A.D.B. First Grade College, Harapanahalli

Course Outcomes (CO's)

DEPARTMENT OF CHEMISSTRY

B.Sc. I Semester

FUNDAMENTALS OF CHEMISTRY

At the end of the course, students will be able:

1. To understand and appreciate the development of Various atomic theories
2. To Know the need for quantum mechanical structure of atoms
3. The concept of organic reactions and techniques of writing the movement of electrons, bond breaking and forming.
4. To understand the concept of aromaticity, resonance, hyper conjugation etc.
5. To understand the preparation of alkanes, alkenes & alkynes their reactions etc.
6. To make familiarization with various states of matter.
7. To know liquid state and its physical properties are related to temperature and pressure variation.
8. The concept of volumetric & gravimetric analysis and deducing the conversion factor for determination
9. To know handling of toxic chemicals, concentrated acids and organic solvents & practice safety procedures

B.Sc. II Semester

MODELS & CONCEPTS IN CHEMISTRY

At the end of the course, students will be able:

1. To develop an understanding of the periodic trends among the compounds of S-& P- block elements.
2. The concepts of organic reactions & techniques of writing the moment of electron, bond breaking, bond forming.
3. Understand the preparation of alkanes, alkenes & alkynes and the reactions etc.
4. To make familiarization with states of matter.
5. To familiarize the student with nucleophilic substitution reactions in aliphatic and aromatic compounds.
6. To teach the calculation of lattice parameters.
7. To develop the concept of solids, lattice parameters-its calculation, application of symmetry and solid characteristics of simple salts.
8. Treatment of analytical data using statistics.

B.Sc. III Semester

PAPER-III

At the end of the course, students will be able:

1. To understand transition metal (d-block elements) chemistry.
2. To understand chemistry of Lanthanides & actinides.
3. To understand the various theories of Acids-Bases & their properties
4. To learn the chemistry of organic halogen compounds
5. To learn the chemistry of organic compounds containing oxygen i.e. alcohols, phenols & carboxylic acids.
6. To understand quantum mechanical concepts.
7. To learn various laws and their limitations in thermodynamics
8. To know different laws of adsorption & distribution

B.Sc. IV Semester

PAPER-IV

At the end of the course, students will be able:

1. To understand isomerism in coordination compounds.
2. To familiarize metal ligand bonding in complexes.
3. To understand the organic compounds containing Oxygen.
4. To understand the organic compounds containing nitrogen
5. To familirise types liquid mixtures & Raoult's law
6. To understand the phase rule and its applications.
7. To understand the properties of dilute solutions.

B.Sc. V Semester, Paper-V

MODERN CONCEPTS OF CHEMISTRY-I

At the end of the course, students will be able:

1. To understand chemistry of d-Block elements
2. To understand various industrial process.
3. To learn the stereochemistry of organic compounds.
4. To understand properties of active ethylene compounds.
5. To learn various aspects of thermodynamics

B.Sc V Semester, Paper-VI

APPLIED CHEMISTRY-I

At the end of the course, students will be able:

1. To understand the chemistry of f-block elements, metallic nitrosyl complexes, gravimetric analysis and industrial technique like powder metallurgy.
2. To learn various spectroscopy of organic compounds.

3. To learn various aspects in photochemistry.
4. To learn the quantum mechanics.

B.Sc. VI Semester, Paper-VII

MODERN CONCEPTS OF CHEMISTRY-II

At the end of the course, students will be able:

1. To understand theories of bonding in coordination complexes
2. To have knowledge of nano particles, their preparations & applications.
3. To familiarize the biomolecules like carbohydrates, amino acids 7 proteins Fats & oils.
4. To know the molecular spectroscopy & their types with examples.
5. To understand radiation chemistry & biological effects of radiation

B.Sc VI Semester, Paper-VIII

APPLIED CHEMISTRY-II

At the end of the course, students will be able:

1. To learn In-organic polymers, their types, physical properties & applications.
2. To understand analytical tools like thermos-gravimetry and its applications.
3. To familiarize the toxic effects of heavy metals and pesticides.
4. To have the knowledge various concepts of Acids& bases.
5. To get the knowledge of natural bio-compounds, their synthesis and uses.
6. To familiarize the essential oils, their synthesis & structures.
7. To have detailed knowledge of Biomolecules like Vitamins, Harmons & nucleic acids.
8. To understand the thermos-dynamical aspects-like partial molar quantities and derivation of thermos-dynamical equations.
9. To understand the difference between classical & quantum statistical mechanics.
10. To learn the molecular structures through additive & constitutive properties.