advanced understanding of financial accounting principles, standards, and regulations, enabling them to analyze complex transactions and prepare financial reports.
- 8) To enable students to apply economic principles to business decisions, evaluate economic factors, and make suitable economic decisions.
- 9) To provide students with an understanding of international accounting standards and tax regulations, enabling them to navigate complex international financial transactions.
- 10) To equip students with advanced management accounting techniques, allowing them to analyze cost and performance data, develop budgets, and enhance organizational competitiveness.
- 11) To instill ethical conduct and professionalism in students, emphasizing accuracy, integrity, confidentiality, and ethical communication in accounting and business practices.

Program Outcomes:

1. Accounting Proficiency:

- a) Graduates will demonstrate a fundamental understanding of financial, cost, and management accounting principles and practices.
- b) They will have the ability to prepare and interpret financial and cost statements accurately.
- c) Graduates can apply accounting concepts to record business transactions and analyze financial data effectively.

2. Mathematical and Statistical Analysis:

- a) Graduates will acquire proficiency in mathematical and statistical concepts and techniques relevant to business applications.
- b) They can solve mathematical problems related to commerce and economics, applying quantitative methods for business decisions.
- c) They will develop skills in collecting, analyzing, and interpreting data, using statistical software and tools for solving business problems.

3. Technology and Computerized Accounting:

- a) Graduates will master the use of accounting software for efficient and accurate financial data management.
- b) They can create, manage, and analyze financial records using computerized accounting systems.
- c) They understand the importance of data security and integrity in computerized accounting.

4. Communication Skills:

- a) Graduates will develop effective communication skills for various business contexts, including written and oral communication.
- b) They will be able to present ideas and information clearly and professionally.
- c) Graduates can resolve conflicts through effective communication and understand the importance of cultural sensitivity in business communication.

5. Language Proficiency:

- a) Graduates will enhance English language proficiency for academic and professional purposes, including reading, writing, and speaking.
- b) They can communicate fluently and accurately in written and spoken English.
- c) Graduates will apply English language skills effectively in business and academic contexts, using standard grammar and vocabulary.

6. Environmental Awareness:

- a) Graduates will understand environmental issues and their impact on business and society.
- b) They can analyze environmental factors affecting business decisions and sustainability.
- c) They will be able to make decisions related to environmental responsibility in business.

7. Specialized Accounting Knowledge:

- a) Graduates will develop a solid foundation in cost and management accounting principles.
- b) They can calculate and analyze various costs involved in business operations and apply cost accounting techniques.
- c) Graduates will gain expertise in advanced cost and management accounting for strategic decision-making.

8. Financial Reporting and Analysis:

- a) Graduates will gain an advanced understanding of financial accounting principles, standards, and regulations.
- b) They will be able to analyze complex financial transactions, prepare financial statements, and interpret them for stakeholders and investors.
- c) Graduates will apply accounting standards and principles for financial reporting in various business contexts.

9. Economic Analysis and Decision-Making:

- a) Graduates will understand economic principles and their application in business.
- b) They can analyze economic factors affecting business decisions and evaluate economic policies' impact on the business environment.
- c) Graduates will be able to apply economic principles for business strategy and development.

10. International Accounting and Taxation:

- a) Graduates will have an understanding of international accounting standards and their application.
- b) They can navigate complex tax laws and regulations effectively for businesses and individuals.
- c) Graduates will provide specialized tax advice for international and cross-border transactions.

11. Management Accounting and Strategic Decision-Making:

- a) Graduates will apply advanced management accounting techniques for strategic decision-making.
- b) They can analyze cost and performance data to optimize organizational efficiency and develop budgets and forecasts to support organizational goals.
- c) Graduates will implement management accounting practices to enhance organizational competitiveness.

12. Ethics and Professionalism:

- a) Graduates will demonstrate ethical conduct in accounting and business practices, adhering to professional standards and regulations.
- b) They will prioritize accuracy, integrity, and confidentiality in financial reporting and data management.
- c) Graduates will communicate ethical principles in business relationships and decision-making.

Credit Framework:

2. Credit Framework under Three/Four-Years UG Programme with Multiple Entry and Multiple Exit options:

The structure of the Three/Four-year bachelor's degree programme allows the opportunity to the students to experience the full range of holistic and multidisciplinary education in addition to a focus on the chosen major and minors as per their choices and the feasibility of exploring learning in different institutions. The minimum and maximum credit structure for different levels under the Three/Four -year UG Programme with multiple entry and multiple exit options are as given below:

Credit Framework

Levels	Qualification Title	Credit Requirements		Semester	Year
		Minimum	Maximum		
4.5	UG Certificate	40	44	2	1
5.0	UG Diploma	80	88	4	2
5.5	Three Year Bachelor's Degree	120	132	6	3
6.0	Bachelor's Degree-Honours Or Bachelor's Degree-Honours with Research	160	176	8	4

Credit Distribution Framework for B.Com Degree Programme

Under the Faculty of Commerce & Management (Commerce) of Savitribai Phule Pune University w.e.f. June 2024

(3 Subjects Options and Eight Major for B.Com Degree Programme)

Level / Difficulty	Sem	Subject-1		Subject-2	Subject-3	GE/OE	SEC	IKS	AEC	VEC	CC	Total
		4 (T)	4 (T)									
4.5 / 100	I	4 (T)		4 (T)	4 (T)	2 (T)	2 (T)	2 (T)	2 (T)	2 (T)	--	22
	II	4 (T)		4 (T)	4 (T)	2 (T)	2 (T)	--	2 (T)	2 (T)	2	22
Exit option: Award of UG Certificate in Major with 44 Credits and an additional 4 Credits Core NSQF Course / Internship OR Continue with Major and Minor Continue option: Student will select one subject among the (Subject-1 and Subject-2) as Major and another Subject will be dropped, and Subject-3 will be as Minor.												
Level / Difficulty	Sem	Credits Related to Major			Minor	GE/OE	SEC	IKS	AEC	VEC	CC	Total
		Major Core	Major Elective	VSC								
5.0 / 200	III	6 (T) = (4+2)			4 (T)	2 (T)	--	2 (T)	2 (T)	--	2	22
	IV	6 (T) = (4+2)			4 (T)	2 (T)	2 (P)	2 (CEP)	--	2 (T)	--	22
Exit option: Award of UG Diploma in Major & Minor with 88 Credits & an additional 4 Credits Core NSQF Course / Internship OR Continue with Major & Minor												
5.5 / 300	V	12 (T) = (4*3)			2 (T)	--	--	2 (FP/CEP)	--	--	--	22
	VI	12 (T) = (4*2+2*2)			--	--	2 (P)	4 (OJT)	--	--	--	22
Total 3 Years		44	8	8	10	18	8	6	8	4	6	132
Exit option: Award of UG Degree in Major with 132 Credits OR Continue with Major and Minor												
6.0 / 400	VII	10 (T) = (4*2 + 2)			4 (T)	--	4 (RP)	--	--	--	--	22
	VIII	10 (T) = (4*2 + 2)			4 (T)	--	8 (RP)	--	0	0	0	22
Total 4 Years		64	16	8	22	22	8	6	8	4	6	176
Four Year UG Honours with Research Degree in Major and Minor with 176 credits OR												
6.0 / 400	VII	14 (T) = (4*3 + 2)			4 (T)	0	0	0	0	0	0	22
	VIII	14 (T) = (4*3 + 2)			4 (T)	0	4 (OJT)	0	0	0	0	22
Total 4 Years		72	16	8	14	22	8	6	8	4	6	176
Four Year UG Honours Degree in Major and Minor with 176 credits												

Savitribai Phule Pune University

(Formerly University of Pune)



B.Sc. in Chemistry

(Faculty of Science & Technology)

New Syllabus of

F.Y. B. Sc. Chemistry

(As Per National Education Policy-2020)

For Colleges Affiliated to Savitribai Phule Pune University

To be implemented from Academic Year 2024-2025

**Approved by Board of Studies in Chemistry,
Savitribai Phule Pune University, Pune**

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1. Abbreviations Used

- POs : Program Outcomes
- PS : Program Structure
- PSOs : Program Specific Outcomes
- COs : Course Outcomes
- TLP : Teaching-Learning Process
- AM : Assessment Method
- DSC : Discipline Specific Core
- DSE : Discipline Specific Elective
- GE : Generic Elective
- OE : Open Elective
- VSC : Vocational Skill Course
- SEC : Skill Enhancement Course
- IKS : Indian Knowledge System
- AEC : Ability Enhancement Course
- VEC : Value Education Course
- OJT : On Job Training (Internship)
- FP : Field project
- CEP : Community engagement project
- CC : Co-curricular Courses
- RM : Research Methodology
- RP : Research Project
- MJ : Major Course
- MN : Minor Course

2. Introduction to Undergraduate Degree in Chemistry

As per the recommendations of UGC and Savitribai Phule University guidelines, the undergraduate (UG) degree course in Chemistry is a 6-semester course for 3-academic years **OR** 8-semester course for 4-academic years. The Teaching-Learning Process (TLP) is student- centric. It involves theory, practical and also vocational and skill- based components. It offers flexibility in Programme structure and ensures a strong foundation and in-depth knowledge in subject. Besides the DSCs (Major Core), students have optional courses from the syllabus comprising of DSEs (Minor), VSCs, SECs, IKSs and OEs. Thus, it will facilitate the interdisciplinary as well as multidisciplinary approach within the curriculum framework. It will also allow students to have maximum flexibility in pursuing studies at UG level to the extent of having the freedom to eventually design the degree with multiple exit options. Students will have these exit options depending upon the needs and aspirations in terms of his/her career goals. This will suit the present-day needs of students in terms of securing their paths toward higher studies or employment.

3. Program Duration and Exit Options

The duration of the UG Program is 4 years or 8 semesters. Students who desire to undergo a 3-year UG Program will be allowed to exit after completion of the 3rd year. If a student wants to leave after the completion of the first or second year, the student will be given a UG Certificate or UG Diploma, respectively, provided they secure the prescribed number of credits. Students who exit with a UG certificate or UG diploma are permitted to re-enter within three years and complete the degree Program. The minimum credit to be earned by a student per semester is 18 and the maximum 26 respectively. However, students are advised to earn 22-credits per semester. This provision is meant to provide students the comfort of the flexibility of semester-wise academic load. However, the mandatory numbers of credits which have to be secured for the award of Undergraduate Certificate/Undergraduate Diploma/Bachelor Degree in Chemistry are listed in **Table 1**.

Table I: List of award of Undergraduate Certificate/ Undergraduate Diploma/Appropriate Bachelor's Degree in Chemistry

S. No.	Type of Award	Stage of Exit	Mandatory Credits to be Secured for the Award
1	Undergraduate Certificate in Chemistry	After successful completion of Semester First year	44
2	Undergraduate Diploma in Chemistry	After successful completion of Semester Second Year	88
3	Bachelor of Science in Chemistry	After successful completion of Third year	132
4	Bachelor of Science in Chemistry (Honours)	After successful completion of Semester Fourth year	176

4. Objectives of the Program

The UG degree in Chemistry aims to provide:

- a. Comprehensive knowledge and coherent understanding of the Chemistry.
- b. Knowledge and skills in Chemistry and related interdisciplinary areas thereby enhancing students' employability /entrepreneurship.
- c. In-depth knowledge in Chemistry through understanding of key concepts, principles, theories and their manifestations.
- d. Critical and analytical thinking, scientific reasoning, creativity, problem-solving skills, communication skills and teamwork.
- e. Competence and skill in solving both theoretical and applied problems.
- f. Exposure to the latest advances in Chemistry, allied disciplines and research.
- g. Inculcate digital skills in Chemistry and interdisciplinary areas.
- h. Moral and ethical awareness, leadership qualities, innovation, and life-long learning.
- i. Multicultural and multilingual competence, inclusive spirit, and value education.
- j. Responsibility for Community engagement and service.

5. Program Outcomes

PO No.	PO Statement	Knowledge and Skill
	After completing the Bachelor of Science Program, students will be able to-	
PO-1	Gain a thorough knowledge and understanding of concepts and principles in Chemistry and other subjects.	Disciplinary knowledge
PO-2	Communicate the subject knowledge in a clear and simple manner in writing and oral.	Communication skill
PO-3	Identify the given problem and apply, theories/assumptions for solving the same related to real life situations	Critical thinking & problem solving
PO-4	Plan, execute, interpret and report the results of the experiments to investigate.	Research related skill
PO-5	Work effectively and respectfully as a team member in the classroom, laboratory and field-based situations.	Co-operation / teamwork
PO-6	Correlate the ideas, evidences and experiences to analyze and interpret the scientific information with learned scientific reasoning	Scientific reasoning
PO-7	Get sensibly aware with the subject facts that can be applied for the society.	Reflective thinking
PO-8	Apply modern library search tools to locate, retrieve, and evaluate subject-related information.	Information /digitally literacy
PO-9	Identify the subject resources required for a project and manage different projects	Self-directed learning
PO-10	Motivate and inspire other colleagues/students in the subject-related activities.	Leadership readiness / qualities
PO-11	Inculcate continuous learning habit through multiple Techniques	Lifelong readiness / qualities

6. Program Specific Outcomes

PSO No.	PSO Statement	Knowledge and Skill
	After completing the Bachelor of Science in Chemistry, students will be able to-	
PSO-1	Demonstrate comprehensive knowledge and understanding of core principles, theories, and concepts in chemistry	Disciplinary knowledge
PSO-2	Apply critical thinking skills to analyze complex chemical phenomena, evaluate experimental data, and propose innovative solutions to theoretical and practical problems in chemistry.	Critical thinking & problem solving
PSO-3	Utilize resources such as textbooks, scientific literature, online courses, and professional networks to pursue self-directed learning and stay abreast of recent advancements in chemistry.	Self-directed learning
PSO-4	Utilize digital tools, software, and databases effectively for literature research, data analysis, simulation, and visualization in chemistry.	Digitally literacy
PSO-5	Exhibit leadership qualities and interpersonal skills essential for collaboration, teamwork, and effective communication within multidisciplinary research teams and professional environments.	Leadership
PSO-6	Demonstrate readiness for professional practice or further education in chemistry by exhibiting qualities such as adaptability, resilience, professionalism, and a commitment to lifelong learning.	Readiness/qualities

7. Structure of the Program

The detailed framework of Undergraduate Degree Program in Chemistry is provided in Table 2.

Table 2 Program Structure of undergraduate degree Program in Chemistry

Credit Framework for Under Graduate (2024-25) (3 Subjects) for Faculty of Science and Technology

First Year (Certificate)

Level	Sem	Subject-1	Subject-2	Subject-3	GE/OE	SEC	IKS	AEC	VEC	CC	Total
4.5/100	I	2(T) + 2(P)	2(T) + 2(P)	2(T) + 2(P)	2(T)	2(T/P)	2(T) (Generic)	2(T)	2	--	22
	II	2(T) + 2(P)	2(T) + 2(P)	2(T) + 2(P)	2(T/P)	2(T/P)	--	2(T)	2	2(T)	22
Total											44

Exit Option: Students on exit shall be awarded Undergraduate Certificate in Chemistry after securing the requisite 44 credits after completion of Semester II, followed by an exit 4-credit core NSQF Course(s) or Internship.

Continue Option: Student will select one subject as a major and one subject as a minor. One subject will be dropped.

Second Year (Diploma)

Level	Sem	Credits Related to Major				Minor	GE/OE	SEC	IKS	AEC	VEC	CC	Total
		Major Core	Major Elective	VSC	FP/OJT/CEP								
5.0/200	III	4(T) + 2(P)	--	2(T/P)	2(FP)	2(T) + 2(P)	2(T)	--	2(T) (Major Subject Specific)	2(T)	--	2	22
	IV	4(T) + 2(P)	--	2(T/P)	2(CEP)	2(T) + 2(P)	2(P)	2(T/P)	--	2(T)	--	2	22
Total												44	

Exit Option: Students on exit shall be awarded Undergraduate Diploma in Major and Minor with 88 credits and additional 4-credit core NSQF Course (s) or Internship.

Continue Option: Student will continue with major and minor.

Third Year (UG Degree)

Level	Sem	Credits Related to Major				Minor	GE/ OE	SEC	IKS	AEC	VEC	CC	Total
		Major Core	Major Elective	VSC	FP/OJT/ CEP								
5.5/300	V	8(T) + 4(P)	2(T) + 2(P)	2(T/P)	2(FP/CEP)	2(T)	--	--	--	--	--	--	22
	VI	8(T) + 4(P)	2(T) + 2(P)	2(T/P)	4OJT	--	--	--	--	--	--	--	22
Total												44	

Exit Option: Students on exit shall be awarded UG Degree in Major after securing the requisite 132 credits after completion of Semester VI. Or Continue with Major

Fourth Year (Honours Degree with Research)

Level	Sem	Credits Related to Major				Minor	GE/ OE	SEC	IKS	AEC	VEC	CC	Total
		Major Core	Major Elective	VSC	FP/OJT/ CEP								
6.0/400	VII	6(T) + 4(P)	2(T) + 2(T/P)	--	4(RP)	4 (RM)	--	--	--	--	--	--	22
	VIII	6(T) + 4(P)	2(T) + 2(T/P)	--	8(RP)	--	--	--	--	--	--	--	22
Total												44	

Students on exit shall be awarded Bachelor of Science (Honours with Research Degree) after securing the requisite 176 credits after completion of Semester VIII.

Fourth Year (Honours Degree without Research)

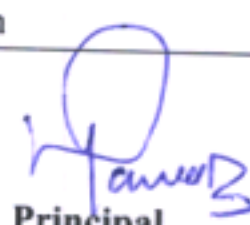
Level	Sem	Credits Related to Major				Minor	GE/ OE	SEC	IKS	AEC	VEC	CC	Total
		Major Core	Major Elective	VSC	FP/OJT/ CEP								
6.0/400	VII	10(T) + 4(P)	2(T) + 2(T/P)	--	--	4 (RM)	--	--	--	--	--	--	22
	VIII	10(T) + 4(P)	2(T) + 2(T/P)	--	4 (OJT)	--	--	--	--	--	--	--	22
Total												44	

Students on exit shall be awarded Bachelor of Science (Honours Degree) after securing the requisite 176 credits after completion of Semester VIII.



Savitribai Phule Pune University
NEP Cell Information 2024 -2025

College Name	Sahyadri Bahujan Vidya Prasarak Samaj Loknete Balasaheb Thorat Arts Commerce and Science College Addr: Talegaon Dighe Tal: Sangamner Dist: Ahmednagar Pincode: 422611	
Establishment Year	2008	
Principal Name	Eknath Sayaji Dhone	
Principal Type	Permanent Principal	
Faculty Name	ArtsCommerceScience	
Contact No.	9860284307	
NEP Cell Member Details		
Sr.No	Name	Details
1.	Sonawane Swapnali Somnath	Designation : Chairman Mobile : 9325937496 Email : swapnali.kolhe59@gmail.com
2.	Aher Ramdas Balasaheb	Designation : Coordinator of Quality Assurance Cell Mobile : 9921349089 Email : aherram85@gmail.com
3.	Hase Jyoti Dashrath	Designation : HOD of Arts Mobile : 7447874220 Email : hasejyoti24@gmail.com
4.	Pathan Shafiq Husen	Designation : HOD of Commerce Mobile : 9503703750 Email : pathanshafiq89@gmail.com
5.	Bhagwat Jayshri Kailas	Designation : HOD of Science Mobile : 9145231674 Email : jayshribhagwat01@gmail.com
6.	Adhe Divya Dipak	Designation : Arts Student Coordinator 1 Mobile : 8080055031 Email : adhedivya15@gmail.com
7.	Abhang Jagruti Changdev	Designation : Commerce Student Coordinator 1 Mobile : 8459322030 Email : jagrutiabhang21@gmail.com
8.	Jorvekar Sakshi Kailas	Designation : Science Student Coordinator 1 Mobile : 7820933990 Email : sakshijorvekar664@gmail.com


Principal
Signature