

Semester-6

Chemistry – 7: Inorganic, Organic & Physical Chemistry-6 (Core)

Block-1: Inorganic Chemistry -6

Unit – 1: Metal Carbonyls and Nitrosyls

Unit – 2: Non- aqueous Solvents

Unit – 3: Hard and Soft acids and bases

Block-2: Organic chemistry-9

Unit – 4: Alkaloids.

Unit – 5: Terpenes & Terpenoids.

Unit – 6: Introduction to Synthetic strategies

Block-3: Physical chemistry-6

Unit – 7: Introduction and Classification of Catalysis.

Unit – 8: Heterogeneous catalysis.

Unit – 9: Homogeneous catalysis.

Block – 4: General Chemistry-4

Unit – 10: Mass Spectroscopy.

Unit – 11: ^1H -NMR Spectroscopy

Unit – 12: Symmetry of molecules.

Practical: Chemistry – 7: Physical Chemistry

Block – 1: Kinetics and Distribution.

Unit – 1: Kinetic study of catalysed reaction.

13. Kinetics of Acid Catalysed Hydrolysis of methyl acetate.

2. Kinetic study of catalytic decomposition of hydrogen peroxide)

Unit – 2: Kinetics of reaction between potassium persulphate and potassium iodide.(second order reaction).

Unit – 3: Determination of distribution and partition coefficient.

11. Determination of partition coefficient of benzoic acid between benzene and water.

2. Estimation of amount of HCl in the given solution using standard NaOH solution by conductometrically)

Block – 2: Instrumental methods.

Unit – 4: Conductometric titrations.

11. Estimation of amount of HCl in the given solution using standard NaOH solution by conductometrically.

12. Estimation of acetic acid in the given solution by using standard NaOH solution by conductometrically.

Unit – 5: Potentiometric titrations.

12. Estimation of amount of HCl in the given solution using standard NaOH solution by potentiometrically.

13. Estimation of amount of Fe^{+2} in the given solution using potassium permanganate solution by potentiometrically.

Unit – 6: Colorimetric titrations. (Verification of Lambert-Beers law and estimation of KMnO_4 in the solution)