Bachelor of Science in Chemistry (3 Years)

Semester: I

General Chemistry-I

Objective: To make students understand the basic fundamentals of periodic properties, organic chemistry, chemical kinetics, introduction of analytical chemistry.

Chemistry Laboratory- I

Objective: To make students understand acid-base titration, and basic calibration methods.

Semester: II

General Chemistry-II

Objective: Provide understanding of types of hybridization and shape of simple inorganic molecules, Structural theory in Organic Chemistry, Thermodynamics, Introduction to Analytical Chemistry

Chemistry Laboratory- II

Objective: To make students understand volumetric and Inorganic Qualitative analysis

Semester: III

Organic Chemistry-I

Objective: Provide the understanding of the carbonyl compounds, Electrophilic aromatic substitution, name reaction, Heterocyclic Compounds, Beta-dicarbonyl compounds, Chemical Reactivity and Molecular Structure.

Physical Chemistry-I

Objective: Provide basic knowledge on chemical kinetics, phase equilibrium and electrochemistry

Chemistry Laboratory- III

Objective: To enable students with the experiments on qualitative analysis of given organic compounds.

Semester: IV

Inorganic Chemistry-I

Objective: To make students understand the Coordination Compounds, transition series, Molecular Orbital Theory and Inorganic polymer.

Analytical Chemistry-I

Objective: To make students understand the concept of Acid Base Titration, Role of Analytical Chemistry, Classical Methods of Analysis and Separation Techniques in Analytical Chemistry

Chemistry Lab- IV

Objective: To enable students with the knowledge and practical experience with Paper chromatography and Inorganic Qualitative analysis.

Semester: V

Organic Chemistry-II

Objective: To make students understand the basics of organic synthesis, Rearrangements and Name reaction and their mechanism

Inorganic Chemistry-II

Objective: To make students understand the basics of Molecular symmetry, Coordination chemistry, Organometallic Chemistry

Physical chemistry-II

Objective: To make students understand the basics of thermodynamics, Electrochemistry and Chemical Kinetics.

Analytical Chemistry-II

Objective: To make students understand the basics of Chromatography. Solvent Extraction Separation, GLP and Electro analytical techniques

Chemistry Lab-V

Objective: Provide understanding of basic fundamental experiments of Organic Preparation, Estimation, analytical analysis

Green Chemistry

Objective: To make students understand the basics Introduction of Green Chemistry, Green solvent, Green catalysts, and synthesis

Polymer Chemistry

Objective: To make students understand the basics of polymers, its characteristics, techniques and process.

Semester: VI

Organic Chemistry-III

Objective: To make students gain the knowledge of drugs, dyes, alkaloids, terpenoids and aromaticity.

Inorganic Chemistry-III

Objective: To make students gain the knowledge of Wave mechanics, kinetics, CFT, metal ions in biology.

Physical Chemistry-III

Objective: To make students gain the knowledge of thermodynamics, electrochemistry, corrosion chemistry, phase rule, and photochemistry

Analytical Chemistry-III

Objective: To make students gain the detailed knowledge of spectroscopy methods.

Chemistry Laboratory- VI

Objective: To make students gain the knowledge of Inorganic Quantitative Analysis, Physical (Kinetics and Instruments).

Soil Composition and Analysis

Objective: To make students gain the knowledge of Soil chemistry and its analysis

Nanomaterials

Objective: To make students gain the knowledge of Nanoparticles, Nano catalyst and carbon based nanomaterial, Nano composites and fibers.