

**Paper I: Reaction Mechanisms, Pericyclic Reaction, Photochemistry and Stereochemistry (CHE-551)**

**Block I: ORGANIC REACTION MECHANISMS – II**

Unit –1: Reaction intermediates – I

Unit – 2: Reaction intermediates – II

Unit – 3: Molecular rearrangements – I

Unit – 4: Molecular rearrangements – II

Unit – 5: Elimination reactions

**Block II : PERICYCLIC REACTIONS**

Unit – 6: Classification and stereochemistry of pericyclic reactions

Unit – 7: Molecular orbitals and their symmetry properties

Unit – 8: Analysis of electrocyclic reactions

Unit – 9: Analysis of cycloaddition reactions

Unit – 10: Analysis of sigmatropic reactions

**BLOCK III : ORGANIC PHOTOCHEMISTRY**

Unit – 11: Electronic transitions

Unit – 12: Photochemistry of carbonyl compounds

Unit – 13: Photochemistry of alkenes and dienes

Unit – 14: Photochemistry of benzene derivatives

Unit – 15: Photochemistry of peroxides, nitrites, hypohalites, azo compounds and Diazo compounds

**BLOCK IV : STEREOCHEMISTRY – II**

Unit -16: Conformations of some acyclic molecules

Unit-17: Conformations of disubstituted cyclohexanes, cyclohexenes and Monosubstituted cyclohexanes

Unit-18: Conformation of disubstituted cyclohexanes, cyclohexanes and Cyclohexanones

Unit – 19: Conformations of a few other monocyclic and bicyclic systems

Unit – 20: Conformation and reactivity