Lesson plan

Name-Anupama

Class - B.Sc.1st 1st semester

Subject- Chemistry I (august to december 2023)

Week/Month	Name of Topics
1week august	Curved arrow notation, drawing electron movements with arrows, half-headed anddouble-headed arrows,
2 week august	homolytic and heterolytic bond breaking. Types of reagents – electrophiles and nucleophiles. Types of organic reactions.
3 week august	Reactive intermediates — carbocations, carbanions, free radicals, carbenes,(formation, structure & stability).
4 week august	Localized and delocalized chemical bond, Van der Waal's interactions,
1 week september	resonance: conditions, resonance effect and its applications
2week september	hyperconjugation, inductive effect.
3 week september	Electromeric effect & their comparison.
4 week september	Idea of de Broglie matter waves, Heinsenberg's uncertainty principle, atomicorbitals, quantum numbers, radial and angular wave functions, normal and orthogonal wave functions,
1week october	shapes of s, p, d, f orbitals, Aufbau and Pauli exclusion principles, Hund's multiplicity rules, Electronic configuration of elements,
2 week october	significance of Ψ and Ψ^2, probability distribution curve effective nuclear charge
3 week october	**Slater's rules.its application and limitation Periodic table and atomic properties**
4 week october	Classification of periodic table into s, p, d, f blocks, atomic and ionic radii
1 week november	electronegativity definition, methods of determination or evaluation,
2 week november	Trend of atomic properties in periodic table (in s and p-block elements),
3 week november	Pauling , Mulliken, Allred Rachow of electronegativity scale
4 week november	Mulliken Jaffe's electronegativity scale, Sanderson's electron density ratio.

1 week december	ionisation energy, electron affinity and their factors.
2 week december	**Revision and doubt class**

Lesson plan

Name-Anupama

Class - B.Sc. III V semester

Subject-organic Chemistry (august to december 2023)

Week/Month	Name of Topics
1week august	Introduction to Principle of nuclear magnetic resonance, The PMR spectrum ,
2 week august	Number of signals, peak Areas, Equivalent and non equivalent protons positions of signals and chemical shift
3 week august	shielding and deshielding of protons proton counting, splitting of signals
4 week august	Coupling constants, magnetic equivalence of protons
1 week september	Discuss ion of PMR spectra of the molecules: ethyl bromide, n-propyl bromide, isopropyl bromide,
2week september	1,1-dibromoethane, 1,1,2-tribromoethane., ethanol, Acetaldehyde, ethyl acetate, toluene,
3 week september	, benzaldehyde and acetophenone. Introduction toClassification and nomenclature
4 week september	Monosaccharides, mechanism of osazone formation, *I*nterconversion of glucose and fructose,
1week october	chain lengthening and chain shortening of aldoses. Configuration of monosaccharides. Erythro and threo diastereomers.
2 week october	Conversion of glucose in to mannose. Formation of glycosides, ethers and esters. Determination of ring size of glucose and fructose.
3 week october	. Open chain and cyclic structure of D(+)-glucose & D(-) fructose. Mechanism of mutarotation. Structures of ribose anddeoxyribose
4 week october	An introduction to disaccharides maltose, sucrose and lactose Organomagnesium compounds:.
1 week november	An introduction to polysaccharides starch and cellulose without involving structure determination
2 week november	Organomagnesium compounds
3 week november	Grignard reagents-formation, structure and chemical reactions.
4 week november	Orgnozinc compounds: formation and chemical reactions
1 week december	Organolithium compounds: formation and chemical reactions
2 week december	**Revision and doubt class**