COURSE OUTCOME

CORE COURSES IN CHEMISTRY

Semester 1

GENERAL AND ANALYTICAL CHEMISTRY.

1. To develop interest among students in various branches of inorganic chemistry.
2. To impart knowledge about various analytical and instrumental tools for practicing Chemistry.

Semester II

THEORETICAL AND INORGANIC CHEMISTRY

1. To know about the historical developments, major facts and concepts in chemistry.
2. To provide theoretical knowledge on chemical bonding and periodic properties.
3. To develop the practical skills on quantitative estimation via volumetric analysis.

Semester III

FUNDAMENTALS OF ORGANIC CHEMISTRY

1. To understand the fundamentals of organic chemistry.

Semester IV

BASIC ORGANIC CHEMISTRY I

1. To enable the students to know about the various chemical reactions and its mechanisms.
2. To develop skills in the qualitative analysis of organic compounds.

Semester V

CHEMISTRYOF D AND F BLOCK ELEMENTS

1. To understand the general characteristics of d and f block elements
2. To study the bonding in coordination compounds
3. To understand the role of metals in biological systems

BASIC ORGANIC CHEMISTRY II

1. To impart the students a thorough knowledge about the mechanisms of reactions of some selected functional groups in organic compounds.
2. To identify organic compounds using various spectroscopic techniques.

STATES OF MATTER

1. To understand the general characteristics different states of matter.

QUANTUM MECHANICS AND SPECTROSCOPY

1. To understand the fundamentals of quantum mechanics.
2. To know its applications in the study of structure of atoms, bonding in molecules and molecular spectroscopy.

ENVIRONMENTAL CHEMISTRY

1. To study the environmental management and impact assessment.
2. To understand about the toxic effects of pollutants.
3. To know about the pollution of water, air, soil.

SEMESTER VI

APPILED INORGANIC CHEMISTRY

1. To sensitize the students to the spectrum of applications of chemical methods and materials.
2. To give awareness about the application of radioactivity, nanomaterials, thermal and chromatographic techniques.
3. To study the chemistry of refractory materials and compounds of P block elements.
4. To learn about the qualitative analysis of various ions.

CHEMISTRY OF NATURAL PRODUCTS AND BIO MOLECULES

1. To enable the students to learn the chemistry of carbohydrates, heterocyclic compounds, amino acids etc.
2. To understand the structure and function of Enzymes proteins and nucleic acids.
3. To study the fundamentals of terpeniods, alkaloids, vitamins, lipids and steroids.
4. To have an elementary idea of supramolecular chemistry and green fluorescent protein.
5. To study the preparation of various organic compounds.
6. To develop basic skills required for analytical techniques.

EQUILIBRIUM AND KINETICS

1. To provide an insight to the thermodynamic and kinetic aspect of various chemical reactions and phase equilibrium.
2. To understand the elementary idea of catalysis.
3. To develop skills in doing experiments in kinetics, potentiometry, conductometry and two component system

SOLUTION CHEMISTRY

1. To provide an insight into the characteristic of different types of solutions and electrochemical phenomena.
2. To study the concepts of acids, bases, pH and buffer solutions.
3. Quantitative analysis of various ions, such as barium, sulphate, Mg^{+2}, Ni^{+2},Cu^{+2} etc.

CHOICE BASED COURSE

ENVIRONMENTAL CHEMISTRY

1. To study the environmental management and impact assessment.
2. To understand about the toxic effects of pollutants.
3. To know about the pollution of water, air, soil and noise.

COMPLEMENTARY COURSES IN CHEMISTRY
SEMESTER I

BASIC THEORECTICAL AND ANALYTICAL CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY, PHYSICS)

1. To study about atomic structure and chemical bonding.
2. To provide an insight into the fundamental concepts in chemistry, analytical and chromatographic techniques.

SEMESTER II

BASIC ORGANIC CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY, PHYSICS)

1. To understand some fundamental aspects of organic chemistry.
2. To study stereochemistry and mechanism of some basic organic reactions.
3. To learn about polymers.
4. To understand about volumetric analysis-acidimetry,alkalimetry,permanganometry.

SEMESTER III

ADVANCED INORGNIC AND ORGANIC CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY)

1. To understand facts and concepts in inorganic and organic chemistry.
2. To learn about various types of food additives.
3. To learn about the basic concepts of nuclear chemistry and heterocyclic compounds.

SEMESTER III

ADVANCED PHYSICAL CHEMISTRY I (FOR PHYSICS)

1. To develop proper aptitude towards the study of molecular structure
2. To studying electrical and nuclear properties of molecules.
3. To study about various states of matter.

SEMESTER IV

ADVANCED BIO-ORGANIC CHEMISTRY

(COMMON FOR ZOOLOGY, BOTANY)

1. To enable the students to learn the chemistry of carbohydrates, amino acids etc.
2. To understand the structure and function of Enzymes proteins and nucleic acids.
3. To study the fundamentals of terpeniods, alkaloids, vitamins, lipids and steroids.
4. To understand about qualitative analysis of various organic compounds.

SEMESTER IV

ADVANCED PHYSICAL CHEMISTRY II (FOR PHYSICS)

1. To provide an insight to the kinetic aspect of various chemical reactions.
2. To understand the basic facts and concepts in spectroscopy.
3. To study the rules governing chemical reactions and factors influencing them.
4. To develop skills in doing experiments in kinetics, potentiometry, conductometry and two component system