

Lesson Plan

Name of Faculty : Dr. Monica Khanna

Discipline : Biotechnology Department

Semester : 4th

Subject : Organic Chemistry (BS-202A)

Lesson Plan Duration : 15 Weeks (From April- August, 2021)

Work Load (Lecture/week (in hours): Lectures - 03

Week	Theory	
	Lecture Day	Topic (including Assignment/Test)
1 st	1 st	IUPAC Nomenclature (Rules)
	2 nd	IUPAC Nomenclature (Rules)
	3 rd	Systematic IUPAC nomenclature of alkenes,alkynes
2 nd	1 st	IUPAC nomenclature of cycloalkanes,aromatics
	2 nd	IUPAC nomenclature of bicyclicorganic compounds.
	3 rd	IUPAC nomenclature of polyfunctional organic compounds.
3 rd	1 st	Bond Line Notation.
	2 nd	Introduction to Organic Reactions
	3 rd	Substitution, Addition, Elimination reactions
4 th	1 st	Wanger-Meerwin Rearrangement reaction.
	2 nd	Hyperconjugation:concept and consequences
	3 rd	Mole Concept, Revision (Assignment of Nomenclature)
5 th	1 st	Hydrogen Bonding,its types.
	2 nd	Its importance in Organic Compounds
	3 rd	pII-dII bonding, Concept of Tautomerism.
6 th	1 st	Ring-Chain Tautomerism, Ring-Chain Isomerism.
	2 nd	Properties and reactions of Ketoenol Tautomerism.
	3 rd	Concept of Stereo Chemistry, Classification of Stereomers,
7 th	1 st	Classification of Diastereomers, Seperation of Enantiomers.
	2 nd	Absolute configuration, (R & S), Projection Formulae.
	3 rd	Stereochemistry of compounds containing two asymmetric C-atoms, Stereochemistry of biphenyls.

8 th	1 st	Concept of Geometrical Isomerism, E & Z Nomenclature.
	2 nd	Reactions of Alkylation, Acylation.
	3 rd	Reactions of Halogenation, Dehydration.
9 th	1 st	Reactions of Condensation, Cyclisation.
	2 nd	Revision. (Assignment of Stereochemistry).
	3 rd	Mechanism of Acid Catalyzed and Base Catalyzed hydrolysis of Esters and Acid Amides.
10 th	1 st	Mechanism of Ammonolysis and Alcoholysis of Esters, Acid Anhydrides.
	2 nd	Mechanism of Ammonolysis and Alcoholysis of Acid Halides.
	3 rd	Revision and Test of Mechanism of Acid Derivatives.
11 th	1 st	Classification of Polymers. (Tacticity & Functionality)
	2 nd	Preparation of Epoxy Resin, its properties and applications.
	3 rd	Preparation of Polyurethanes, its properties and applications.
12 th	1 st	Preparation of Silicon Rubber, its properties and applications.
	2 nd	Revision and Test of Polymers.
	3 rd	Applications of Reducing Agents in Organic Chemistry like LiAlH_4 , NaBH_4 .
13 th	1 st	Applications of Reducing Agents in Organic Chemistry like Pt/Ni/H_2 , Metal/ NH_3 Solution.
	2 nd	Applications of Reducing Agents in Organic Chemistry like Hydroboration and Tri-n-butyl tin hydride. And Test.
	3 rd	Revision. (Assignment of Reducing Agents)
14 th	1 st	Introduction of Peptide Bond Synthesis.
	2 nd	Protection of N-Terminal and C-Terminal of Amino Acids.
	3 rd	Formation of Peptide Bond Synthesis.
15 th	1 st	Solid Phase Peptide Synthesis.
	2 nd	Concept of Solvent Extraction & Crystallization.
	3 rd	Revision. (Assignment of Peptide Bond Synthesis)

Dr. Monica Khanna
Associate Professor
Department of Applied Science
ACE