CY-416 General Chemistry

Stereochemistry: Chirality, molecular dissymmetry, optical activity, isomerism.

Reaction Mechanism, Structure and Reactivity: Types of reactions, reaction intermediates and their stability.

Substitution Reactions: Nucleophilic & Aromatic Electrophilic Substitution Reactions: (mechanism and stereochemistry).

Addition to Carbon- Carbon Multiple Bonds: Mechanism and stereochemical aspects.

Elimination (E) Reactions: The E1, E2 and α, ß mechanisms, orientation, reactivity.

Atomic Structure: Atomic structure theories, Schrödinger wave equation and its applications.

Periodic Table: Electronic configuration, periodicity, group trends.

s and p Block Elements: General characteristics, valence bond theory, molecular orbital theory, Valence Shell Electron Pair Repulsion (VSEPR) theory, hybridization.

d-Block Elements: General characteristics, coordination compounds, Crystal field theory (CFT), Molecular orbital theory (MOT), magnetic properties, d2-d8 ions energy level diagram, charge transfer spectra, calculation of μs, μs+L, μeff.

Chemistry of Lanthanide and Actinide Elements: General characteristics and comparison of two series.