

Department of Chemistry
Syllabus for M. Sc. Chemistry Entrance Examination for Session 2012-13
B. Sc. Level Chemistry Syllabus

Note: All branches of Chemistry i.e., Inorganic, Physical and Organic Chemistry will carry equal weightage.

INORGANIC CHEMISTRY

1. Atomic Structure
2. Covalent Bond
3. Coordination Compounds
4. Metal - ligand bonding in Transition Metal Complexes
5. Thermodynamic and Kinetic Aspects of Metal Complexes
6. Magnetic Properties of Transition Metal Complexes
7. Electron Spectra of Transition Metal Complexes
8. Acids and Bases, HSAB Concept
9. Organometallic Chemistry
10. Bioinorganic Chemistry
11. Silicones and Phosphazenes

PHYSICAL CHEMISTRY

1. Solid State
2. Chemical Kinetics
3. Thermodynamics
4. Electrochemistry
5. Phase Equilibrium
6. Quantum Mechanics
7. Physical Properties and Molecular Structure
8. Spectroscopy: Rotational Spectrum, Vibrational spectrum, Raman Spectrum and Electronic Spectrum
9. Photochemistry
10. Solutions, Dilute Solutions and Colligative Properties

ORGANIC CHEMISTRY

1. Stereochemistry of Organic Compounds
2. Arenes and Aromaticity
3. Carbohydrates
4. Heterocyclic Compounds
5. Amino Acids, Peptides & Proteins
6. Organometallic Compounds
7. Organosulphur Compounds
8. Synthetic Polymers
9. Organic Synthesis *via* Enolates
10. Spectroscopy: Ultraviolet (UV) absorption spectroscopy, Infrared (IR) absorption spectroscopy and NMR Spectroscopy