MVP SAMAJ'S ARTS, COMMERCE AND SCIENCE COLLEGE
TRYAMBAKESHWAR, NASHIK

PROGRAMME OUTCOMES

PROGRAMME SPECIFIC OUTCOMES

COURSE OUTCOMES

DEPARTMENT OF BOTANY

B. Sc.Botany

CourseOutcomes

F. Y. B.Sc. Botany

Course 111: Plant Diversity, Plant Morphology and Anatomy
After successfully completing this course, students will be ableto:

CO1: outline cryptogams and phanerogams.

CO2: Define general characters of cryptogams and Phanerogams.

CO3: Classify the members of plants groups in to cryptogams and Phanerogams.
CO4: Describe the Life cycle of plant forms of cryptogams and Phanerogams.

CO5: Identify lichens and their economic value.

CO6: Discuss morphology of vegetative and reproductive parts of plants.
CO7: Describe anatomy of Monocot and dicot plants.

CO8: Explain types of plant tissues.

Course 112: Industrial Botany

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

CO1: Define industrial botany.

CO2: Use the potential of plants for human welfare in day to day life;
CO3: Describe botanical concepts, including plant anatomy.

CO4: Differentiate usage of plants for food, medicine, building materials, stimulating beverages, and for their psychoactive effects.

CO5: Discuss conservation and sustainable use of plants.

CO6: Explain and demonstrate the impact that plants on human society
CO7: Address the socio-economic challenges related to plant sciences.
CO8: Demonstrate the methods of cultivation of mushrooms.

Course: Practical Botany -I

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

CO1: Recognize the live forms of Cryptogamic and Phanerogamic plants.
CO2: Analyse and describe botanical concepts, including plant anatomy.

CO3: Differentiate usage for food, medicine, building materials, stimulating beverages, and for their psychoactive effects.

CO4: Explain conservation and sustainable use of plants

CO5: Explain and demonstrate the impact that plants have on human society
CO6: Illustrate the floral parts, fruits, leaves and their types.

CO7: Identify industrial applications of plants resources for welfare of human being and their techniques.

CO8: Categorize the plants into Monocot and Dicot on the basis of anatomical characters.

S. Y. B.Sc. Botany

BO 211: **Taxonomy of Angiosperms and plant community**

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

CO1: Define plant taxonomy and taxonomic related terminologies.
CO2: Explain classification systems of angiosperms.

CO3: Use required data sources for classification of angiosperms.
CO4: Determine Botanical Nomenclature of angiosperm plants.
CO5: Recognize ecological plant groups with examples.

CO6: Explain plant families with examples.

CO7: Apply proper herbarium methods - collecting, mounting, and keeping records.
CO8: Execute computer knowledge in plant taxonomy and digital herbarium.

BO 212: **Plant Physiology**

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

CO1: Define the terminologies: Plant water relations, Growth, Transpiration, Ascent of Sap, Plant growth regulators and Nitrogen metabolism.

CO2: Explain processes of mineral nutrition, absorption of water, ascent ofsap mechanisms of water loss from plants.

CO3: Demonstrate processes imbibition, Osmosis, Diffusion and Plasmolysis, measure growth by arc auxanometer, Bose Cresco graph.

CO4: Describe Plant growth regulators and their types.
CO5: Discuss nitrogen metabolism in plants

CO6: Explain mechanisms and application of photoperiodism
CO7: Explain Mechanism of vernalisation.

CO8: Classify the plants based on Photoperiodism.

BO 213: Plant Anatomy & Embryology

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

CO1: Define terms related to plant Anatomy, Embryology.

CO2: Describe various tissue systems in plants like epidermal, mechanical and vascular.

CO3: Interpret the Principles involved in distribution of mechanical tissues.
CO4: Explain the process of normal and abnormal secondary growth in plants.
CO5: Differentiate between normal and abnormal secondary growth.

CO6: Identify the process of pollination and fertilization.

CO7: Discuss the Structure and development process of male and female gametophyte
CO8: Illustrate the types of microspore, ovules, embryo, seed and endosperm.

BO 213: **Plant Biotechnology**

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

CO1: Define the terminologies related to plant biotechnology.
CO2: Describe the fermentation process.

CO3: Explain enzyme technology and their industrial scale production.
CO4: Interpret the production of Single cell proteins.

CO5: Illustrate the concept of phytoremediation.

CO6: Describe General method of gene isolation from the plants and their application.
CO7: Explain Methods of gene, transfer in plants.

CO8: Illustrate Application of plant genetic engineering and Nano-biotechnology in crop improvement.

BO 213: Practical Paper III

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

CO1: Define the botanical terms to identify the plant families.
CO2: Identify the plant families.

CO3: Draw the floral diagram of plants belonging to specific families.

CO4: Demonstrate physiological experiments, fermentation and fermentation products.

CO5: Calculate water holding capacity, pH, plasmolysis, DPD
CO6: Describe internal morphology of plant organs.

CO7: Describe the Transpiration process.

CO8: Demonstrate the Electrophoresis and its u

DEPARTMENT OF CHEMISTRY

B. Sc. Chemistry

Goals:

The Department has formulated three broad educational goals for the undergraduate degree programs:

Chemistry knowledge: To provide students with the basic foundation in Chemistry and related subjects, the interplay of theory and experiment, and to motivate scientific enthusiasm and curiosity and the joy oflearning.

Problem solving skills: To provide students with the appropriate tools needed to analyze problems with the skills required which helps them to succeed in graduate school, the chemical industry or professional school. Also, to prepare background for advanced and applied studies in chemistry

Employment and technical skills: To provide the students with technical skills necessary for successful careers in chemistry and related or alternative careers for which a chemistry foundation can be very useful. These include to a breadth of experimental techniques using modern instrumentation and communication skills (oral and written).

Programme Outcomes:

Knowledge outcome:

After completing B.Sc. Chemistry Programme students will be able to:

PO1: Transfer and apply the acquired fundamental knowledge of chemistry, including basic concepts and principles of (1) organic chemistry, Inorganic chemistry, Physical and Analytical Chemistry; (2) analytic techniques and experimental methods for chemistry to study different branches of chemistry;

PO2: Demonstrate the ability to explain the importance of the Periodic Table of the Elements and represent key aspects of it and its role in organizing chemical information.

Skills Outcomes

Professional

Skills

After completing B.Sc. Chemistry Programme students will be able to:

PO3: apply and demonstrate knowledge of essential facts, concepts, laws, principles and theories related to chemistry;

PO4: demonstrate the learned laboratory skills, enabling them to perform qualitative and quantitative analysis of given samples and able to make conclusions on it;

PO5: set procedure and synthesize simple compounds of commercial importance;

PO6: engage in oral and written scientific communication, and will prove that they can think critically and work independently.

PO6: Communicate effectively using graphical techniques, reports and presentations within a scientific environment.

PO7: to recognize problems in chemical science and make strategies to solve it

PO8: Respond effectively to unfamiliar problems in scientific contexts

PO9: Plan, execute of design experiment, make documentation of it, interpret data at entry level of chemical industry and report the results;

PO10: Integrate and apply these skills to study different branches of chemistry.

Generic Competencies

PO11: The student will acquire knowledge effectively by self-study and work independently, present information in a clear, concise and logical manner and apply appropriate analytical and approximation methods

PO12: The student will learn professionalism, including the ability to work in groups and in society, and apply basic ethical principles.

Program Specific Outcomes

After completing B. Sc. Chemistry, students will be able to

PSO1: Understand the nature and basic concepts of Physical, Organic and Inorganic chemistry;

PSO2: Analyze Organic & inorganic compounds qualitatively andquantitatively;

PSO3: Understand the applications of physical, organic, inorganic and analytical chemistry in pharmaceutical, agriculture and chemical industries;

PSO4: Able to perform experimental procedures as per laboratory manual in the area of physical, Inorganic and organicchemistry;

PSO5: interpretation and synthesis of chemical information and data obtained from chemical and instrumental analysis.

Course Outcomes:

F.Y.B.Sc.Chemistry

SEMESTER-I

CH- 101: Physical Chemistry (2 Credits, 36 Lectures of 50 min.) At the end of course student will be able to –

1. Apply thermodynamic principles to physical and chemicalprocess
2. Calculate of enthalpy, Bond energy, Bond dissociation energy, resonanceenergy
3. Study variation of enthalpy with temperature –Kirchhoff'sequation
4. Apply third law of thermodynamic and itsapplications
5. Understand relation between Free energy and equilibrium and factors affectingon equilibriumconstant.

6. Understand exergonic and endergonicreaction
7. Understand relation between Gas equilibrium, equilibrium constant and molecular interpretation of equilibriumconstant
8. Study Van’t Haff equation and itsapplication
9. Concept to ionization process occurred in acids, bases and pHscale
10. Related concepts such as Common ion effect hydrolysis constant, ionic product, solubilityproduct
11. Degree of hydrolysis and pH for different salts , buffersolutions

CH- 102: Organic Chemistry (2 Credits, 36 Lectures of 50 min.) At the end of course student will be able to –

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

CH- 103: Chemistry Practical Course I (1.5 Credits, 46.8 Lectures of 50 min.) At the end of course student will be able to –

1. Importance of chemical safety and Lab safety while performing experimentsin laboratory
2. Determination of thermochemical parameters and relatedconcepts
3. Techniques of pHmeasurements
4. Preparation of buffersolutions
5. Elemental analysis of organic compounds (non-instrumental)
6. Chromatographic Techniques for separation of constituents ofmixtures

SEMESTER-II

CH-201: Inorganic Chemistry (2 Credits, 36 Lectures of 50 min.) At the end of course student will be able to –

1. Understand various theories and principles applied to revel atomicstructure
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 wavefunctions
5. Significance of quantumnumbers
6. Shapes oforbitals
7. Explain rules for filling electrons in various orbitals- Aufbau's principle,Pauli exclusion principle, Hund's rule of maximummultiplicity
8. Discuss electronic configuration of an atom and anomalous electronic configurations.
9. Describe stability of half-filled and completely filledorbitals.
10. Discuss concept of exchange energy and relative energies of atomicorbitals
11. Design Skeleton of long form of periodictable.
12. Describe Block, group, modern periodic law andperiodicity.
13. Classification of elements as main group, transition and inner transitionelements
14. Write name, symbol, electronic configuration, trends andproperties.
15. Explain periodicity in the following properties indetails:
    a. Effective nuclear charge, shielding or screening effect; some numerical problems.

b. Atomic and ionicsize.
c. Crystal and covalentradii
d. Ionizationenergies
e. Electronegativity- definition, trend, Pauling electronegativityscale.
f. Oxidation state ofelements

16. Attainment of stable electronic configurations.
17. Define various types of chemical bonds- Ionic, covalent, coordinate and metallicbond
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-Lande equation and Born-Habercycle,
20. Define Fajan's rule, bond moment, dipole moment and percent ioniccharacter.
21. Describe VB approach, Hybridization with example of linear, trigonal, squareplaner, tetrahedral, TBP, andoctahedral.
22. Discuss assumption and need of VSEPRtheory.
23. Interpret concept of different types of valence shell electron pairs and theircontribution in bonding.
24. Application of non-bonded lone pairs in shape ofmolecule
25. Basic understanding of geometry and effect of lone pairs with examples such as ClF3, Cl2O, BrF5, XeO3 andXeOF4.

CH- 202: Analytical Chemistry (2 Credits, 36 Lectures of 50 min.)
At the end of course student will be able to –

1. Introduce to Analytical Chemistry i. Analytical Chemistry –branch of chemistry ii. Perspectives of analytical Chemistry iii. analyticalproblems
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-dilatant volume ratio, function density and specific gravity ofsolutions.
3 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 Lassiagen's test. iii. Purification techniques for organic compounds.
4. Study Paper and Thin layer Chromatography i. Basics of chromatography and types of chromatography ii.Theoretical background for Paper and Thin LayerChromatography
5. Study pH meter and electrodes for pH measurement ii. Measurement of pH iii. Working of pH meter iv. Applications of pHmeter

CH- 203: Chemistry Practical –II (1.5 Credits, 46.8 Lectures of 50 min.)

1. Inorganic Estimations using volumetricanalysis
2. Synthesis of Inorganic compounds
3. Analysis of commercialproducts
4. Purification of organiccompounds
5. Preparations and mechanism of reactionsinvolved

S.Y.B.Sc. Chemistry
SEMESTER-III

CH-301: Physical and Analytical Chemistry [Credit -2, 36 L]

After completion of course student will able to

1. Define / Explain concept of kinetics, terms used, rate laws, molecularity,order.
2. Explain factors affecting rate ofreaction.
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 differentialmethod.
5. Explain / discuss the term energy of activation with the help of energydiagram.
6. Explanation for temperature coefficient and effect of temperature on rate constantk.
7. Derivation of Arrhenius equation and evaluation of energy of activationgraphically.
8. Derivations of collision theory and transition state theory of bimolecular reaction and comparison.
9. Solve / discuss the problem based applying theory andequations.
10. Define / explain adsorption, classification of given processes into physical and chemicaladsorption.
11. Discuss factors influencing adsorption, its characteristics, differentiates types as physisorption andChemisorption
12. Classification of Adsorption Isotherms, to deriveisotherms.
13. Explanation of adsorption results in the light of Langmuir adsorption isotherm, Freundlich's adsorption Isotherm and BETtheory.
14. Apply adsorption process to real lifeproblem.
15. Solve / discuss problems usingtheory
16. Define, explain and compare meaning of accuracy andprecision.
17. Apply the methods of expressing the errors in analysis fromresults.
18. Explain / discuss different terms related to errors in quantitativeanalysis
19. Apply statistical methods to express his / her analytical results inlaboratory
20. Solve problems applyingequations
21. 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, metallochome indicators,etc.
22. Perform calculations involved in volumetricanalysis.
23. Explain why indicator show colour change and pH range of colourchange.
24. To prepare standard solution and b. perform standardization ofsolutions.
25. To construct acid – base titration curves and performs choice of indicator forparticulartitration.

26. Explain/discussacid-basetitrations,complexometrictitration/precipitationtitration / redox titration.
27. Apply volumetric methods of analysis to real problem in analytical chemistry / industry.

CH-302: Inorganic and Organic Chemistry [2Credit, 36 L]
After completion of course student will able to

1. Define terms related to molecular orbital theory (AO, MO, sigma bond, pibond, bond order, magnetic property of molecules,etc).
2. Explain and apply LCAO principle for the formation of MO's fromAO's.
3. Explain formation of different types of MO's fromAO's.
4. Distinguish between atomic and molecular orbitals, bonding, anti-bonding and nonbonding molecularorbitals.
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 bondorder.
7. Apply MOT to explain bonding in diatomic molecules other than explained insyllabus.
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 complexion.
10. Apply IUPAC nomenclature to coordinationcompound.
11. Identify and draw the structures aromatic hydrocarbons from their names or from structure name can beassigned.
12. Explain / discuss synthesis of aromatichydrocarbons.
13. Give the mechanism of reactionsinvolved.
14. Explain /Discuss important reactions of aromatichydrocarbon.
15. To correlate reagent andreactions
16. Identify and draw the structures alkyl / aryl halides from their names or from structure name can beassigned.
17. Explain / discuss synthesis of alkyl / arylhalides.
18. Write / discuss the mechanism of Nucleophilic Substitution (SN1 , SN2 and SNi)reactions.
19. Explain /Discuss important reactions of alkyl / arylhalides.
20. To correlate reagent andreactions.
21. Give synthesis of expected alkyl / arylhalides.
22. Identify and draw the structures alcohols / phenols from their names or from structure name can be assigned.
23. Able to differentiate between alcohols and phenols 3. Explain / discuss synthesis of alcohols /phenols.
24. Write / discuss the mechanism of various reactionsinvolved.
25. Explain /Discuss important reactions of alcohols /phenols.
26. To correlate reagent and reactions of alcohols /phenols
27. Give synthesis of expected alcohols /phenols.

CH-303: Practical Chemistry-III [2 credit, 72* L]
After completion of course student will able to

1. Verify theoretical principlesexperimentally.
2. Interpret the experimental data on the basis of theoreticalprinciples.
3. Correlate theory to experiments. Understand/verify theoretical principles by experiment observations; explain practical output / data with the help oftheory.
4. Understand systematic methods of identification of substance by chemicalmethods.
5. Write balanced equation for the chemical reactions performed in thelaboratory.
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 designedexperiments.
8. Perform the quantitative chemical analysis of substances explain principles behindit.
9. Systematic working skill in laboratory will be imparted instudent.

SEMESTER-IV

CH-401: Physical and Analytical Chemistry [Credit: 2, 36 L] After completion of course student will 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.
3. Discuss meaning of phase, component and degree offreedom.
4. Derive of phaserule.
5. 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
6. Define various terms, laws, differentiate ideal and no-idealsolutions.
7. Discuss / explain thermodynamic aspects of Ideal solutions-Gibbs free energy change, Volume change, Enthalpy change and entropy change of mixing of Idealsolution.
8. Differentiate between ideal and non-ideal solutions and can apply Raoult'slaw.
9. Interpretation of i) vapour pressure–composition diagram ii) temperature- composition diagram.
10. Explain distillation of liquid solutions from temperature – compositiondiagram.
11. Explain / discuss azeotropes, Lever rule, Henrys law and itsapplication.
12. Discuss / explain solubility of partially miscible liquids- systems with upper critical. Solution temperature, lower critical solution temperature and having both UCST andLCST.
13. Explain / discuss concept of distribution of solute amongst pair of immisciblesolvents.
14. Derive distribution law and its thermodynamicproof.
15. Apply solvent extraction to separate the components of from mixtureinterest.
16. Solve problem by applyingtheory.
17. 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.

18. Discuss / explain Kohlrausch's law and its Applications, Conductivity Cell, Conductivity Meter, WhetstoneBridge.
19. Explain / discuss conductometrictitrations.
20. Apply conductometric methods of analysis to real problem in analyticallaboratory.
21. Solve problems based on theory /equations.
22. Correlate different terms with each other and derive equations for theircorrelations.
23. Explain / define different terms in Colorimetry such as radiant power, transmittance, absorbance, molar, Lamberts Law, Beer's Law, molarabsorptivity
24. Discuss / explain / derive Beer's law ofabsorptivity.
25. Explain construction and working ofcolorimeter.
26. Apply colorimetric methods of analysis to real problem in analyticallaboratory.
27. Solve problems based on theory /equations.
28. Correlate different terms with each other and derive equations for theircorrelations.
29. Explain / define different terms in column chromatography such as stationary phase, mobile phase, elution, adsorption, ion exchange resin, adsorbate,etc.
30. Explain properties of adsorbents, ion exchange resins,etc.
31. Discuss / explain separation of ionic substances usingresins.
32. Discuss / explain separation of substances using silica gel /alumina.
33. Apply column chromatographic process for real analysis in analyticallaboratory.

CH-402: Inorganic and Organic Chemistry [2 credit, 36L]
After studying the aromatic hydrocarbons student will able to

1. Isomerism in coordinationcomplexes
2. Explain different types of isomerism in coordinationcomplexes.
3. Apply principles of VBT to explain bonding in coordination compound of different geometries.
4. Correlate no of unpaired electrons and orbitals used forbonding.
5. Identify / explain / discuss inner and outer orbital complexes. 4. Explain / discuss limitation ofVBT
6. Explain principle ofCFT.
7. Apply crystal field theory to different type of complexes (Td, Oh, Sq. Plcomplexes)
8. 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 coordinationcomplex.
9. Calculate field stabilization energy and magnetic moment for variouscomplexes.
10. To identify Td and Sq. Pl complexes on the basis of magnetic properties / unpaired electrons.
11. Explain spectrochemical series, tetragonal distortion / Jahn-Teller effect in Cu(II) Oh complexesonly.
12. Identify and draw the structures aldehydes and ketones from their names or from structure name can beassigned.
13. Explain / discuss synthesis of aldehydes andketones.
14. Write / discuss the mechanism reactions aldehydes andketones.
15. Explain /Discuss important reactions of aldehydes andketones.
16. To correlate reagent and reactions of aldehydes andketones

17. Give synthesis of expected aldehydes and ketones.
18. Perform inter conversion of functionalgroups
19. Identify and draw the structures carboxylic acids and their derivatives from their names or from structure name can beassigned.
20. Explain / discuss synthesis of carboxylic acids and theirderivatives.
21. Write / discuss the mechanism reactions carboxylic acids and theirderivatives.
22. Explain /Discuss important reactions of carboxylic acids and theirderivatives.
23. Correlate reagent and reactions of carboxylic acids and theirderivatives
24. Give synthesis of expected carboxylic acids and theirderivatives.
25. Perform inter conversion of functionalgroups.
26. Identify and draw the structures amines from their names or from structure name can be assigned.
27. Explain / discuss synthesis of carboxylicamines.
28. Write / discuss the mechanism reactions carboxylicamines.
29. Explain /Discuss important reactions of carboxylicamines.
30. To correlate reagent and reactions of carboxylicamines.
31. Give synthesis diazonium salt from amines and reactions of diazoniumsalt.
32. Perform inter conversion of functionalgroups.
33. Draw the structures of different conformations ofcyclohexane.
34. Define terms such as axial hydrogen, equatorial hydrogen, confirmation, substituted cyclohexane,etc.
35. Convert one conformation of cyclohexane to another conformation and should able to identify governing structuralchanges.
36. Explain / discuss stability with respect to potential energy of different conformations of cyclohexane.
37. Draw structures of different conformations of methyl / t-butyl monosubstituted cyclohexane (axial, equatorial) and 1, 2 dimethylcyclohexane.
38. Identify cis- and trans-isomers of 1, 2 dimethyl substituted cyclohexane and able to compare theirstability.

CH-403: Practical Chemistry-IV [2 credit, 72* L]

After studying the aromatic hydrocarbons student will able to

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

T.Y.B. Sc. Chemistry

CH-331 Physical chemistry, Sem.-I

At the end of course students will able to

CO1: define / recall various terms related to electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram.

CO2: write correct equation such as Ohms law, equivalent conductance, molar conductance, rate constant of first, second, third order reactions, Kohlarch law, Debye equation, transport number, molar polarization, force constant, energy of rotational, vibrational excitations, etc.

CO3: derive equations for half-life of third order reaction, rate constant of third order reaction, transport number, dipole moment, molar polarization, reduced mass of diatomic molecule, etc.

CO4: explain / describe various terms in electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram. To derive relations between / among various terms / quantities in electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram

CO5: differentiate between / among the terms / quantities with suitable example such as molecularity and order of reaction, conductance and resistance, equivalent and molar conductance, rotational and vibrational spectra, etc.

CO6: apply his knowledge to explain / interpret spectra of simple diatomic molecules

CO7: describe facts and observations in electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram.

CO8: solve numerical related to electrolytic conductance, molecular spectroscopy, chemical kinetics and phase diagram.

CH-341 Physical chemistry Sem.-II,

At the end of course students will able to

CO1: define / recall various terms related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantum chemistry.

CO2: write / remember the correct equation such as Nernest equation, representation of cell and cell reactions, Bragg equation, half of radioactive materials, etc.

CO3: derive equations for potentials of various types of cells and electrodes, Bragg equation, half of radioactive materials, kinetics of decay of radioactive materials, particle in 1D box, quantum tunneling, etc.

CO4: explain / describe various terms related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantumchemistry.

CO5: derive relations between / among various terms / quantities related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantum chemistry.

CO6: apply his knowledge to explain experimental observation and should able to correlate theory and particle or observed facts.

CO7: describe facts and observations related to electrochemistry, nuclear chemistry and application of radioactivity, crystallography and basics of quantum chemistry.

CO8: solve numerical in in electrolytic conductance, molecular spectroscopy,

chemical kinetics and phase diagram.

CH-332 Paper –II Inorganic Chemistry Sem-III

At the end of course students will able to

CO1: Define terms related to molecular orbital theory, coordination chemistry

CO2: Explain mononuclear and hetero nuclear molecules, LCAO principle, primary and secondary valancy, bond order and magnetic properties of molecules

CO3: Distinguish between atomic and molecular orbitals, bonding and antibonding molecular orbitals, different theories of coordination chemistry

CO4: Draw MO energy level diagrams for homo and hetero nuclear diatomic molecules, crystal field splitting energy level dig. for octahedral and tetrahedralcomplexes

CO5: Apply IUPAC nomenclature rules and writ name of coordinate complexes, predict structure of complexes by using hybridization

CO6: Describe valance bond theory and crystal field theory to different type of complexes

CO7: Calculate effective atomic number and crystal field stabilization energy for various complexes

CO8: solve numerical problems related to syllabus

CH-342 Paper –II Inorganic Chemistry Sem-IV

At the end of course students will able to

CO1: define lanthanides, actinides, semiconductors, superconductor, close packed structure, lanthanide contraction, super heavy elements, catalyst, catalysis

CO2: describe lanthanide contraction, types of holes in close pack structure

CO3: distinguish between lanthanides and actinides, homogeneous & heterogeneous catalysis, n-type and p-type semiconductor, nuclear fusion and fission

CO4: explain applications of lanthanides and actinides, superconductivity, acetic acid synthesis, properties of heterogeneous catalyst, separation oflanthanides

CO5: explain n(E), and N(E) curves for semiconductors, band structures for sodium metal, hemoglobin, vit. B12

CO6: predict product of nuclear reactions, geometry of ionic solid from radius ratio effect

CO7: derive names of super heavy elements and symbols form IUPAC rules CO8: solve numerical problems related to syllabus.

CH -333 Paper III: Organic chemistry Sem. III

By the end of this course students will able to

CO1: define the terms related to Organic Reactions such as Aliphatic Nucleophilic, Aromatic electrophilic and Nucleophilic Substitution Reactions

CO2: list Different factors responsible for reactivity of organic compounds in Addition reactions to Unsaturated compounds

CO3: recall the information about acidity and Basicity

CO4: explain the Elimination reactions

CO5: solve the chemical Reactions for Aliphatic Nucleophilic, Aromatic electrophilic and Nucleophilic SubstitutionReaction

CO6: classify the organic reactions like substitution, Addition and elimination Reactions.

CO7: categorize different nucleophiles Electrophiles and Bases. CO8: judge what type of reagent need for the organic Conversion.

CH-343 Paper III: Organic chemistry Sem. IV

By the end of this course students will able to

CO1: define the terms related to Organic Reactions such as Carbanion, Retrosynthetic analysis Rearrangement Reactions and Spectroscopic methods of structure determination.

CO2: list Different factors responsible for reactivity of organic compounds in Oxidation, Reduction, RearrangementReactions

CO3: recall the information about Reactivity stability of carbanion CO4: explain the Rearrangementreactions

CO5: solve the chemical Reactions for Carbanion Retrosynthetic analysis and rearrangement reactions

CO6: calculation of Wavelengths of Organic compounds.

CO7: identification of different functional groups in organic compounds. CO8: judge the structure of organic compounds

CH-334 Paper- IV Course- Analytical Chemistry, (Semester -I)

At the end of course students will able to

CO1: remember /write/ explain terms/ recall the terms such as gravimetric analysis, common ion effect, solubility product, formation of complex ion, TGA, DTA DSC, spectrophotometry, terms related to absorption measurement, polarography, FES, AAS.

CO2: explain principles of electro-gravimetric analysis, Thermogravimetric analysis, differential thermal analysis, beers law and lamberts law, Polarography, AAS, FES.

CO3: describe various componentsusedin UV-Visible Spectrophotometry, AAS, FES, Polarography, TGA andDTA

CO4: describe equations or reaction of solubility product, law of mass action, Lambert –Beers Law equation, Ilkvoic equation, equation for no. atoms in excited state, Nernst equation.

CO5: describe Instrumentation of UV-Visible Spectrophotometry, AAS, FES, Polarography, TGA andDTA

CO6: solve numerical problems related to solubility product, common ion effect, Thermal methods of analysis, polarography, spectrophotometry, AAS and FES

CO7: apply Electro-gravimetric analysis for separation of metal ion, TGA, DTA, spectrophotometry, polarography AAS and FES.

CO8: select particular chemical or instrumental method for analysis of sample

CH-344 Analytical Chemistry, (Semester -II)

At the end of course students will able to

CO1: remember /write/ explain terms/ recall the terms such as Distribution coefficient, Distribution ratio, Solvent extraction, chromatography, types of chromatography, Electrophoresis, types of electrophoresis, Nephelometry and Turbidimetry.

CO2: define the terms migration velocity, moving boundary method, zone electrophoresis,discelectrophoresis,Rfvalue,retentiontime,supercriticalfluid chromatography, normalization, secondary peak, salting out, masking agent,

counter-current extraction, synergisticextraction.

CO3: discuss various components used in GC, HPLC, Turbidimetry and Nephelometry.

CO4: derive relationship between distribution coefficient and distribution ratio, equation of turbidance, equation of multiple extractions.

CO5: describe Instrumentation of HPLC, GC, Turbidimetry, Nephelometry, and electrophoresis.

CO6: solve numerical problems related to distribution ratio, % extracted, Rf values, no. of plates and theoretical plate, turbidance.

CO7: apply HPLC,paper chromatography, solvent extraction, GC, electrophoresis, Turbidimetry and Nephelometry technique foranalysis.

CO8: select particular techniques forseparationof sample

CH 335 Paper –V of Industrial Chemistry (Paper-V) Sem III,

By the end of this course student will able to-

CO1: define all the terms related to modern approach to chemical industry, agrochemicals, food and starch.

CO2: list basic chemicals, petrochemicals and eco-friendly fuels, cement and glass industry.

CO3: recall information about basic chemicals used in industry, agrochemicals, fuels and their types, nutritive aspects of food.

CO4: explain processes of manufacture of chemicals related to industry, properties of fuels, nutritive aspects of food and quality ofsoil.

CO5: calculate/determine calorific values of fuels.

CO6: classify fuels, chemical reactions, plant nutrients, herbicides, pesticides, insecticides and fungicides, glass and cement.

CO7: analyze applications and synthesis of different types of industrial chemicals and agrochemicals

CO8: select which principles are appropriate for industrial set up and to improve the yield of product.

CH 345 Industrial Chemistry (Paper V) Sem. IV,

By the end of this course students will able to

CO1: define the terms related to polymer chemistry, sugar and fermentation industry, soaps, detergents and cosmetics, dyes and paints, pharmaceutical industry, and terms related with pollution prevention and management.

CO2: list types of polymers, soaps, detergents, cosmetics, dyes, paints and pharmaceuticals.

CO3: recall information about soaps, detergents, fermentation process, dyes paints, drugs and pollution.

CO4: explain properties of drugs, polymers, soaps, detergents, dyes, paints and sugars.

CO5: determine quality of manufactured products in sugar and fermentation industry.

CO6: classify commercial polymers, soaps, detergents, cosmetics, dyes, paints, pigments and drugs.

CO7: analyze different types of manufacturing process of sugar industry, fermentation process and pollution prevention and waste management.

CO8: select what types of cosmetic products, drugs are important for human health.

CH 336E Chemistry (Paper-VI) Agriculture Semester: - III

By the end of this course students will able to

CO1: define all the terms related to soil chemistry, quality of irrigation water and plant nutrients.

CO2: list of fertilizers, manures, herbicides, pesticides, insecticides and fungicides.

CO3: recall information about soil, nutrient, quality of water, fertilizers and plant protecting chemicals.

CO4: explain properties of soil, impurities in water, effect of environmental condition on nutrient uptake, roll of fertilizers and effect of different types of plant protecting chemicals.

CO5: determine quality of irrigation water in terms of ppm meq/lit, epm, TSS, SAR, ESP and RSC.

CO6: classify soils, quality of water, plant nutrients, herbicides, pesticides, insecticides andfungicides

CO7: analyze different types of impurities present in irrigation and drinking water.

CO8: select appropriate fertilizer which would be more suitable for cultivation of different verities of crop with improve yield.

CH 346E Dairy Chemistry (Paper-VI) Semester: - IV

By the end of this course, the student will able to

CO1: define market milks, special milks, milk protein, carbohydrates, vitamins, died milk, butter, cheese, enzymes and adulterants in milk.

CO2: list out market milks, special milks, milk constituents, nutrients in milk, preservatives and adulterants in milk, milk products and dried milk products.

CO3: discuss about common dairy products, market milks, special milks, milk protein, carbohydrates and vitamins, adulterants in milk, cream, butter, cheese and dried milk.

CO4: explain properties of market milks, common dairy products, special milks, milk protein, carbohydrates and vitamins, cream, butter, cheese and dried milk products.

CO5: classify nutrient in milk, major milk constituents, common dairy processes, preservatives and adulterants in milk, milk products and dried milk powders, common dairy processes.

CO6: classify nutrients in milk, major milk constituents, common dairy processes, chemical composition of milk, milk proteins, special milks, pasteurization of milk process, preservatives and adulterants in milk and dried milk powders.

CO7: analyze different types of adulterations in milk, milk products and dried milk powders.

CO8: choose good quality milk and allied milk products available in the market, which would be suitable for humanconsumption.

CH-347 Practical Paper-I, Physical Chemistry Practical

CO1: Maintaining records of chemical and instrumental analysis.

CO2: Laboratory skills for the purpose of collecting, interpreting, analyzing, practical data.

CO3: Laboratory skills for the purpose handling different analytical instruments.

CO4: Interpretation of results of experiment and their correlation with theory.

CO5: Study of reaction kinetics practically.

CO6: Study of conduct metric, potentiometric, colorimeter and pH metric principles.

CO7: Application of conduct metric, potentiometric, colorimetric and pH metric measurement in quantitative analysis.
CO8: Viscosity measurement and its application. CO9: Refractometric measurement and itsapplication.

CH-348 Practical Paper-II, Inorganic Chemistry Practical

CO1: Maintaining records of quantitative and qualitative analysis.
CO2: Laboratory skills for the purpose of collecting, interpreting, analysing, and reporting (in written form) chemical data.
CO3: Laboratory skills for the purpose handling different equipment's and analytical instruments.
CO4: Identify methods and instruments that can be used qualitative and quantitativeanalysis.
CO5: Mole concept and its application in the preparation of normal and molar solutions, and use of mole concept in quantitative calculations forinorganicanalysis
CO6: Choice of proper quantitative methods for analysis of samples containing inorganic substances.
CO7: Synthesis and purify coordination compounds. CO8: Statistical treatment to quantitative data
CO9: Quantitative analysis using instrumental methods of quantitative analysis.

CH-349 Practical Paper-III, Organic Chemistry Practical

CO1: Maintaining records of quantitative and qualitative analysis.
CO2: Laboratory skills for the purpose handling different equipment's and analytical instruments.
CO3: Study of organic reactions their applications.
CO4: Separation of mixture of organic compound and their identification by chemical methods.
CO5: Perform organic synthesis and follow the progress of the reaction by using TLC technique.

CO6: Write balanced equation for all the reaction performed in laboratory and write itmechanism.
CO7: Choice of proper quantitative methods for analysis of samples containing organicsubstances.

CO8: Synthesis and purify organic compounds. CO9: understanding of reaction mechanism involved CO10: physical constantdetermination

DEPARTMENT OF PHYSICS

B. Sc. Physics

Goals :

The Department has formulated three broad educational goals for the undergraduate degree programs:

Physics knowledge: To provide students with the basic foundation in physics and Energy Study, the interplay of theory and experiment, and to motivate scientific enthusiasm and curiosity and the joy of learning.

Problem solving skills: To provide students with the tools needed to Analyze problems, apply mathematical formalism and experimentation, and synthesize ideas.

Employment and technical skills: To provide the students with technical skills necessary for successful careers in physics/Energy Studies and related or alternative careers for which a physics foundation can be very useful. These include mathematics, computers, electronics and devices, and communication skills (oral and written).

Programme Outcomes :

Knowledge outcome:

After completing B.Sc. Physics Programme students will be able to:

PO1: Transfer and apply the acquired fundamental knowledge of physics, including basic concepts and principles of 1) classical mechanics, electrodynamics, quantum mechanics, Statistical Mechanics and thermodynamics; (2) mathematical (analytic and numerical) methods and experimental methods for physics to study different branches of physics

PO2: Demonstrate the ability to translate a physical description to a mathematical equation, and conversely, explain the physical meaning of the mathematics, represent key aspects of physics through graphs and diagrams, and use geometric arguments in problem-solving.

Skills Outcomes

Professional Skills

After completing B.Sc. Physics Programme students will be able to:

PO3: Apply and demonstrate knowledge of concepts of physics, to analyze a variety of physical phenomena

PO4: Demonstrate the learned laboratory skills, enabling them to take measurements in a physics laboratory and Analyze the measurements to draw validconclusions

PO5: Capable of oral and written scientific communication, and will prove that they can think critically and work independently.

PO6: Communicate effectively using graphical techniques, reports and presentations within a scientificenvironment.

PO7: Use and apply professional software for scientific data analysis andpresentation

PO8: Respond effectively to unfamiliar problems in scientific contexts

PO9: Plan, execute and report the results of a complex extended experiment or investigation, using appropriate methods to analyze data and to evaluate the level of its uncertainty

PO10: Integrate and apply these skills to study different branches of physics.

Generic Competencies

PO11: Work comfortably with numbers and analysing an issue quantitatively, acquire knowledge effectively by self-study and work independently, present information

in a clear, concise and logical manner and apply appropriate analytical and approximation methods.

Attitude/Value Outcomes

After completing B.Sc. Physics Programme students should have developed some positive attitudes and will have:

PO12: Willingness to take up responsibility in study and work Confidence in his/her capabilities
Capacity to work effectively in a team
Motivation for learning and experimentation

Program SpecificOutcomes

After completing B. Sc. Physics, students will be able to

PSO1: Demonstrate and understanding of principles and theories of physics. These include: Newtonian Mechanics, thermodynamics, atomic and Molecular physics, electrodynamics, electronics, optics, nuclear physics, quantummechanics;

PSO2: Apply vector algebra, differential and integral calculus as well as graphical methods to solve physicsproblems;

PSO3: Demonstrate ability to apply knowledge learned in classroom to set and perform simple laboratory experiments;

PSO4: solve physics problems using the appropriate methods in mathematical, theoretical and computational physics

CourseOutcomes: F.Y.B.Sc.Physic

Course: Mechanics

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

CO1**:** Demonstrate an intermediate knowledge of Newton's Laws and the equations of motion

CO2: Analyze the forces on the object and apply them in calculations of the motion of simple systems using the free body diagrams

CO3: Determine whether using conservation of energy or conservation of momentum would be more appropriate for solving a dynamics problem

CO4: Apply the concepts of elasticity to real world problems.

CO5: List fundamental forces in nature, applications and factors affecting surface tension.

CO6: Define and conceptualize different laws of fluid mechanics and related quantities like steady, turbulent flow and concept of Reynolds number

CO7: Demonstrate different applications of Bernoulli's theorem, laws of elasticity, surface tension.

Course: Physics principles & applications.

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

CO1: Define absorption, spontaneous emission and stimulated emission process and describe Laser action describe different atomic models in order to understand atomicstructure

CO2: Classify different types of bonding & their properties.

CO3: Draw electromagnetic spectrum showing different regions and analyze vibrational & rotational spectra of diatomicmolecule.

CO4: Study the properties of Laser and its applications.

CO5: Quote essential principles of operation of radar system and develop the radar for any givenfrequency.

CO6: Describe principle and construction of solar cell & to calculate efficiency and fill factor of solar cell.

Course: Heat and Thermodynamics

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

CO1: Define laws of thermodynamics, entropy, thermodynamic processes etc.

CO2: Describe Andrew's experiment, Amagat's experiment, Carnot engine, concept of entropy.

CO3: Derive expression for efficiency of heat engine (Otto cycle, Diesel cycle, Carnot cycle), latent heat equation, adiabatic relations for perfect gas, work done during isothermal and adiabatic change.

CO4: Determine critical constants using Vander Waal's gas equation, Reduced equation of state

CO5: Compare reversible and irreversible processes, adiabatic and isothermal process,

CO6: Illustrate that work is a path dependent function using PV diagram and to solve entropy for reversible and irreversible process.

CO7: Apply first law of thermodynamics to solve problems.

CO8: Categorize thermometers and state its applications

Course: Electromagnetics

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

CO1: Define the basic terms such as electric field, electric potential, magnetic intensity, magnetic induction, magnetic susceptibility and electric and magnetic flux.

CO2: State and conceptualise basic laws in electromagnetic.

CO3: Explain the superposition principle, gauss's law in dielectrics and relation between three electric vectors.

CO4: Solve numerical problems using Coulombs Law, Gauss's law, Biot-Savart's law ,Ampere circuital law and principle of superposition

CO5: Determine the electric field and potential due to an electric dipole and different types of charge distribution.

CO6: Determine magnetic induction due to various current distributions

CO7: Derive the relation between three magnetic vectors and compare different types of magnetic material.

CO8: Describe soft and hard magnets on the basis of hysteresis loop.

Course: Physics Practical

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

CO1: Demonstrate an ability to collect data through observation and/or

CO2: Acquire technical and manipulative skills in using laboratory equipment, tools and materials

CO3: Experimentation and interpreting data.

CO4: Demonstrate an understanding of laboratory procedures including safety, and scientific methods.

CO5: Demonstrate a deeper understanding of abstract concepts and theories gained by experiencing and visualizing them as authentic phenomena.

CO6: Acquire the complementary skills of collaborative learning and teamwork in laboratory settings.

S.Y.B.Sc

PH211 Mathematical Methods in Physics I

After successful completion of the course the student will be able to:

CO1: define the basic operations in complexnumbers;

CO2: explain graphical representation of complex numbers and calculate roots of complex numbers;

CO3: solve partial differential equations in Physics; CO4: discuss vector algebra required in Physics;

CO5: define and calculate the gradient, divergence and curl of a field;

CO6: define order, degree and homogeneity of ordinary differential equation; CO7: explain singular points of ordinary differential equation;

CO8: develop problem-solving skills of identifying strategies to solve unfamiliar problem

PH212 Electronics I

After successful completion of the course the student will be able to:

CO1: define various laws, theorems and basic terms in electronics;

CO2: calculate power, voltage or current across or through the particular component of a given circuit using circuit theorems; and able to design a circuit for transistor biasing, rectifier;

CO3: describe construction and working of transistor and its applications in current and voltage amplification using different configurations;

CO4: describe DC load line and bias point. List, explain, and design and analyze the different biasing circuits;

CO5: explain real and ideal characteristics of operational amplifier and calculate gain in different modes;

CO6: describe different applications of operational amplifier;

CO7: design rectifier circuits, unregulated and regulated power supply;

CO8: illustrate data from one number system to another and apply Boolean algebra to design logic circuits.

PHY221 Oscillations, Waves and Sound

After successful completion of the course the student will be able to: CO1: define periodic and oscillatory motion;

CO2: setup and solve differential equations of motion for simple harmonic, damped, and forced oscillators;

CO3: describe oscillatory motion with graphs and equations, and use these descriptions to solve problems of oscillatory motion;

CO4: discuss phenomenon of resonance and apply in different applications;

CO5: set and solve differential equation for wave motion for longitudinal and transverse waves;

CO6: calculate the phase velocity, energy and intensity of simple harmonic waves;

CO7: discuss the Doppler effect, and predict in qualitative terms the frequency change that will occur for relative motion between source and observer or listener;

CO8: Explain in qualitative terms how frequency, amplitude, and wave shape affect the pitch, intensity, and quality of tones produced by musical instruments.

Course: PHY 222 Optics

After successful completion of the course the student will be able to:

CO1: Describe the geometrical formation of images by thin lenses, lens equation and lens makers formula using fundamental laws of geometrical optics.

CO2: Use mathematical analysis to calculate properties of image, formed by combinationof lenses and applies theory of optics to calculate the cardinal points of an optical system and design opticaldevices

CO3: Describe optical aberrations produced in image by lenses and methods of their removal.

CO4: Describe the construction and operation of optical devices, including, eyepieces, compound microscope, grating, polarisers etc.

CO5: Use mathematical analysis to find bright and dark fringes in an interference pattern of thin and wedge shaped film and find a wavelength of light using newton's rings

CO6: Interpret a diffraction pattern to determine resolution of an optical system and grating

CO7: Demonstrate an ability to solve problems using 'paraxial' optics-based formulae, numerical calculations and graphicaldrawings.

CO8: Geometrical determination of polarization of light and conceptanddetermine a polarisation st

PH223: PRACTICAL COURSE

After completing this practical course student will be able to CO1:Use various instruments andequipment.

CO2: design experiments to test a hypothesis and/or determine the value of an unknown quantity.

CO3: Describe the methodology of science and the relationship between observation and theory.

CO4: Set up experimental equipment to implement an experimental approach.

CO5: Analyze data, plot appropriate graphs and reach conclusions from your data analysis.

CO6: Work in a group to plan, implement and report on a project/experiment. CO7: Keep a well-maintained and instructive laboratory logbook.

CO8: Express their knowledge and ideas through oral and written language.

T.Y.B.Sc.

PH-331: Mathematical methods of physics

After successful completion of the course the student will be able to:

CO 1: Define and generate a general equation for gradient ,divergence ,curl &laplacian in an orthogonal curvilinear coordinate system & their applications in physics.

CO 2: Interpret relative motion, Galilean & Lorentz transformation equations.

CO 3: Define proper time ,minkowskis space ,Time dilation , length contraction CO 4: Describe Michelson Morley experiment & its negative result.

CO 5: Convert commonly occurring partial differential equations in physics into ODE's CO 6: Illustrate the problems on Frobenius method of series solution and to differentiate

point of expansion of given differential equations.

CO 7: Evaluate &plot Legendre polynomials, Hermite polynomials ,Bessel function of first kind.

CO 8: List the most important special functions in physics and to solve different properties related to special functions.

PH-332: Solid state physics.

After successful completion of the course the student will be able to:

CO1: Define crystal structure to develop it in 2D as well as 3D and to determine Indices for 'Directions' and 'Planes' in a crystal structure.

CO2: Give original examples of crystal structures and to analyze them with packing fraction, coordination number, number of atoms per unit cell etc.

CO3: Derive Bragg Diffraction condition in direct lattice and to relate it in reciprocal lattice using Ewald construction.

CO4: Classify the crystal structure by XRD diffraction and to simplify formula for inter-planer distance.

CO5: Illustrate various experimental techniques for characterisation of material. CO6: Apply free electron theory to restate thermal and electrical properties CO7: Explain superconductivity and Meissner effect

CO8: Define magnetic properties of material and to derivesusceptibilityformula for different magnetic materials using Lange vein theory.

PH-333: Classical Mechanics:

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

CO1: Solve advanced problems involving the dynamic motion of classical mechanical systems with an intermediate knowledge of Newton's laws of motion

CO2: Apply the concept of centre of mass and mechanics of system of particles and conservation of energy, linear and angular momentum to solve dynamics problems

CO3: Demonstrate an intermediate knowledge of central-force motion and the concept of converting two body problems to single body problem and apply advanced methods to complex central-force motion problems.

CO4: Demonstrate an intermediate knowledge of concept of laboratory frame and centre of mass frame and their use to calculate results of scatteringexperiments.

CO5: Apply the concept scattering to get important information regarding the nature of interaction between atomic and subatomic particles through experiments

CO6: Derive Lagrange and Hamilton's equations, and represent the equations of motion for simple mechanical systems such as: the Atwood's machine, Simple pendulum using these formulations of classicalmechanics.

CO7: Acquire working knowledge of the methods of Hamiltonian Dynamics and compute the Hamilton equations of motion for mechanicalsystems

CO8: Use calculus of variations to find the Euler-Lagrange equations and canonical transformations to find the constants of motion according to the Hamilton Jacobi theory.

CO9: Use Poisson brackets to find derivatives in phase space.

PH-334: Atomic and Molecular Physics

After successful completion of the course the student will be able to:

CO1: Derive the formulae for total energy of an atom so that energy level diagram can be drawn and also able to obtain the expression for spin orbit interaction energy.

CO2: State laws, postulates in atomic and molecular Physics and able to compare various models of atomic structure.

CO3: Calculate quantum state of electrons in an atom, spectral notation and electronic

configuration of atom.

CO4: Obtain formulae for Zeeman shift, wavelength of emitted X-ray s, Raman shift , rotational and vibrational energy for diatomic molecule and apply it.

CO5: Explain origin of line spectra and able to compare continuous spectra, characteristic spectra and can differentiate between rotational, vibrational and electronic spectra.

CO6: Explain application of Duane and Hunt's rule, Moseley's law and its importance, applications of X-rays, Raman effect and Augereffect.

CO7: Draw and explain X-ray spectra, spectrum with and without magnetic field (Zeeman effect),Raman spectra and molecular spectra using quantum treatment

CO8: Explain experimental arrangement to produce X-ray,, to observe Raman effect and Zeemaneffect.

PH-335: C programming

After successful completion of the course the student will be able to: CO1: define types of programming languages and their uses;

CO2: gain basic competency with a widely used C-language for both general and scientific programming;

CO3: define operators and expression in C-programming and navigate commands;

CO4: explain control statements and loops as well as capable of writing C-program to solve problems;

CO5: describe arrays and pointers and apply them in C program;

CO6: critically present different numerical methods to solve different types of physical and technical problems;

CO7: implement numerical algorithms into C-program and visualize the results of the computations

CO8: demonstrate the ability to estimate the errors in the use of numerical methods

PH-336 B: Renewable Energy Sources

After successful completion of the course the student will be able to:

CO1: Define Conventional and non-conventional sources of energy, Structure and characteristics of sun, define Solar Constant,

CO2: Explain Electromagnetic energy spectrum, Solar radiations outside earth atmosphere, Solar radiation at the earth surface, problems solving.

CO3: Explain construction and working principle of Liquid flat plate collector, construction and working, Energy balance equation (without thermal analysis) , Advantage and disadvantage of Concentrating collectors, Solar distillation, Solar drying, Solar cooker(box type), Solar water heating systems, etc.

CO4: Define Photovoltaic principle, Power output and conversion efficiency, Limitation to photovoltaic efficiency, Basic photovoltaic system for power Generation, and its advantages and disadvantages, Types of solar cells, Application of solar.

CO5: Discribe Bio -mass conversion technologies, Bio-gas generation Factors affecting bio- Digestion (list of factors), Working of biogas plant.

CO6: Advantages and disadvantage of floating and fixed dome type plant, Bio-gas from plant wastes, methods for obtaining energy from biomass, thermal gasification of biomass, working of downdraft gasified

CO7: Advantages and disadvantages of biological conversion of solar energy. CO8: Wind Energy and its Classification and description of wind

machines.

PH-341: Electrodynamics.

After successful completion of the course the student will be able to:

CO1: Define the Biot-savart law, Amperes law, Coulombs law, Electric field, Electric susceptibility, Magnetic field &Faradays law.

CO2: Explain method of electrical images, equation of continuity, Magnetic vector potential, B.H curve, Maxwell's equation &wave equations.

CO3: Solve numerical problem on coulombs force, magnetic induction, magnetic permeability and induced voltage, magnitude of electric &magnetic vectors.

CO4: Determine work done by charges, total charge, force on the wire in different symmetry.

CO5: Summarize pointing vector, polarization, reflection &refraction. CO6: Apply Biot Savart law in different symmetry problem.

CO7: List the applications of Amperes law, Biot Savart law, Poynting theorem. CO8: Elaborate magnetic properties of the material.

PH-342: QuantumMechanics

After successful completion of the course the student will be able to:

CO1: outline the historical aspects of development of quantum mechanics; CO2: explain the differences between classical and quantum mechanics; CO3: describe matter waves, wave function and uncertainty principle;

CO4: describe Schrodinger's equation and its steady state form;

CO5: solve Schrodinger's steady state equation for simple potentials to obtain eigen functions and eigen values

CO6: apply Schrodinger's steady state equation for spherically symmetric potentials obtain eigen functions and eigen values;

CO7: interpret quantum numbers in atomic system;

CO8: discuss operator algebra in quantum mechanics.

PH-343: Thermodynamics and Statistical Physics

After successful completion of the course the student will be able to:

CO1: Describe transport phenomena and compute coefficient of thermal conductivity, viscosity and diffusion in terms of mean free path

CO2: Define and discuss the concepts and roles of thermodynamic functions from the view point of statisticalmechanics

CO3: Derive Binomial distribution and Gaussian probability distribution using random walk problem and calculate mean values for a statisticalsystem

CO4: Discuss the concepts of microstate and macro state, basic postulates and behaviour of density of states for model system and calculate the number of microstates for different statisticalsystems

CO5: Differentiate thermal, mechanical and general interaction betweenstatisticalsystem CO6: Derive and compare Maxwell Boltzmann, Bose-Einstein and Fermi-Dirac distributions; state where they are applicable and explain the connection between classical

CO7: Derive probability distribution formula for micro canonical, canonical

ensemble and calculate mean values in canonicalensemble

CO8: Discuss applications for canonical ensemble

PH-344: Nuclear Physics

After successful completion of the course the student will be able to:

CO1: Define threshold voltage, dead time and recovery time in GM counter, threshold energy, nuclear fission, nuclear fusion, critical size, critical mass.

CO2: Determine the basic properties of nucleus.

CO3: Classify nuclear radiations, elementary particles and nuclear states, nuclear detectors.

CO4: Compose baryons and mesons with Quark model.

CO5: Derive expression for energy of ions and frequency of RF signal in cyclotron, Q-value equation, threshold energy, decay constant.

CO6: Estimate binding energy from fission

CO7: Justify nuclear reactions using conservation laws

CO8: Explain the different processes by which energetic particles interact with matter, kinematics of various reactors and decay processes.

PH-345 Electronics II

After successful completion of the course the student will be able to:

CO1: Define and state the meaning of terms such as amplification, voltage gain, line and load regulation, flip-flop, counters, register, distortion, multiplexer, de-multiplexer, etc.

CO2: Draw and explain characteristics of various types of FET's and various types of diode and construct a circuit using these components according toapplication.

CO3: Draw and explain block diagram of IC 723, IC555, OPAMP.

CO4: Compare various types of semiconductor diode (LED, photodiode, etc.) types of multivibrator, types of power amplifier and types of three pin regulators (78XX,79XX, etc.) on the basis of working principle and application.

CO5: Design and construct a circuit for amplifier, a-stable, mono-stable and bi stable multivibrator using IC555, low voltage and high voltage regulator using IC723, various types of flip-flop and counters.

CO6: Use OPAMP (IC723) as an adder, subs tractor, differentiator, integrator and comparator.

CO7: Represent POS and SOP expression on K-map and design of half adder, full adder, half subs tractor, full subs tractor using K-map.

CO8: Explain applications of LED, photodiode, veractor, power amplifiers, FET, UJT, counters, registers and solve the problems such as write the output for given circuit, design the circuit from given data.

PH-346 K: Laser

After successful completion of the course the student will be able to:

CO1: Explain the interaction of radiation with matter, Quantum behaviour of light, thermal equilibrium and population inversion.

CO2: Illustrate the absorption, spontaneous and stimulated emission with appropriate diagrams.

CO3: Derive the Einstein's relation, conditions for large stimulated emission and light amplification.

CO4: Distinguish between ordinary light and laser

light. CO5: Define the characteristics of laser light.

CO6: Classify between lifetime broadening, collision and Doppler

broadening. CO7: List the types of lasers.

CO8: Discuss the applications of lasers in various fields.

Physics Practical-I

After successful completion of the course the student will be able to:

CO1: Describe the underlying theory of experiments in the course.

CO2: Perform derivations of theoretical models of relevance for the experiments in the course.

CO3: Follow instructions to perform laboratory experiments in Optics, Thermodynamics, Mechanics, Modern Physics, Electronics andElectromagnetics.

CO4: Document their results, using correct procedures andprotocols.

CO5: Perform a quantitative analysis of experimental data including the use of computational and statistical methods where relevant.

CO6: Interpret relationships in graphed data and develop an intuition for alternative plotting methods and communicate results from laboratory experiments, orally or in a written laboratoryreport.

CO7: Calculate permissible standard error in any physics experiment CO8: Derive conclusions from the analysis of own data.

CO9: Assess the language used to describe physics experiments and how it can alter perceptions of the method and results

Physics Practical-II

After successful completion of the course the student will be able to:

CO1: Describe the underlying theory of experiments in the course.

CO2: Perform derivations of theoretical models of relevance for the experiments in the course.

CO3: Follow instructions to perform laboratory experiments in Optics, Thermodynamics, Mechanics, Modern Physics, Electronics andElectromagnetics.

CO4: Document their results, using correct procedures andprotocols.

CO5: Perform a quantitative analysis of experimental data including the use of computational and statistical methods where relevant.

CO6: Interpret relationships in graphed data and develop an intuition for alternative plotting methods and communicate results from laboratory experiments, orally or in a written laboratoryreport.

CO7: Calculate permissible standard error in any physics experiment CO8: Derive conclusions from the analysis of own data.

CO9: Assess the language used to describe physics experiments and how it can alter perceptions of the method and results

Physics Practical-III: Project

After successful completion of the course the student will be able

to CO1: design and test hypothesis

CO2: Describe the underlying theory of experiments in the course.

CO3: Perform derivations of theoretical models of relevance for the experiments in the course.

CO4: Document their results, using correct procedures and protocols.

CO5: Perform a quantitative analysis of experimental data including the use of computational

and statistical methods where relevant.

CO6: Interpret relationships in graphed data and develop an intuition for alternative plotting methods and communicate results from laboratory experiments, orally or in a written laboratoryreport.

CO7: write a project report with literature review.

CO8: defend the outcome of project work in scientific manner.

DEPARTMENT OF MATHEMATICS

B Sc (Mathematics) Programme

Programme Outcomes:

After completing S. Y. B. Sc (Mathematics) Programme students will be able to:

PO1: Explain the importance of mathematics and investigate the real world problems and learn to how to apply mathematical ideas and models to those problems.

PO2: Reason mathematically and apply rigorous, analytic, highly numerate approach to analyze, execute tasks and solve problems in daily life and at work.

PO3: Recognize the power of abstraction and generalization, and to carry out investigative mathematical work with independent judgment.

PO4: Investigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustratethese solutions using symbolic, numeric, or graphicalmethods

PO5: Identify the type and solve abstract mathematical problems and give geometrical interpretation of various concepts.

PO6: Recognize connections between different subjects in mathematics.

PO7: Develop an understanding of the underlying unifying structures of mathematics (sets, relations and functions, logical structure) and the relationships among them.

PO8: Conduct self-evaluation, and continuously enrich them through lifelong learning.

PO9: Communicate and interact effectively with different audiences and collaborate intellectually and creatively in diverse contexts, while emphasizing the importance of clarity and precision in communication and reasoning.

PO10: Formulate and analyze mathematical problems, precisely define the key terms, and draw clear and reasonable conclusions.

Programme Specific Outcomes (only 3)

PSO1: Help the students to enhance their knowledge in soft skills and Computing skills.

PSO2: Enable the students to equip knowledge in various concepts involved in functions of single variable.

PSO3: Enable the students to equip knowledge in various concepts involved in Calculus and geometry.

Course Outcomes

F.Y. B Sc (Mathematics)

Course MT101: Algebra and Geometry (SEM - I)

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

CO1: Define the terms gcd, lcm, relation, equivalence relation, matrices, polynomial.

CO2: Describe the methods of solving Homogenous and Non Homogenous system of linear equations and its solutions by Gauss elimination and Gauss Jordan method

CO3: Explain algebraic properties of integers, finding gcd by Euclidean Algorithm, supremum, infimum, solving problems using first principle of Mathematical induction and strong induction.

CO4: Solve the system of equations using matrices, matrices by using Cayley Hamilton theorem, addition and multiplication and finding gcd of of two polynomials

CO5: Calculate gcd of numbers, remainder using congruence properties

CO6: Use factor theorem, Remainder theorem to calculate remainder when one polynomial divides other polynomial.

Course MT101: Algebra and Geometry (SEM - II)

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

CO1: Define Conic, Translation, Rotation, Centre, dcs, drs, etc. by using basic concepts.

CO2: Explain the concepts of Geometry by using basic definitions.

CO3: Calculate shortest distance between skew lines, radius, centre of sphere and angle between planes and lines, cylinder, cone by using some formulae.

CO4: Reduce the general equation of conic to its standard form by using reduction formulae.

CO5: Determine the condition of tangency for the Sphere by using basic formulae.

CO6: Give diagrammatic representations of various concepts by sketching diagrams.

Course MT102: Calculus and Differential Equation (SEM - I)

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

CO1: Recall definitions of the topics in calculus

CO2: Recognize the definitions and concepts giving examples of calculus

CO3: Describe the concepts and solve simple examples of single variablefunctions

CO4: Solve tricky examples of of single variablefunctions

CO5: Illustrate concepts in calculus of a single variable

CO6: Classify and apply concepts of a single variable calculus

Course MT102: Calculus and Differential Equation (SEM - II) After successfully completing this course, students will be able to:

CO1: Define the terms differential equation, order, degree, Bernoullis equation, self-orthogonal

CO2: Describe the methods of solving integration using partial fraction, substitution of trigonometric, logarithm, exponential functions and differential equations problems using variable separable form, exact equations, homogenous, non- homogenous, etc.

CO3: Convert non exact differential equation to exact differential equation byfinding integratingfactor

CO4: Solve differential equation of first order and higher degree using method of solvable for p, solvable for x, solvable for y and lagranges equation and Cairauts equation

CO5: Explain reduction formula for trigonometric equation like $\cos^n x$

CO6: Use self-orthogonal method to find orthogonal trajectory for a curve of family.

Course MT103: Mathematics Practical

CO1: Calculate gcd of two numbers using Euclidean algorithm and perform reverse process., radius and centre of sphere using formula

CO2: Solve system of linear equations using gauss elimination and gauss Jordan method

CO3: Solve polynomial to find roots by using synthetic division.

CO4: Calculate remainder using congruence properties.

CO5: Calculate limit using definition derivative, integration using partial fraction, substitution of trigonometric, logarithm, exponential functions, differential

equations variable separable form, exact equations, homogenous, non-homogenous, etc.

CO6: Determine the solution of first order and higher degree differential equation using method of solvable for p, solvable for x, solvable for y and lagranges equation and Cairauts equation

S. Y. B Sc (Mathematics) (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
CO8: Calculate inner product, norm.

DEPARTMENT OF ENGLISH

B. A. English

Programme Outcomes :

After successfully completing B.A. English Programme students will be able to:

PO1: **Critical Thinking**: Analyse works of literature by employing various important critical approaches and their tenets. The students will be able to implement literary devices to discuss literary texts among their peers. They will be able to familiarize themselves with the terminology in critical appreciation of varied forms of literature.

PO2: **Comprehension Skills**: The students will be able to comprehend the evolution ofdifferentcategoriesofliteraturesuchasshortstory,drama,poetry,fictionand non-fiction.

PO3: **Effective Communication**: The students will be able to develop oral and written communication skills in English. They will be able to enrich their vocabulary and its usage in communication. The students will be able to apply grammatical rules to day to day spoken and written language.

PO4: **Effective Communication**: Capable of oral and written scientific communication, and will prove that they can think critically and work independently

PO5: **Social Interaction**: The students will be able to use interpersonal and intrapersonalcommunicationskillstointeracteffectivelyinsocialsituationslike interviews, group discussions, seminars etc.

PO6: **Effective Citizenship**: The students will be able to execute their duties and responsibilities as citizens successfully by being a part of larger community.

PO7: **Ethics**: The students will be able to perceive the complexities of human behaviour and identity through various forms of literature. They will be able to develop a deeper understanding of human values such as morality, empathy, good will etc.

PO8: **Environment and Sustainability**: The students will become aware about the issues related to environment and the steps needed to be implemented for its sustainability through the study of texts with ecological elements and dimensions.

PO9: **Self-directed and Life-long Learning**: The students will be able to grasp excellent pieces of prose and poetry in English whereby each and every lesson will be a lesson in life- long learning.

Programme Specific Outcomes

PSO 1: Students will be able to understand the evolution of criticism and its application in language and literature

PSO 2: Students will be able to comprehend excellent pieces of prose and poetry in English literature.

PSO 3: Students will be able to apply knowledge of English language to improve skills in Listening, Speaking, Reading and Writing

CourseOutcomes

F.Y.B.A. English (CBCS) 70:30 Pattern

Course: SEM I- 11011 SEM II- 11012 Compulsory English

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

CO1: Students became a familiar with the best examples of prose and poetry in English and improved communicative power of English language.

CO2: Identify various types of vocabulary.

CO3: Develop the character of students as responsible citizen of the world.

CO4: Develop the ability of students to appreciate ideas and think critically.

CO5: Enhance employability, linguistic competence and communicative skills.

CO6: Revise and strengthen structures already learnt in the previous stages of learning.

Course: SEM I- 11331 SEM II- 11332 Additional English

After successfully completing this course, students will be ableto: CO1: Recognize basics of literature andlanguage.

CO2: To develop the ability of interpreting poems and developcritical mindset.

CO3: Evaluate short story as a genre ofliterature. CO4: Examine and criticize proselessons.

CO5: Familiar with the elements of a one actplay.

CO6: To introduce the basics of phonology of English so that theycan improve pronunciation and speakbetter.

CO7: Develop the understanding of literature andlanguage.

CO8: Developliteraryabilityinstudentsbyreadingtheprescribed texts.

S.Y.B.A. English

Course: 2017 Compulsory English

After successfully completing this course, students will be ableto: CO1: Define various parts ofSpeech

CO2: Describe and give examples of different types of characters, situations,and values oflife.

CO3: Summarize prose and poetic pieces for better comprehension.

CO4: Demonstrate competence in usage of language in day to daylife.

CO5: Classify and transform different types of sentences and apply vocabularyin communication

CO6: Relate to real lifesituation.

CO7: Compose and draft letters and essays andreports.

Course: 2337 General II Study of English Language and Literature

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

CO1: Name and label different organs of speech and transcribe words in

thephonetic script.
CO2: Explain and give examples of varied intonation pattern and varieties ofEnglish. CO3: Apply brief history to the art and craft of short storywriting.

CO4: Categorize literarydevices
CO5: Illustrate various elements of short story like plot, characterization, settingetc. CO6: Compare and contrast various types of shortstories

Course:2338 Special I Appreciating Drama

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

CO1: Definedramaasagenreofliteratureandtoidentifydifferentelementsofdrama.
CO2: Interpret the prescribed plays by applying the theory ofdrama.
CO3: Evaluate drama as a genre ofliterature.
CO4: Analyse independently different scenes and acts of theplay. CO5: Compare and contrast different characters in theplay
CO6: Developliterarycompetenceinstudentstohelpthemderivepleasurebyreading the prescribedtexts.
CO7: Evaluate the prescribed plays by categorizing theirtypes.

Course:2339 Special II Appreciating Poetry

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

CO1: Recall the basics of poetry as one of the literaryforms. CO2: Identify various elements ofpoetry.
CO3: Describe the various types of poetry in English. CO4: Summarize apoem.
CO5: Discuss various literary devices in a poem. CO6: Illustrate different figures ofspeech.
CO7: Critically appreciate apoem.

T.Y.B.A. English

Course: 3017 Compulsory English

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

CO1: Define communicative use of language in Indian Context.
CO2: List declarative, imperative and interrogative sentences.
CO3: Outline the idea of varied cultural experiences.
CO4: Define verbal and non-verbal communication.
CO5: Summarize in English Poetry.
CO6: Give examples of selected diction of specific writer or poet.
CO7: Use literary language with reference to Indian English
CO8: Determine basic difference between Indian English Poetry and British English Poetry.
CO9: Apply sentence transformation in given format.

Course: 3337 General III Advanced Study of English Language and Literature

After successfully completing this course, students will be ableto CO1:Identify advanced areas of languagestudy.
CO2: Define comparative study of language andliterature. CO3: Outline the basics of languagestudy
CO4: List varied dialects in Indian English Poetry.

CO5: Summarize selected poems from the prescribed text. CO6: Describe types ofsentences.

CO7: Illustrate ethos and cultural study with reference to Indian EnglishPoetry. CO8: Use creative use of language in Indian EnglishPoetry.
CO9: Analyse Indian English Poetry.

Course: 3338 Special III Appreciating Novel

After successfully completing this course, students will be able to: CO1: Define different types of novels.
CO2: Discuss the evolution of novel as a genre.
CO3: Comprehend various elements of a novel with varied examples in the literary canon.
CO4: Apply critical theories to the study of novel with reference to the prescribed texts. CO5: Associate the study of novel with reference to historical, social, political context CO6: Compare and contrast the prescribed novels in the syllabus.

Course:3339 Special IV Introduction to Literary Criticism

After successfully completing this course, students will be able to:
CO1: Define criticism and identify different types of criticism. CO2: Outline the history of English literarycriticism
CO3: Analyse independently prose passages and poems CO: Compare and contrast different criticaltheories
CO5: Develop literary competence in students to help them derive aestheticpleasure from different genres ofliterature.
CO6: Evaluate different critics and theirtheories

S.Y.B.Sc.

Course: Optional English

After successfully completing this course, students will be ableto: CO1: Define various parts ofSpeech
CO2: Describe and give examples of different types of types of characters,situations, and values oflife.
CO3: Summarize prose and poeticpieces.
CO4: Demonstrate competence in usage of language in day to daylife.
CO5: Students will be able to classify and transform different types ofsentences CO6: Apply vocabulary incommunication
CO7: Achieve competence oral and writtencommunication CO8: Draft letters and essays andreports.

DEPARTMENT OF GEOGRAPHY

B. A. Geography

Programme Outcomes

After successfully completing B.A. Geography Programme students will be able to:

PO1: Apply qualitative and quantitative research techniques to gather and analyse data on social, cultural, and ecological problems.

PO2: Apply clear written and oral communication skills to communicate results of research.

PO3: Demonstrate connections between everyday life at the local scale and the larger economic, social, and/or environmental forces that network them into a global community.

PO4: Evaluate cultural, social, and environmental processes with a particular focus on space and place, critical theory, practical application, analysis and/or social justice.

PO5: Think in spatial terms to explain what has occurred in the past as well as using geographic principles to understand the present and plan for the future.

PO6: Present completed researches, including an explanation of methodology and scholarly discussion, both orally and in written form and, wherever possible, utilize cartographic tools and other visual formats.

PO7: Demonstrate general understanding of how the physical environment, human societies,andlocalandglobaleconomicsystemsareintegraltotheprinciplesof sustainabledevelopment.

PO8: Demonstrate acquisition of Weather chart/map, map aerial photograph and Image readingskill.

PO9: Apply Remote sensing concepts, techniques and their application.

PO10: Develop research questions and critically analyse both qualitative and quantitative data to answer those questions using various theoretical and methodological approaches in both physical and humangeographies.

PO11: Develop a general understanding of global human population patterns, factors influencing the distribution and mobility of human populations including settlement and economic activities and networks, and human impacts on the physical environment.

PO12: Read, interpret, and generate maps and other geographic representations as well as extract, analyse, and present information from a spatial perspective

Programme Outcomes

After completing B. A. Geography programme will have

PSO1: Demonstrate and understanding of principles and theories of Geography. This includeGeomorphology,EconomicGeography,HumanGeography,Agriculture Geography.

PSO2: Apply Statistical Techniques of Spatial Analysis.

PSO3: Demonstrate ability to apply knowledge learned in classroom to set and perform simple laboratory experiments in geography.

CourseOutcomes

F. Y. B. A. Geography

Course Gg110 A: Physical Geography (General -1)

Course Gg110 B: Human Geography (General -1)

The student who successfully completes this course can able to:

CO1: Explain principal terms, definitions, Concept and theories of Physical Geography

CO2: Discuss development of micro to mega scale landforms.

CO3: Identify different Materials of the earth crust, rock types, and types of weathering, mass movements and types of slope.

CO4: Describe importance of latitude, longitude and the reasons why different countries have different time zone and date.

CO5: Apply knowledge of basic landforms from tectonic, volcanic, fluvial and coastal environments.

CO6: Evaluate exogenous and endogenous processes in the landscape, their importance in landform development, and distinguish the mechanisms that control these processes.

CO7: Describe nature of man-environment relationship and human capability.

CO8: Explain conditions of living of human beings from primitive life to themodern era.

CO9: Explainhumanevolutionanddifferentracesexistedsincethebeginningofliving life.

CO10: Describe different tribes and their culture in different geographicalareas.

S. Y. B. A. Geography

Course Gg-210: Geography of Disaster Management (General -2)

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

CO1: Describe concepts of Disaster and its relations withGeography. CO2: Explain terminology and concepts of DisasterManagement.

CO3: Implement concepts of hazards in different areas and itsManagement.

CO4: Explain standard operating procedure on government for disaster management. CO5: Describe concepts of anthropogenic disaster, its types, causes andmanagement.

CO6: Explainimportantgloballeveldisastersi.e,acidrain,ozonedepletionandglobal warming.

CO7: Demonstrate Disaster Management at local level.

CO8: Suggest methods of protection from disaster and will be able to dodisaster management.

Course Gg.220: Economic Geography (S-1)

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

CO1: Define basic principles and concepts in EconomicGeography. CO2: Describe dynamic aspect of economicgeography.

CO3: Explain Activities for global Economicdevelopment.

CO4: List type of resources for economic development and itsapplications.CO5: Describe skill of planning the economic development and its management. CO6: Describe skill of industrial, agricultural transport and tradeactivities.

CO7: Apply applications of economic geography in different areas of growthand development.

Course Gg230: Fundamentals of Geographical Analysis (S-2)

After successfully completing this course, students will be ableto: CO1: Explain basic concepts of map andscale.

CO2: Identify different Types of MapProjections.

CO3: Describe basic of Statistical data and the skill of graphical datarepresentation. CO4: Apply Surveying Techniques inGeography.

CO5: Explain about preparation oflayout.

CO6: Describe surveying instruments and theirapplications.

CO7: Demonstrate preparation of drawing profile with the help of DumpyLevel. CO8: Conduct geographical field investigation and reportwriting.

T.Y.B.A. Geography

Course Gg 310: Human Geography (G-3)

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

CO1: Describe nature of man-environment relationship and humancapability.

CO2: Explain conditions of living of human beings from primitive life to themodern era.

CO3: Explainhumanevolutionanddifferentracesexistedsincethebeginningofliving life.

CO4: Describe different tribes and their culture in different geographicalareas. CO5: Explain causes and effect of migration ofmankind.

CO6: Analyse relationship between population and availableresources.

CO7: Identify and explain spatial distribution pattern of population andenvironment CO8: Identify contemporary issues which the global community isfacing.

Course Gg: 320 Agriculture Geography (S-3)

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

CO1: Explain principal terms, definitions, nature and scope ofAgricultureGeography CO2: Discuss fundamental concept, land use, crops, agriculturalproductionand Development,determinantsofagriculturalactivities,physicaldeterminants,and socio-economic determinants.

CO3: Explain different types ofagriculture.

CO4: Discuss problems and prospects of agriculture with Indianexamples. CO5: Demonstrate knowledge of irrigation and watershedmanagement.

CO6: Evaluate allied areas in agriculture and agriculturaldevelopment.

CO7: Apply the geographical knowledge in the sustainable agriculture development and agriculture inIndia.

Course Gg-301 Techniques of Spatial Analysis (S-4)

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

CO1: Explain basic concepts of statistical and remoteSensing. CO2: Identify different methods of

ReliefRepresentation.
CO3: Describe basic of Statistical data and the skill of datarepresentation. CO4: Apply Remote Sensing Techniques inGeography.
CO5: Interpret top sheet/ map, aerial photographs and analysis of toposheet/map, aerialPhotographs.

CO6: Describe weather instruments and their applications in Geographical phenomena.
CO7: Calculate Central Tendency, Variance and Standard Deviation, Correlationand Regression, and Testing ofHypothesis.
CO8: Conduct Survey of socio-economic conditions of a village and geomorphological field investigation and reportwriting.

DEPARTMENT OF POLITICS

B. A.Politics

Programme Outcomes:

F. Y. B. A. Political Science

(CBCS pattern to be implemented from 2019-2020)
Total Credits: 03

Learning Outcomes
G-1 General Paper

INTRODUCTION TO INDIAN CONSTITUTION

The contents of this course are designed with the following objectives:
1. To acquaint students with the important features of the Constitution of India and with The basic framework of Indiangovernment.
2. To familiarize students with the working of the Constitution ofIndia.

S. Y. B. A. Political Science

(CBCS pattern to be implemented from 2020-2021)
Core Course (C.C.)

AN INTRODUCTION TO POLITICAL SCIENCE

Objectives:

This course is designed to acquaint students with the –

1. Important sub themes of Political Science as adiscipline
2. Approaches to study PoliticalScience

3. Basic Concepts and Values in PoliticalScience

TYBA POLITICAL SCIENCE (G-3) POLITICAL IDEALOGIES

Course Rationale:

This paper studies the role of different political ideologies and their impact in politics. Each ideology is critically studied in its historical context. In course of its evolution and development, the different streams and subtle nuances within each ideology, the changes and continuities in its doctrine and its relevance to contemporary times are highlighted. The close link between an idea and its actual realization in public policy needs to be explained as well. The philosophical basis of the ideologies is emphasized with special emphasis on key thinkers and their theoretical formulations. The legacy of all the major ideologies are to be critically assessed.

DEPARTMENT OF PSYCHOLOGY

B. A. Psychology

Programme Outcomes

After successfully completing B.A. Psychology Programme students will be able to:

PO1: **Theory and Content of Psychology**: Identify the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

PO2: **Critical Thinking Skills in Psychology**: Use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behaviour and mental processes.

PO3: **Applications of Psychology**: Apply psychological principles to personal, social, and organizational issues.

PO4: **Socio-cultural and International Awareness**: recognize and understand, the complexity of socio-cultural and international diversity.

PO5: **Personal Development**: develop insight into their own and others' behaviour and mental processes and apply effective strategies for self-management and self-improvement.

Programme Specific Outcomes

After successfully completing B.A. Psychology Programme students will be able to:

PSO1: Extend the knowledge base to the world of practice with a view to promote

healthy interface between academia and society.

Course Outcomes

F.Y.B.A. G1: General Psychology (Implemented From 2013-2014)

Course objectives and learning outcomes:

1. To provide solid foundation for the basic principles ofpsychology
2. To familiarize students with the historical trends in psychology, major concepts, theoretical perspectives, and empirical findings.
3. To provide an overview of the applications ofpsychology.

S.Y.B.A. G-2:- Social Psychology (Implemented From 2014-2015)

Course objectives and learning outcomes:

1. Acquaint Students with basic concepts, theories and applications of Socialpsychology
2. Familiarize students with groupbehaviour
3. Underline the importance of Close Relationships and Pro- socialbehaviour

T.Y.B.A. G3: Industrial and Organizational Psychology (Implemented From 2015-2016)

Course objectives and learning outcomes:

1. The emergence of Industrial and OrganizationalPsychology
2. The work done in Industrial and OrganizationalPsychology
3. The significance of training, performance appraisal, leadership models
4. The importance of Engineering Psychology

F.Y.B.A. Psychology (CBCS Pattern – implemented from 2019-2020)

SEMESTER- 1

Course DSC-PSY- 1A: Foundations of Psychology

Course objectives and learning outcomes:

After the completion of this course students will be able to demonstrate the following competencies:

1) Understand the basic psychological processes and their applications in day to daylife.
2) Develop the ability to evaluate cognitive processes, learning and memory of anindividual.
3) Understand the importance of motivation and emotion of theindividual.
4) Understand the personality and intelligence of the individuals by developing their psychological processes and abstract potentials.

SEMESTER- 2

Course DSC-PSY- 1B: Introduction to Social Psychology

Course objectives and learning outcomes:

After the completion of this course students will be able to demonstrate the following competencies:

1) Understand the basics of social psychology.
2) Understand the nature of self, concept of attitude and prejudice of theindividual.
3) Assess the interactional processes, love and aggression in our day today life..
4) Understand group dynamics and individual in the socialworld.

SYBA Psychology (CBCS Pattern – implemented from 2020-2021) SEMESTER-3

SEC- 1A: HEALTH PSYCHOLOGY

Course objectives and learning outcomes:

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

1. Understand health psychology and arrive at the introduction to the role of psychology in health.
2. Understand the nature of stress andcoping
3. Understand various factors related to health anddiseases.
4. Understand quality of life and promoting the goodhealth.

SEMESTER-4

SEC- 1B: POSITIVE PSYCHOLOGY

Course objectives and learning outcomes:

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

1. Understand how the positive psychology as the science of happiness, human strengths, positive aspects of human behavior and 'psychology ofwell-being.'
2. How we lead our lives, find happiness and satisfaction, and face life'schallenges.
3. How positive psychology has become an evolving mosaic of research and theory from many different areas ofpsychology.

COURSE OUTCOMES

History	**FYBA History General Paper-1 (G1)**	1. Learn innovative study techniques in the study of History of Maratha to make it value based, conceptual and thought provocative. 2. Understand the importance of past in exploration of present context. 4.Understand the Socio –economic, cultural and political background of17th century Maharashtra. 5. Acquire the spirit of healthy Nationalism & Secularism among the student.
	SYBA History General Paper-II (G2)	1. Students get knowledge of History of freedom movement of India, aims, objectives, problems and progress of Independent India. 2. Understand the processes of rise of modern India. 3. Get acquainted with fundamental aspects of Modern Indian History. 4. Understand the basic concepts/ concerns/ frame work of Indian History
	SYBA History Special Paper-I (S1)	1.Survey the sources of History of medieval India. 2.Understand the social, economic, religious bases of medieval India. 3. Study medieval Indian art & architecture.
	TYBA History General Paper III (G3)	1. Get knowledge of Modern World and also acquainted with the Socio- economic& Political developments in other countries. 2. Get familiarized with political history of Modern World. 3.Get acquainted with the main developments in the Contemporary World (Understand the important development in the 20th century World.)

	4. Understand the economic transition in World during the 20th Century.
TYBA History Special Paper III (S3)	1.Understand how history is studied, written and understood. 2. Understand the meaning of Evolution of Historiography. 3. Get acquainted with the Various Views and approaches to Historiography.
History of Asia in 20th Century (1914-1992) (3179)	1. Get familiarized with political history of Asia. 2. Understand the economic transition in Asia during 20th Centuries. 3. Understand the important developments in the 20th century Asia in a thematic approach. 4. Get ability to cope with the challenges of globalization.

DEPARTMENT OF MARATHI

B. A. (Marathi) Programme

Programme Outcomes:

PO1: मराठी विषयाचे सखोल ज्ञान प्राप्त होईल व कौशल्ये आत्मसात होतील.

PO2: मराठी साहित्यातून विदयार्थ्यांना जीवनाकडे पाहण्याचा सकारात्मक दृष्टीकोण मिळेल.

PO3: समाजाचे भाषिक सर्वेक्षण करून एक प्रकारे मराठीचे विदयार्थ्यी समाजाशी संवादी होतील.

PO4: मराठी साहित्य व संस्कृती यांचा मेळ घालून त्याविषयी समाजघटकांशी संवाद साधू शकतील.

PO5: मराठीतील भाषिक कौशल्ये आत्मसात केल्याने ते समाजातील घटकांशी प्रभावीपणे संवाद साधू शकतील.

PO6: मराठी साहित्यातून मिळालेल्या ज्ञानामुळे त्यांना त्यांच्या जबाबदारीची जाणीव होऊन समर्थ नागरिक म्हणून त्या ज्ञानाचा उपयोग करू शकतील.

PO7: आत्मसात केलेली व्यावहारिक भाषाविषयक कौशल्ये समूहामध्ये काम करताना प्रभावीपणे वापरू शकतील.

PO8: मराठी भाषेच्या सर्वंकष ज्ञानामुळे साहित्य व संस्कृती याविषयीच्या संशोधनामध्ये प्रभावीपणे वापर करू शकतील.

PO9: मराठी साहित्यातून मांडलेले पर्यावरणाचे प्रश्न विदयार्थी पर्यावरणाच्या रक्षणासाठी आणि ते टिकवण्यासाठी प्रयत्न करतील.

PO10: वेगवेगळ्या साहित्य प्रकाराचा अभ्यास करून त्यातून समाजाविषयी ज्ञान अवगत करू शकतील.

PO11: साहित्यातून आत्मसात केलेली नीतितत्त्वे यांचा वैयक्तिक जीवन संघटन यामध्ये प्रभावीपणे वापर करतील .

Programme Specific Outcomes

PSO1: साहित्याचे विश्लेषण करता येईल .

PSO2: साहित्याची समीक्षा करता येईल.

Course Outcomes

FYBA[G-1-1027] मराठी सामान्यस्तर आधुनिक मराठी वाङ्मय(विनोदी कथा व मातृपंचक व व्यावहारिक मराठी

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: स्थूलपणे मराठी भाषा,मराठी साहित्य आणि मराठी संस्कृती यांचा विदयार्थ्यांना परिचय होऊन विदयार्थ्यांना भारतीय संस्कृतीची ओळख होईल

CO2: विदयार्थ्यांच्या वाङ्मयीन अभिरूचीचा विकास होईल व त्याविषयी स्पष्टीकरण देता येईल

CO3: विदयार्थ्यांमध्ये आस्वाद घेण्याची डोळस क्षमता वाढीस लागेल

CO4: व्यक्तिमत्त्व विकासामध्ये भाषेला अनन्यसाधारण महत्त्व आहे हे सांगू शकतील.

CO5: भाषिक कौशल्ये आत्मसात करता येतील व त्यांची महती त्यांना स्पष्ट करता येईल. विविध भाषिक कौशल्यांचा उपयोग व्यवहारामध्ये करता येईल.

CO6: साहित्याच्या अभ्यासामधून विदयार्थ्यांना जीवन विषयक, समाजाबाबत विश्लेषण करता येईल.

CO7: . विविध साहित्य प्रकारांचे विदयार्थ्यांना विवेचन करता येईल.

CO8: कार्यक्रमाचे संयोजन कसे करावे याविषयी विदयार्थी चर्चा करू शकतील

SYBA[S-1-2028] ***मराठी साहित्यातील विविध साहित्यप्रकार***

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: मराठी साहित्यातील साहित्यप्रकारांविषयी विद्यार्थ्यांना माहिती होईल.

CO2: साहित्य लेखनाबाबत त्यांना माहिती देता येईल व त्यावर ते चर्चा करू शकतील.

CO3: अभिनय कलेबद्दल ते चर्चा करू शकतील.

CO4: मराठी साहित्य प्रकारांच्या तात्त्विक घटकांचे ते उदाहरणांसह स्पष्टीकरण देऊ शकतील.

CO5: साहित्यकृतींचे आकलन आस्वाद आणि मूल्यमापनाचे विवेचन त्यांना करता येईल.

CO6: नाटकातील विविध घटकांचे ते विश्लेषण करतील

CO7: कादंबरीतील विविध घटकांचे स्पष्टीकरण करू शकतील.

CO8: साहित्याचा सखोल अभ्यास करण्याची क्षमता वाढीस लागून साहित्याचे वर्गीकरण त्यांना करता येईल.

SYBA[S-2-2029] अर्वाचीन मराठी_वाङ्मयाचा इतिहास(इ.स.1818ते1960)

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: वाङ्मयाच्या इतिहासाची ओळख विदयार्थ्याना होईल.

CO2: वाङ्मयाच्या इतिहासातील प्राचीन,मध्ययुगीन,अर्वाचीन हया संकल्पनांचे विवेचन करता येईल.

CO3: हस्तलिखित स्वरूपातील शिलालेख,ताम्रपट,कोरीवलेख यांचे त्यांना आकलन होईल.

CO4: वाङ्मयाचा आस्वाद घेउन त्याचे ते वर्गीकरण करू शकतील.

CO5: वाङ्मयाच्या अभ्यासामुळे वाङ्मयामध्ये झालेली विविध स्थित्यंतरे ते विशद करू शकतील.

CO6: इतिहास लेखनाच्या प्रेरणांवर ते स्पष्टीकरण देऊ शकतील.

CO7: परकीय भाषाआणि भाष्य यातील स्नेहबंधाचे ते विवेचन करू शकतील.

CO8: वाङ्मयाच्या अभ्यासाच्या नव्या दिशांवर ते चर्चा करू शकतील.

SYBA[G-2-2027] आधुनिक मराठी साहित्य आणि उपयोजित मराठी

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: चरित्र–आत्मचरित्र यांच्या व्याख्या करता येतील.

CO2: शुध्दलेखनाचे नियम स्पष्ट होऊन लेखनात त्याचा वापर करता येईल.

CO3: विविध अर्जाच्या प्रकारातील अर्ज लिहिता येतील.

CO4: सारांश लेखन करता येईल.

CO5: चरित्र–आत्मचरित्र वाङ्मयाचा मराठी साहित्यातील वाटचालीचा आढावा घेता येईल.

CO6: चरित्र–आत्मचरित्र यातील घटक ,त्यांचे वेगळेपण याचे विवेचन करता येईल.

CO7: चरित्रात्मक लेखांचे परीक्षण करता येईल.

CO8: आत्मचरित्रात्मक लेखांचे परीक्षण करता येईल.

TYBA[S-3-3028]साहित्य विचार (भारतीय आणि पाश्चात्य साहित्य विचार)

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: भारतीय आणि पाश्चिमात्य साहित्य विचाराची विदयार्थ्याना ओळख होईल.

CO2: साहित्याच्या स्वरूपा विषयीचे विश्लेषण ते करू शकतील

CO3: साहित्याची प्रयोजने स्पष्ट करता येतील.

CO4: साहित्याची निर्मिती प्रकिये विषयी चर्चा करू शकतील व त्याचा आढावा घेऊ शकतील.

CO5: साहित्याची भाषा ,तिचे प्रकार याविषयी आढावा घेऊ शकतील.

CO6: स्वांतसुखाय,अर्थ,यश,व्यवहार ज्ञान अशा संस्कृत काळातील प्रयोजनांचा अभ्यास होईल.

CO7: भामह, दण्डी, वामन, रूद्रट, भरत, क्षेमेंद्र अभिनवगुप्त मीमांसकांचा परिचय होईल.

CO8: पाश्चिमात्य विचारवंत ए.सी.ब्रॅडले, जॉन्सन, अर्नोल्ड इ.च्या विचारांचे टीकात्मक परीक्षण करू शकतील.

TYBA[S-4-3029] भाषाविज्ञान–वर्णनात्मक आणि ऐतिहासिक

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: भाषेची व्याख्या करता येईल.

CO2: भाषेचे स्वरूप, महत्त्व, प्रमुख अंगे यांचे विश्लेषण करू शकतील.

CO3: भाषा अभ्यासपध्दतीचे विवेचन करू शकतील.

CO4: वागेंद्रियांच्या आकृतीसह स्वननिर्मिती प्रकिया स्पष्ट करता येईल.

CO5: स्वर, अर्धस्वर, व्यंजन यांचे वर्गीकरण करता येईल.

CO6: मराठी भाषेच्या व्युत्पत्तीची मीमांसा करू शकतील.

CO7: अर्थ ही संकल्पना व अर्थाचे प्रकार त्यांना विशद करता येईल.

CO8: भाषाकुल संकल्पनेचे विश्लेषणकरू शकतील.

TYBA[G-3-3027] आधुनिक मराठी साहित्य आणि व्यावहारिक व उपयोजित मराठी

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: निबंध वाङ्मय प्रकाराची व्याख्या करता येईल.

CO2: प्रवासवर्णनवाङ्मय प्रकाराची माहिती सांगू शकतील.

CO3: निबंधाचे विविध प्रकारात वर्गीकरण करता येईल.

CO4: निबंध वाङ्मय प्रकाराचे वेगळेपण,प्रेरणा, प्रयोजन यांचे विवेचन करू शकतील.

CO5: विविध वाङ्मय प्रकारातील ग्रंथाचे परीक्षण करू शकतील.

CO6: प्रवासवर्णन साहित्य प्रकाराचे वेगळेपण, प्रेरणा, प्रयोजन याचे विश्लेषण करता येईल.

CO7: मराठी साहित्यातील निबंध, प्रवासवर्णन या वाङ्मय प्रकारांच्या वाटचालीचे विवेचन करू शकतील.

CO8: प्रवासवर्णनात्मक लेखांचे मूल्यमापन करता येईल.

FYBCOM MARATHI-1523 व्यावहारिक व उपयोजित मराठी

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: मराठीच्या व्यवहारक्षेत्राची माहिती होईल तसेच विविध क्षेत्रातील भाषा व्यवहाराचे स्वरूप त्यांना लिहिता येईल.

CO2: यशस्वी मराठी व्यक्तिंच्या अनुभवांचे जीवनात उपयोजन करता येईल.

CO3: यशस्वी व्यक्तिंच्या कार्याविषयी ओळख करून देऊ शकतील.

CO4: राजभाषा म्हणून मराठीचे स्थान,कार्यालयीन वापर,स्वरूप,तंत्रे व कौशल्ये याविषयी ते उदाहरणसह स्पष्टीकरण देऊ शकतील.

CO5: मराठी भाषेचाव्यवहारात प्रत्यक्ष वापर कसा करावयाचा याचे त्यांना विश्लेषण करता येईल.

CO6: कार्यालयीन कामासाठी मराठी भाषेचा कौशल्याने वापर करू शकतील.

CO7: प्रसारमाध्यमातील विविध लेखन प्रकारांचा परिचय होऊन त्याचे प्रत्यक्ष लेखन त्यांना करता येईल.

CO8: वाणिज्य शाखा व मराठी भाषा यातील परस्परसंबंधांचे ते मूल्यमापन करतील.

SYBSC MARATHI-[83111&83112]मराठी विज्ञानसाहित्य आणिव्यावहारिक मराठी

हा अभ्यासक्रम यशस्वीरित्या पूर्ण केल्यानंतर विद्यार्थी खालील गोष्टी करू शकतील.

CO1: मराठी विज्ञान साहित्याची ते व्याख्या करू शकतील.

CO2: वैज्ञानिक जाणिवा निर्माण होऊन त्यांचा विज्ञानाकडे कल वाढेल.

CO3: भारतीय व पाश्चात्य शास्त्रज्ञांविषयी त्यांना माहिती सांगता येईल.

CO4: विज्ञान हा मानवी जीवनाचा अविभाज्य भाग आहे याविषयी ते चर्चा करू शकतील.

CO5: विज्ञान उद्योगातील विविध प्रवाह, संधी याविषयी त्यांना विवेचन करता येईल.

CO6: लेखन,वाचन,आकलन,संभाषण या भाषिक कौशल्याविषयी त्यांना विश्लेषण करता येईल.

CO7: मराठी विज्ञानकथांची, लेखांची ते मीमांसा करू शकतील.

CO8: मराठी विज्ञान साहित्यिकांच्या साहित्याचे मूल्यमापन ते करू शकतील.

CO9: पारिभाषिक संज्ञांची त्यांना ओळख होईल.

F.Y.B.A Outcome(आऊट कम)

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

२. साहित्यविषयक आकलन आस्वाद आणि मूल्यमापन क्षमता विकसित करणे

३. साहित्य अभ्यासातून जीवन विषयक समज विकसित करणे

४. मराठी भाषेची उपयोजनात्मक कौशल्ये विकसित करणे

Sem - 1. अभ्यासक्रम -Outcome(आऊटकम)

1. कथा या साहित्यप्रकाराची ओळख करून देणे

2. कथा या साहित्यप्रकाराची स्वरूप घटक आणि प्रकार यांची ओळख करून देणे

3.विविध साहित्यप्रवाहांमधील कथा या साहित्य प्रकारातील निवडक कथांचे अध्ययन करणे

4. भाषिक कौशल्यविकास करणे

Sem - २. अभ्यासक्रम -Outcome(आऊटकम)

1. एकांकिका या साहित्यप्रकाराची ओळख करून देणे

2. एकांकिका या साहित्य प्रकाराचे स्वरूप घटक आणि प्रकार यांची ओळख करून देणे

3. मराठी साहित्यातील निवडक एकांकिकांचे अध्ययन करणे

४. भाषिक कौशल्य विकास करणे

DEPARTMENT OF HINDI

B. A. HINDI

Programme Outcomes :

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

PO1 : आलोचनात्मक विचार ःसाहित्य पढकर समीक्षा करने की शक्ति प्रदान होती है.साहित्य में समाज का चरित्र होता है.इससे समाज को परखा जा सकता है.अच्छे रचना की परख होकर उसपर चिंतन मनन किया जा सकता है.वैचारिक क्षमता बढ जाती है.

PO2 : प्रबावशाली संवाद पढना लिखना और सुनना अपने व्यक्तित्व को स्पष्ट रूप से प्रभावशाली बनाते है.भारतीय साहित्य के माध्यम से लोगों में काल्पनिक किताबीय और तकनीक संचार में वृध्दि कर सकते ेे

PO3 ः रचनाओं को पढकर समाज की समस्या का निवारण कर सकते है

PO4 ः साहित्य को पढकर समाज का हदय परिवर्तन कर सकते है.

PO5 ः साहित्य को पढकर जाति पाती एद्यां भेदभाव फैली कुरीतियों को समाप्त कर सकते है.

PO6 : कहानियों.कविता और उपन्यास को पढकर प्राकृतिक सौंदर्य का विश्लेषण कर सकते है.

PO7 ः आधुनिकता कि होड में व्याप्त कुरीतियॉ जैसे तलाक समस्या.एकल परिवार आदि बढती प्रवृतियों का निवारण.

PO8 ः प्रेम की उदात्ता एवं आदर्श प्रेम कि प्रेरणा प्राप्त होती है.

PO9 ः जीवन कि निराशा असंतोष क्षणभंगुरता आदि कि भावनाएँ नष्ट होती है.

PO10 ः ईश्वर कि आराधना बाहरी आडंबरों एवं उपकरणों से नहीं बल्कि शुध्द अंतकरण से होती है.

PO11 ः छात्रों में एवं युवाओं में दैश प्रेम कि भावना का निर्माण करती है .

PO12 ः समय का जीवन में महत्वपूर्ण स्थान होता है.महत्ता का बोध कराती है.

Programme Specific Outcomes

PSO1: विद्यार्थी साहित्य को मूल्यांकित कर समाधान का एहसास कर सकते है और साहित्य और भाषा कि समीक्षा कर सकते है.

PSO2: विद्यार्थी हिंदी साहित्य कि अच्छी कहानी कविता और उपन्यास को परखने कि कोशिश कर सकता है.

PSO3: विद्यार्थी हिंदी साहिॅय का ज्ञान ग्रहण करने के उपरांत अच्छी तरह से हिंदी बोलेगा समजेगा और लेखन कौशल्य में पारंगत हो सकेगा.

Course Outcomes

F.Y.B.A. HINDI

Course: 1097 General Hindi [G-1] Kahani,Kavya evm Lekhan

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : कहानियों को पढकर सच्चाई से जिने और जीवन मूल्यों के प्रति श्रध्दा एवं विश्वास सर्वधर्म समभाव एवं भारतीयता की भावना से प्रेरित होते है.

CO2 : ढोंग आडंबर पाखंड का विरोध करने की और तलाक जैसी समस्याओं पर चिंतन मनन करके इनका विरोध करने दृष्टि निर्माण करते है.

CO3 : कहानियों को पढकर महानगरीय जीवन की त्रासदी और व्यस्तता भरी जिंदगी तथा अकेलेपन पीडा एवं स्वार्थी मनोवृति व्याससायिका की प्रवृति लोक कलाओं के प्रति उपेक्षा की दृष्टि का ज्ञान करते है.

CO4 : दहेज की समस्या नारी जीवन की सबसे बिकट समस्या बनी है इस पर सामाजिक प्रबोधन की भौतिक चिजों से अधिक मूल्यवान मानवीय जीवन है का प्रचार करते है .

CO5 : कविताओं को पढकर आदर्श जीवन दर्शन और विवेक दूरदर्शिता शिक्षा ज्ञान विज्ञान सामाजिक सास्कृतिक समन्वय कि प्रेरणा पाते है .

CO6 : इन कविताओं को पढन से उनमें शुध्द प्रेम की भावना आत्मीयता की भावना विषगतियों के प्रति क्रांति करने की प्रेरणा मिलती है .

CO7 : समाज में व्याप्त धर्म संप्रदाय में भेदभाव जाति पात ऊंच नीच पूजापाठ में ढोंग आडंबर के विरूध्द आावाज बुलंद करने की क्षमता निर्मित होती है .

CO8 : श्रमिक के श्रम का ज्ञान समाज और देश के लिए त्याग एवं बलिदान करने की भावना सृष्टि में होनेवाले परिवर्तनों से समय के महत्व का ज्ञान जीवन को सकारात्मक दृष्टि से देखने की सीख मिलती है .

Course :1543 General Hindi [G-I] Kahani ,Kavya evm Lekhan

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : मन इच्छा कार्यशक्ति स्वभाव योग्यता के अनुसार व्यवसाय करने की भावना निर्माण होगी .वे सुखमय जीवन बीतायेंगे .

CO2 : व्यापार करने से जीवन स्तर ऊॅचा उठेगा .सुख साधनों की बढोत्तरी होगी .औदयोगिक जगत को लाभ होगा .

CO3 : स्वाभिमानपूर्ण जीवन जीने की कला निर्मित होगी .नैतिक मूल्युों के प्रति आस्था एवं विश्वाास होने से व्यापार में लाभ होगा .

CO4 : छात्रों के विकास से संबंधित चीजें अधिकांश ग्रामीण आंचल में होने चाहिए .जिससे उन्हें गांव नगर राज्य एवं देश को समृध्द बनाने में मदद होगी .

CO5 : ऊंच नीच की भेद भावना दूर करने की अंधश्रध्दा निर्मूलन करने स्त्री जाति पर होनवाले अत्याचारों के विरोध में आवाज बुलंद करने की भावना होगी .

CO6 : छात्रों में अपने देश के प्रति अपनी भाषा के प्रति प्रेम निर्माण होगा .उनमें उत्साह उमंग उल्लास विश्वास पुरूषार्थ कर्तव्यनिष्ठा की भावना होगी .

CO7 : समता करूणा आत्मियता संवेदना सर्मपण जैसे मानविय मूल्यों का निर्माण होगा .व्यक्ति समाज और देश की स्थिति में सुधार होगा .

CO8 : देश में किसी भी प्रांत में काम करने की जीवन को सफल करने की सकारात्मक दृष्टि निर्माण होगी .जिससे सब जगह सुख शांति बनेगी .

S.Y.B.A. HINDI

Course: 2097 General Hindi [G-2] Kahanai,Kavya aur Lekhan

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : छात्रों में निस्वार्थ प्रेम त्याग बलिदान की भावना होने से उनका समाज का और देश का भला होगा .

CO2 : छात्रों में मानवियता का गुण विकसित होगा .देश की आज के समाज और देश को अवश्यक्ता है .

CO3 : छात्रों में सामन्यजनों के प्रति प्रेम दया परोपकार की भावना ऊच्य जानों के प्रति आक्रोश की भावना निर्मित होगी .

CO4 : जीवन में धन का महत्व एवं धन न होने से हानियों का ज्ञान होगा .स्वतंत्र जीवन जीने की प्रेरणा होगी निर्माण होगी .

CO5 : कविताओं से छात्रों में प्राकृतिक सौंदर्य देखने की सूक्ष्म दृष्टि आयेगी .पेड की उपयोगिता मनुष्य जीवन की उपयोगिता करने की भावना निर्मित होगी .

CO6 : छात्रों को शेर के समान साहसी एवं निर्भिक बनकर जीने की प्रेरणा दी हायी है . बकरी बनकर रहने की नहीं .

CO7 : गांवों के बच्चों की जिंदगी महत्वपूर्ण होती है वे धरती के धन देश के भविष्य और देश की शान है . इस दृष्टि से उन्हें देखने एवं उनकी स्थिति पर विचार करने की सीख मिलती है .

CO8 : छात्रों में विभिन्न क्षेत्रों के विषयों से संबंधित शब्दों का ज्ञान होना . पत्र लेखन की कला आना . विज्ञापन की कला से आत्मनिर्भर होने की प्रेरणा मिलती है .

Course: 2098 SPL- HINDI [S-I] Bhashavigyan

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : भाषा के स्वरूप एवं बोलियों के अंतर का ज्ञान होगा . भाषा के विविध रूपों और बोलियों के भेदों का ज्ञान होगा . भाषा की उत्पति और विकास से संबंधित विभिन्न वादों का ज्ञान होगा .

CO2 : हिंदी के शब्द भंडार का ज्ञान होगा . लिपि के बारे में जानकारी होगी . लिखते समय मात्राओं की अशुध्दियों का ज्ञान होगा . हिंदी के व्याकरणिक स्वरूप से परिचित होंगे .

CO3 : भाषा विज्ञान के प्रमुख अंगों एवं शाखाओं से परिचित होंगे . साथ ही साथ अन्य ज्ञान विज्ञानों से संसंधों का ज्ञान होगा .

CO4 : हिंदी ध्वनियों के शुध्द उच्चारण करने की क्षमता आयेगी . स्वर व्यंजन का सही ज्ञान होगा . शब्दों के अर्थ बोध के साधनों से परिचित होंगे .

CO5 : राजभाषा हिंदी के संवैधानिक स्वरूप का ज्ञान होगा . साथ ही साथ हिंदी की प्रचार प्रसार करनेवाली प्रमुख संस्थाओं से परिचित होंगे और स्वतःप्रचार प्रसार में अपना सुझाव व योगदान देंगे .

CO6 : भाषा के विविध रूपों और उनमें होनेवाले अंतरों के स्वरूप का ज्ञान होता है .

CO7 : हिंदी कि उत्पति और उसके विकास से संबंध्ति सिध्दांतों कि समीक्षा का ज्ञान होता हे .

CO8 : हिंदी कि अनेक बोलियों कि सीमाओं उनके नामकरण बोलनेवालों कि संख्या उनकी उपबोलिया साहित्यकार एवंख साहित्यिक रचनाओं का ज्ञान होता है .

Course:2099 SPL-HINDI [S-2] Madhyayugin kavya,Upnyash Aur Natak

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : उपन्यास से छात्रों में आजादी के बाद की इस देश की सामाजिक स्थिति का टूटते परिवारों की दशा मालूम होती है .

CO2 : सामान्य वर्ग का हर व्यक्ति सुखी सुविधाओं के लिए शहरा की ओर भागता है . किंतु वहॉ की संस्कृति और सभ्यता में उसे सुख चैन नहीं मिलता .

CO3 : महानगरों की यांत्रिक सव्यता में वह टूट जाता है . उसके नैतिक मुल्य एवं संबंध बदल जाते है . वह भीड में होते हुए भी अपने को अकेला महसूस करता है .

CO4 : सामान्य व्यक्ति को आधुनिकता और यांत्रिकता का प्रभाव इतना अधिक होता है की उसका परिवार ही उसे मूल्य नहीं देता . वह अपने नाम के लिए परिवार पर बोझ बनकर जीता है . छात्रों को इन विषयों पर चिंतन मनन करने की भावना पैदा होगी .

CO5 : नाटक के अध्ययन से विभिन्न कालों में विवाह पध्दति में किये गये कांतिकारी परिवर्तनों का ज्ञान से परिचित होंगे और आपना नया मार्ग निकालेंगे . जो उनके समाज और उनके भविष्य के लिए उपयोगी होगा .

CO6 : नाटक पढने से नाटक लिखने कि कला को अंगीकार कर सकते है तथा नाटकों के प्रस्तुतीकरण के लिए अपना योगदान देने का सफल प्रयास कर सकते हे .

CO7 : नाटक के माध्यम से अभिनय करने कि कला सीखते है और उत्कृष्ट नाटककार बनन का प्रयास कर सकते हे .

CO8 : कबीर .सूर .बिहारी और रहीम के दोहों एवं पदों से छात्रों में जहॉ एक और धर्म के प्रति आस्था एवं विश्वास निर्मित होगी व ऊॅच नीच के भेद भाव दूर करने की भावना बनेगी .

CO9 : समाज और देश का भला होगा .इन कवियों ने विभिन्न बोलियों .भाषाओं के शब्दों का मुहाविरों एवं लोकोक्तियों का विभिन्न रसों एवं छंदों का .विभिन्न शैलियों का प्रयोग किया है .इनसे छात्र लाभान्वित होंगे .

T.Y.B.A. HINDI

Course:3097 General Hindi [G-3] Atamkathansh,Kavyanatak tatha Lekhan

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : हिंदी के प्रसिध्द साहित्यकारों के आत्मकथाओं से छात्रों में जीवन में संघर्ष करने की प्रेरणा पैदा होगी .उनमें आदर्श विचार .संकल्पशक्ति .यथार्थ जीवन जीने की प्रेरणा मिलेगी .

CO2 : देश प्रेम की भावना पैदा होगी .वे अपनी जाति अपने समाज और अपने देश के सुधार के बारे में चिंतन मनन करेंगे .लेख सुधारा से संबंधित लिखेंगे .

CO3 : छात्रों में कहानीकार .उपन्यासकार .नाटककार .बनने की भावना बनेगी .

CO4 : छात्र अनावश्यक खर्च नहीं करेंगे .यदि करते है तो उन्हें इन पाठो से सीख दी गई है .कि किसीसे उधार मांगना आत्मा को हिन बनाना और मलिन कर देना है .

CO5 : छात्रों मे ं स्त्री जाति की पीडा शोषण .अन्याय के प्रतिशोध की भावना पैदा होगी .

CO6 : छात्रों में नरी जाति के प्रति प्रेम सदभावना पैदा होगी .इन पाठों में ल्लेखिकाओं ने अपनी मॉ का ममता का अनुठा चित्रण किया है .

CO7 : समाज के श्रेष्ठ लोगो की दलितों के प्रति घृणित भावना ने सुधार करने के लिए विद्यार्थियों में प्रतिशोध की भावना बनेंगी .मनुष्य कर्म से श्रेष्ठ होता है .जाति से नहीं .इसका प्रचार प्रसार करेंगे .

CO8 : काव्यनाटक से नाटककार ने यह प्रेरणा दी है कि प्राचीन रूढियॉ परंपराओं और मूल्य वर्तमान समय में बाधक हो गये है छात्र छात्रों को इसका ज्ञान होगा .

CO9 : व्याकरण की पाठयक्रम से छात्रों में विविन्न क्षेत्रों में प्रयुक्त होनेवाले शब्दों के अर्थो का ज्ञान .पत्र लिखने का ज्ञान .अनुवाद की कला का ज्ञान वृतांत लेखन का ज्ञान होगा .

T.Y.B.A.HINDI

Course: 3098 SPL- HINDI[S-3] Hindi Sahitya ka Itihash

यह पाठयक्रम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : हिंदी साहित्य के इतिहास के पाठय्ठक्रम से छात्रों को इतिहास के लेखन परंपरा का विभिन्न कालखंडों के नामकरण एवं समय सीमा का और युगीन परिस्थितियों का ज्ञान होगा .

CO2 : प्राचीनकाल .मध्यकाल तथा अधुनिककाल के साहित्य की प्रवृतियों का प्रसिध्द रचनाकारों का एवं प्रसिध्द रचनाओं का ज्ञान होगा .उसके अनुसार उनमें बौध्दिक विकास होगा .

CO3 : इतिहास के भक्तिकाल के साहित्य से छात्रों में विभिन्न प्रकार की भक्ति की शाखाओं का एवं उनकी विशेषताओं का ज्ञान होगा .उनमें निहीत आदर्श विचारों एवं नैतिक मूल्यों के प्रति प्रेम होगा .उनमें सुधार होगा .

CO4 : इस काल के संतों एवं भक्तों के साहित्य से कर्म करने की प्रेरणा मिलेगी .समाज में व्याप्त विषमताओं के विरूध्द आवाज करने की शक्ति पैदा होगी .

CO5 : रीति काल के साहित्य से छात्रों में नीति की दर्शन की विभिन्न क्षेत्रों के विषयों का ज्ञान होगा .

CO6 : अधुनिक काल की विभिन्न रचनाओं एवं रचनाकारों से छात्रों में साहित्य लेखन की क्षमता पैदा होगी .वे अपने युग के अनुकूल एवं प्रसंग के अनुकूल लेखन कर सकेंगे .

CO7 : वीरगाथाकालीन साहित्यिक रचनाओं से प्रेम एवं वीर साहसी भावनाओं कि वृध्दि होगी . भक्तिकाल कि रचनाओं से जाति पाति कि भेदभावना नष्ट होगी .

CO8 : भाक्तिकाल कि रचनाओं से शुध्द आचरण करने ईश्वर के प्रति प्रेम भक्ति श्रध्दा कि भावना निर्मित होगी .

Course: 3099 SPL-HINDI [S-4] Kavyashastra

यह पाठयकम सफलतापूर्वक पढने के बाद विद्यार्थी निम्नलिखित कृतियॉ अमल कर सकते है ः

CO1 : काव्यशास्त्र के पाठयकम से छात्रों को काव्य की प्रचलित संस्कृत हिंदी अंगेजी की पभिाषाओं का ज्ञान होगा . वे काव्य का प्रयोजन एवं हेतु समझेंगे . काव्य के तत्वों का ज्ञान होगा . उनमें कल्पनाशिलता एवं भाषाशैली की सुधता की क्षमता पैदा होगी .

CO2 : छात्रों को काव्य के भेदों का ज्ञान होगा . उनके तत्वों के आधार पर समिक्षा कर सकेंगे .

CO3 : विभिन्न अलंकारों की परिभाषाओं एवं सोदाहरण विवेचनों से जहॉ एक ओर इनका ज्ञान होगा वहीं दूसरी ओर उनमें अलंकारीक भाषाशैली की क्षमता भी विकसित होगी . वे अलंकारीक भाषा शैली में रचना कर सकेंगे .

CO4 : छात्रों में उपन्यास कहानी निबंध नाटक आदि के अध्ययन से उनमें निहीत विषयों का ज्ञान होगा . साथ साथ उनमें लेखन की तथा अभिनय करने की समीाक्षा करने की शक्ति पैदा होगी .

CO5 : रसों के छंदों के अध्ययन से छात्रों में विषय वस्तु एवं प्रसंग के अनुसार रसो एवं छंदों लेखन कला विकसित होगी . वे आत्मनिर्भर बन सकेंगे .

CO6 : छात्रों में गदय एवं पदय की विभिन्न विधाओं के अलोचना करने . समीक्षा करने की भावना विकसित होगी . वे श्रेष्ठ आलोचक बन सकेंगे .

CO7 : छात्रों को रस सिध्दांत से रस कि परिभाषा और रस के प्रकारों का ज्ञान होगा .

CO8 : काव्य शास्त्र कि हिंदी अंग्रेजी और संस्कृत में कि गई परिभाषाओं से तीनों भाषाओं का ज्ञान होता है .