

BSc IN CHEMISTRY

PSO 1:

Understands the basic concept of organic, inorganic and physical chemistry and be acquainted with the diversified branches of chemistry like analytical, environmental, polymer, biochemistry, medicinal, nano-chemistry etc.

PSO 2:

Ability to interrelate and interact chemistry to the other subjects like mathematics, physics, biological science etc.

PSO 3:

Have a broad foundation in chemistry concerning scientific reasoning and problem solving with a molecular perspective.

PSO 4:

Develops skills of conducting qualitative and quantitative analysis of chemicals through the use of standard laboratory instruments or modern equipment to carry out experiments in laboratories as well as in industries.

PSO 5:

Be aware of the principles and guidelines of green chemistry to perform experiments without disturbing the equilibrium of nature.

Course 1: Inorganic Chemistry:

CO1.1 - Describe about the quantum mechanical concept of structure of atoms, different nuclear reactions and radioactivity and also describe about the periodic properties of different elements.

CO1.2 - Gives the students idea about chemical bonding in different Inorganic molecules.

CO1.3 - Describes about the principles of qualitative and quantitative analysis and hence this course gives the students idea about analysis of a sample and estimation of its quantity.

CO1.4 - Describes about the different concepts of acids and bases, helps the students to identify oxidising agents and reducing agents in a reaction.

CO1.5 - Explains the concept of metallurgy and describes about the different industrial applications of chemistry.

CO1.6 - Classify the elements as s-block, p-block, d-block and f-block depending upon their electronic configuration and it gives the students detailed knowledge about periodic properties of different elements. it also describes about the preparation and uses of some important compounds.

CO1.7 - Describes about coordination compounds: their geometry, magnetic properties and reactivity. It also give a detailed knowledge about Crystal field theory of bonding in coordination compounds.

CO1.8 - Describes about organometallics, different inorganic polymers, interhalogens, polyhalides and pseudohalides and this course gives the students knowledge about their synthesis, properties, bonding, structure and applications.

CO1.9 - Describes about earth's atmosphere, waste water treatment, solid waste and radioactive waste disposal.

CO1.10 - Gives the students idea about molecular symmetry and knowledge about data analysis.

CO1.11 - Describes about the effect of metal ions in living systems and also gives the students knowledge about different drugs.

CO1.12 - Describes about applications of UV-Visible and IR spectroscopy for Inorganic and Coordination compounds.

CO1.13 - gives a general introduction to nanomaterials: their types, synthesis and important applications.

Course 2: Organic Chemistry:

CO2.1 - Describes about the structure, bonding and properties of different organic compounds.

CO2.2 - Gives a general idea about stereochemistry of organic molecules.

CO2.3 - Describes about aliphatic and aromatic hydrocarbons and it gives the students detailed knowledge about their nomenclature, bonding and different chemical reactions involved.

CO2.4 - classify the different types of reactions involving organic molecules

CO2.5 - Gives a detailed knowledge to the students about alcohols, phenols, aldehydes and ketones: their nomenclature, methods of preparation, physical properties and chemical reactions involved.

CO2.6 - Gives a detailed knowledge to the students about carboxylic acids and their derivatives, organometallic compounds and active methylene compounds: their nomenclature, methods of preparation, physical properties and chemical reactions involved.

CO2.7 - Gives a detailed knowledge to the students about nitro compounds, amines and diazo compounds: their nomenclature, methods of preparation, physical properties and chemical reactions involved.

CO2.8 - Gives a detailed knowledge to the students about Carbohydrates, amino acids, urea and Drugs.: their classification, synthesis, properties and chemical reactions involved.

CO2.9 - gives the quantitative ideas about synthesis, properties and uses of heterocyclic compounds, fats, oils, soaps and detergents and it gives a detailed knowledge about dyes.

CO2.10 - Gives a detailed knowledge about organic acids and bases and about polynuclear aromatic hydrocarbons.

CO2.11 - Gives a general introduction about dienes and organic polymers

CO2.12 - Gives a detailed introduction to organic synthesis, rearrangement reactions and interconversions.

CO2.13. - gives the students the principles of green chemistry and few methods of using green chemistry in chemical transformation.

CO2.14 - Gives a detailed introduction to natural products, peptides, proteins, vitamins, enzymes and nucleic acids.

CO2.15 - Gives a detailed introduction to organic photochemistry and the applications of spectroscopy for structural analysis.

Course 3: Physical Chemistry:

CO3.1 - Gives detailed introduction about the behaviour, properties and applications involving Gaseous state, liquid state and solid state.

CO3.2 - Gives a detailed idea about the principles and applications of thermodynamics and thermochemistry.

CO3.3 - Gives a detailed idea about the principles and applications of chemical kinetics

CO3.4 - Gives a detailed idea about the principles and applications of electrochemistry

CO3.5 - Gives a detailed knowledge to the students about solutions and colloids.

CO3.6 - Gives a detailed knowledge to the students about principles and applications surface chemistry.

CO3.7 - Gives a detailed knowledge to the students about principles and applications of chemical equilibrium, ionic equilibrium and phase equilibria.

CO3.8 - Gives a detailed knowledge to the students about the properties and importance of macromolecules.

CO3.9 - Gives a detailed idea about the principles and applications of spectroscopy