

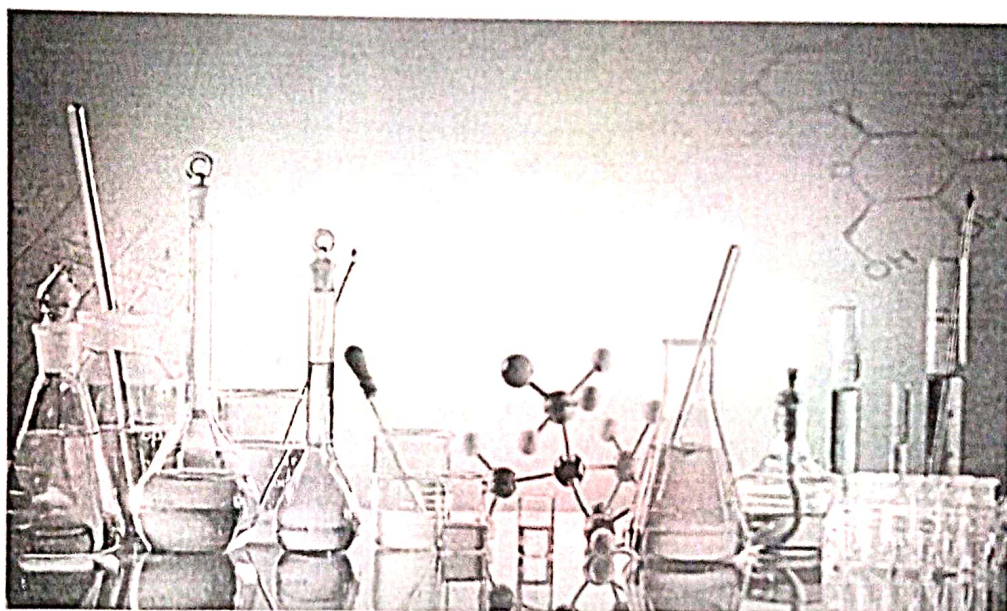


V.V.SANGHA'S

**SHREE KHASGATESH COLLEGE OF ARTS, COMMERCE AND SCIENCE
TALIKOTI**

Affiliated to Rani Channamma University, Belagavi
NAAC Accredited - 'A' Grade

DEPARTMENT OF CHEMISTRY



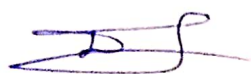
Programme Outcome (Pos)

Programme Specific Outcomes (PSOs)

Course Outcome (Cos)


HEAD

Department of Chemistry **IQAC Co-ordinator,**
S. K. Arts, Commerce & Science College, Talikoti-586214, Dist: Vijayapur
S. K. College of Arts, Comm. & Science, Talikoti. Dist: Vijayapur




PRINCIPAL

S. K. College of Arts, Comm. & Science
TALIKOTI-586214, Dist-Vijayapur

NEP-2020-21

CO1: Students are able to determine methods of analysis

CO2: Students gain the knowledge of preparing different concentration of solution.

CO3: Students are able to classify different types of titrations.

CO4: Students know about atomic structure & periodicity of elements.

CO5: Students are able to classify & nomenclate organic compounds & bonding in organic molecules.

CO6: Students are able to explain the terms involved in the kinetic theory of gases.

CO7: Students know about nucleophilic & electrophilic substitution reaction.

PCO 1: Understand and practice the calibration of glasswares.

PCO 2: Basic concept involved in titrimetric analysis, preparation of standard solutions

PCO 3: Students describe significance of organic quantitative analysis.

B.Sc I Sem Open Elective

CO1: Understand the chemical constituents in various day today materials using by a common man.

CO2: Understand the chemical constituents in fertilizers, insecticides and pesticides, chemical explosives etc.

CO3: Understand the chemical constituents in polymers, surface coatings etc.

B.Sc II sem NEP

CO1: Students acquire the knowledge of different types of chemical bonding & molecular orbital theory.

CO2: Students learn about the different types of isomerism in organic molecule

CO3: Students know about the liquid crystals , classification & their application

Co4: Students understand different types of order of a reaction & general properties of liquid like surface tension ,viscosity & refractive index.

CO5: Students learn about gravimetric analysis.

Practical programme outcome

PCO1: Students are able to determine density of liquid & viscosity of different concentration solution

PCO2: Students are able to do the different titrimetry analysis or inorganic compound solutions.they acquire the knowledge of gravimetric analysis.

B.Sc.III Sem NEP

CO1:Understand the importance of fundamental law and validation parameters in chemical analysis

CO2. Know how different analytes in different matrices (water and real samples) can be determined by spectrophotometric nephelometric and turbidometric methods.

CO3: Understand the requirement for chemical analysis by paper, thin layer and column chromatography.

CO4: Apply solvent extraction method for quantitative determination of metal ions in different samples

CO5: Utilize the ion-exchange chromatography for domestic and industrial applications

CO6: Explain mechanism for a given reaction.

CO7: Predict the probable mechanism for a reaction. explain the importance of reaction intermediates, its role and techniques of generating such intermediates

CO8: Explain the importance of Stereochemistry in predicting the structure and property of organic molecules.

CO9: Predict the configuration of an organic molecule and able to designate it.

CO10: Identify the chiral molecules and predict its actual configuration.

B.Sc III Sem Practical Outcome NEP

PCO1: Understand the importance of instrumental methods for quantitative applications Apply colorimetric methods for accurate determination of metal ions and anions in water or real samples

PCO2: Understand how functional groups in a compound is responsible for its characteristic property

PCO3: Learn the importance of qualitative tests in identifying functional groups.

PCO4: Learn how to prepare a derivative for particular functional groups and how to purify it.

B.Sc.IV Sem NEP

CO1: Predict the nature of the bond formed between different elements

CO2: Identify the possible type of arrangements of ions in ionic compounds

CO3: Write Born-Haber cycle for different ionic compounds

CO4: Relate different energy parameters like, lattice energy, entropy, enthalpy and solvation energy in the dissolution of ionic solids

CO5: Explain covalent nature in ionic compounds

CO6: Write the M.O. energy diagrams for simple molecules

CO7: Differentiate bonding in metals from their compounds

CO8: Learn important laws of thermodynamics and their applications to various thermodynamic systems

CO9: Understand adsorption processes and their mechanisms and the function and purpose of a catalyst.

CO10: Apply adsorption as a versatile method for waste water purification.

CO11: Understand the concept of rate of a chemical reaction, integrated rate equations, energy of activation and determination of order of a reaction based on experimental data

CO12: Know different types of electrolytes, usefulness of conductance and ionic mobility measurements

CO13: Determine the transport numbers

B.Sc.IV Sem Practical Outcome

CO1: Understand the chemical reactions involved in the detection of cations and anions.

CO2: Explain basic principles involved in classification of ions into groups in semi-micro qualitative analysis of salt mixture

CO3: Carry out the separation of cations into groups and understand the concept of common ion effect.

CO4: Understand the choice of group reagents used in the analysis.

CO5: Analyse a simple inorganic salt mixture containing two anions and cations

CO6: Use instruments like conductivity meter to obtain various physicochemical parameters.

CO7: Apply the theory about chemical kinetics and determine the velocity constants of various reactions.

CO8: Learn about the reaction mechanisms.

CO9: Interpret the behaviour of interfaces, the phenomena of physisorption and chemisorptions and their applications in chemical and industrial processes.

CO10: Learn to fit experimental data with theoretical models and interpret the data

B.Sc V Sem NEP

After Vsem Students are able to,

1. Predict the Electronic configurations, oxidation states, colour, magnetic properties of d and f block elements
2. Identify the possible types of inner and outer orbital complexes with coordination numbers 4 and 6
3. Write molecular orbital picture and Aromatic character of heterocyclic compounds
4. Write the constitution of Coniine, hygrine and nicotine
5. Appreciate the need for green chemistry and eco-efficiency
6. Identify the selection rules for electronic, vibrational and rotational spectra
7. Elucidate the Properties of Polymers and

Practical Outcome:


1. Write the manufacture and application of alloys, abrasives, glass, cement and fuels
2. Preparation, mechanism of action and applications of various reagents like DCC, DDQ, LTA, NBS, PCC
3. Write the synthesis of various dyes
4. Write the types of electrodes, sign conventions and applications of EMF measurements
5. Understand construction and applications of batteries and fuel cells
6. Identify the molecules using the data from infra-red spectroscopy, UV-Vis spectroscopy and mass spectrometry


B.Sc VI Sem NEP

1. Calculate of crystal field stabilization energy of inner and outer orbital complexes with coordination numbers 4 and 6
2. Understand Factors affecting the stability of metal complexes
3. Write the interconversions, synthesis of natural products.
4. Write phase diagram for one and two component systems
5. Explain the reasons for high and low quantum yields with examples
6. Explain the differences between Azeotropes, Immiscible liquids and Partially miscible liquids
7. Interpret of PMR structure of simple organic molecules

Practical Outcome:

1. Explain different types of nuclear reactors, nuclear reactions
2. Explain the biological role of Na, K, Fe and Zn.
3. Write the retrosynthesis of benzocaine and 4-methoxy acetophenone
4. Write the constitution of citral, synthesis of α and β ionones, α -terpeniol
5. Explain Schrödinger's wave equation, wave function and its significance
6. Explain the chemical kinetics of complex reactions
7. Write the synthesis and uses of antipyrine, novacaine, chlorpheniramine maleate (CPM) paludrine, tetracyclin. Benedict's reagent and Barfoed reagent.


HEAD
Department of Chemistry
S.K. Arts, Commerce & Science
College, Talikoti-586214, Dist: Vijayapur


IQAC Co-ordinator
S. K. College of Arts, Comm. &
Science, Talikoti, Dist: Vijayapur


PRINCIPAL
S. K. College of Arts, Comm. & Science
TALIKOTI-586214, Dist: Vijayapur