

Lesson plan

Name-Anupama

Class - B.Sc. 1st II semester

Subject- Chemistry II (feb to may 2024)

Week/Month	Name of Topics
1 week feb	IUPAC nomenclature of branched and unbranched alkanes, classification of carbon atoms in alkanes. Isomerism in alkanes,
2 week feb	sources, methods of formation: Wurtz reaction, Kolbe reaction, Corey- House reaction
3 week feb	decarboxylation of carboxylic acids, physical properties.
4 week feb	Mechanism of free radical halogenation of alkanes: reactivity and selectivity, test conducted
1 week march	Cycloalkanes — nomenclature
2 week march	Baeyer strain theory, its application and limitation, Sachse Mohr theory
3 week march	Hydrogen Bonding – Definition, types, effects of hydrogen bonding on properties of substances, application
4 week march	Brief discussion of various types of Van der Waals forces.
1 week april	Metallic bond – Qualitative idea of valence bond and Band theories of metallic (conductors, semiconductors, insulators).
2 week april	Semiconductors – Introduction, types and applications.
3 week april	Nomenclature of alkenes, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halide
4 week april	. The Saytzeff rule, Hofmann elimination, physical properties and relative stabilities of alkenes.
1 week may	Chemical reactions of alkenes—mechanisms involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule,
2 week may	hydroboration–oxidation, oxymercuration- reduction, ozonolysis, hydration, hydroxylation and oxidation with KMnO_4 .

Lesson plan

Name-Anupama

Class - B.Sc. III VI semester

Subject-organic Chemistry (feb to may 2024)

Week/Month	Name of Topics
1 week feb	Organic Synthesis via Enolates Acidity of α -hydrogens, alkylation of diethyl malonate
2 week feb	ethyl acetoacetate. Synthesis of ethyl acetoacetate:
3 week feb	Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate.
4 week feb	Amino Acids, Peptides & PROTEINS Classification, of amino acids. Acid-base behavior,
1 week march	isoelectric point and electrophoresis. Preparation of α -amino acids. Structure and nomenclature of peptides and proteins.
2 week march	Classification of proteins. Peptide structure determination.
3 week march	end group analysis, selective hydrolysis of peptides. Classical peptide synthesis, solid-phase peptide synthesis. Structures of peptides and proteins
4 week march	Primary & Secondary structure of protein Synthetic Polymer
1 week april	Addition or chain-growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerization, given assignment
2 week april	Introduction molecular orbital picture and aromatic character of pyrrole, furan, thiophene and pyridine. Method of synthesis
3 week april	Mechanism of electrophilic reaction, mechanism of nucleophilic substitutions rxns in pyridine derivative.
4 week april	comparison of basicity of pyridine, piperidine, pyrrole
1 week may	Preparation and rxns of indole, quinoline, isoquinoline with special reference to Fischer indole synthesis
2 week may	Skraup and bischler napieralski synthesis mechanism of electrophilic substitution reaction of quinoline and isoquinoline, revision and doubt class