

CHEMISTRY

PROGRAMME OUTCOME

PO1: Students will demonstrate an understanding of major concepts in all disciplines of chemistry.

PO2: Students will get an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.

PO3: Students will employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of chemical reactions.

PROGRAMME SPECIFIC OUTCOME

PSO-1: Gain the knowledge of Chemistry through theory and practical's.

PSO-2: The ability to explain nomenclature, stereochemistry, structures, reactivity, and mechanism of the chemical reactions.

PSO-3: Identify chemical formulae and solve numerical problems.

PSO-4: Know structure-activity relationship.

PSO-5: Understand good laboratory practices and safety.

PSO-6: To explain how the applications of chemistry relates to the real world.

COURSE OUTCOME

CO1: GENERAL CHEMISTRY-I - To enable learners to comprehend the following aspects: the fundamental concepts of atomic structure, periodicity of properties, chemical bonding, and the basic concepts of Organic Chemistry.

CO2: ALLIED PHYSICS-I - To enable learners to understand the waves and oscillations, to provide them with better understanding of properties of matter, to understand the concept of thermal physics, to provide them with a better understanding of Electricity and Magnetism, to know about the geometrical optics.

CO3: GENERAL CHEMISTRY-II - To equip learners with concepts in comparative studies of s and p block elements, to facilitate them to understand the aspects in gaseous, liquid and solid states, to enable them to understand conformational analysis and addition reaction.

CO4: ALLIED PHYSICS-II - To know the basic principles of physical optics, to enable learners to understand the atomic physics, nuclear physics, elements of Relativity and quantum mechanics and electronics.

CO5: CORE PRACTICALS-I - Students will gain an understanding of methods of analysis related to chemical analysis goals such as estimation of elements.

CO6: ALLIED PHYSICS PRACTICALS - Students will gain an understanding of Young's modulus, Rigidity modulus, Surface and Interfacial tension, Comparison of viscosity of two liquids, specific heat capacity of a liquid, spectrometer, potentiometer, construction of AND, OR, NOT and NAND gates.

CO7: GENERAL CHEMISTRY-III - To enable learners to understand the chemistry of p-block elements, to facilitate them with concepts in colloids, to provide them with a better understanding of mechanisms of substitution and elimination reactions.

CO8: ALLIED MATHS-I - To Provide learners with a knowledge of Algebra, Matrices, Theory of equations, Trigonometry, Differentiation.

CO9: INORGANIC CHEMISTRY - I - To know the basic principles of metallurgy. To understand chemistry of d-block elements, to know the chemistry of members of f-block elements, to understand the chemistry of organometallic compounds and their synthetic uses, to know metallic bonding and the closed packed arrangement of atoms, to understand the conducting behaviour of metals to understand the basic concepts of nuclear chemistry.

CO10: ALLIED MATHS-II - To Provide learners with a knowledge of Bernoulli's formula, Reduction formula, Fourier series, Ordinary Differential Equation, Partial Differential equation, Laplace transformation, Vector Differentiation.

CO11: CORE PRACTICALS-II - Students will gain an understanding of methods of analysis related to chemical analysis goals such as detection of elements.

CO12: PHYSICAL CHEMISTRY - I - To know the various thermodynamic terms – systems, surroundings, reversible and irreversible terms. To understand the first, second and third law of thermodynamics, concepts of entropy, master equations and its applications. To understand the energy changes involved in chemical equilibria. To know the thermodynamics of solutions and phase changes.

CO13: ORGANIC CHEMISTRY- I - To enable learners to understand the chemistry of organic compounds containing Oxygen and Nitrogen and to familiarize them with heterocyclics and dyes.

CO14: INORGANIC CHEMISTRY - II - To understand the nature of bonding in coordination compounds. To appreciate the biological and industrial importance of coordination compounds. To understand the chemistry of S, Se, As and Sb compounds.

CO15: ELECTIVE I - APPLIED ELECTRO CHEMISTRY - To describe and understand the operation of electrochemical system for the production of electrical energy. To understand the

electro chemical process of surface treatment and production of materials. To learn the electrochemical corrosion of materials and corrosion protection methods.

CO16: ORGANIC CHEMISTRY- II - To provide learners with knowledge of structural aspects of biomolecules. To make the students understand the mechanisms of rearrangement reactions. To familiarise them with the importance of organic spectroscopy.

CO17: PHYSICAL CHEMISTRY - II - To know the reaction rates and pathways, understand the energy changes involved chemical reactions, the various photochemical processes in the chemical systems, the conducting behaviour of ions, to understand the theory of electrical conductance, to understand the transformation of chemical energy into electrical energy in Galvanic cells, to understand the symmetry aspects in chemical systems

CO18: ANALYTICAL CHEMISTRY - To know the analytical techniques like Chromatography, AAS, MS, TGA, DTA, Polarimetry and polarography.

CO19: ELECTIVE II-INDUSTRIAL CHEMISTRY - Know the importance of chemical industry, Classify various insecticides, Study the nutritive aspects of food constituents, Understand the characteristics of some food starches, Study the manufacture of cement, dyes, Glass, Soap and Detergents by modern methods.

CO20: ELECTIVE III-POLYMER ELECTRO CHEMISTRY - To enable the students to learn about the Classification of polymers, Methods of preparation of polymers, Different types of polymerization and techniques of polymerization, Processing of polymers.

CO21: PHYSICAL CHEMISTRY PRACTICALS - Students will gain an understanding about the conductometric, potentiometric titrations, and learn about the first, second order chemical kinetics, transition temperature, determination of molecular weights of solutes, distribution coefficients.

CO22: ORGANIC CHEMISTRY PRACTICALS - To analyse the given organic compounds and also learn the preparation of organic compounds.

CO23: GRAVIMETRIC ANALYSIS - To estimate the amount of metal through analytical techniques.