

## **62. CHEMISTRY**

### **Part-A (40 Marks)**

Coordination Chemistry, spectral and magnetic properties of metal complexes, reactivity of metal complexes, stability of metal complexes, hard and soft acids and bases, Bio Inorganic Chemistry, nitrogen compounds, heterocyclic compounds, carbohydrates, amino acids and proteins, mass spectrometry, Chemical kinetics, Photo chemistry, thermodynamics, separation techniques, Spectrophotometry, Molecular Spectroscopy, drugs, formulations, pesticides, green Chemistry, Macromolecules, Material science, Catalysis.

### **Part-B (60 Marks)**

Atomic structure and elementary quantum mechanics, Chemical bonding, General principles of inorganic qualitative analysis, theory of quantitative analysis, evaluation of analytical data, Molecular symmetry, s-block elements, p-block elements, Chemistry of d-block elements, Chemistry of f-block elements, Organo metallic compounds, theories of bonding in metals, Metal carbonyls and related compounds. Structural theory in Organic Chemistry, Acyclic hydrocarbons, Alicyclic hydrocarbons, benzene and its reactivity, polynuclear hydrocarbons, stereo Chemistry of carbon compounds, Introductory treatment to pericyclic reactions, synthetic strategies, asymmetric synthesis, Halogen compounds, hydroxyl compounds, carbonyl compounds, carboxylic acids and derivatives, active methylene compounds, exercises in inter conversions. Gaseous state, liquid state, solid state, solutions, colloids and surface Chemistry, phase rule, dilute solutions, electro chemistry.