

Organic Chemistry (CHE-502)

Block – 1: stereochemistry of organic compounds

Unit –1: Molecular representation and classification of stereoisomers

Unit –2: Molecular symmetry and chirality enantiomers and diastereoisomers

Unit –3: Molecules with one and more than one chiral centers

Unit –4: Absolute configurational nomenclature determination of configuration and resolution of racemates

Unit – 5: Axial, planar and helical chirality and ii- or e, z- diastereoisomerism

Block – 2: Organic reaction mechanism

Unit – 6: Basic concepts, electronic effects, electronegativity resonance, acid and basic character of organic

Unit – 7: Reaction pathways

Unit – 8 : Electrophilic addition to carbon-carbon double bonds

Unit – 9: Aliphatic nucleophilic substitution

Unit – 10: Neighbouring group participation, ambident nucleophiles, aromatic nucleophilic substitution and aliphatic electrophilic substitution

Block-3: Aromaticity, benzenoid non-benzenoid aromatic compounds and heterocyclic compounds

Unit-11: Concept of aromaticity

Unit -12: Nonbenzenoid aromatic compounds synthesis and reactions of 3,5,7- membered carbocyclic systems:

Unit -13: Azulenes and polycyclic aromatic compounds

Unit -14: Heterocyclic compounds

Unit -15: Fused hetero bicyclic and tricyclic systems: carbazole, quinoline isoquinoline and acridine

Block-4: Natural products

Unit -16: Natural products terpenes and terpenoids

Unit -17: Alkaloids

Unit -18: Carbohydrates monosaccharides

Unit -19: Carbohydrates disaccharides

Unit -20: Carbohydrates polysaccharides