

SARASWATI MAHILA MAHAVIDHYALAYA, PALWAL

LESSON-PLAN

Class: B.sc 2nd (Non-medical & Medical)

Semester:4th

Subject: Organic Chemistry

Session: 2021-22

Lectures	Topic
1	Molecular vibrations, Hooke's Law, selection rules, Intensity and position of IR bands.
2	Measurement of IR spectrum, fingerprint region, characteristic absorptions of various functional groups and interpretation of IR, Spectra of simple organic compounds.
3	Application of IR spectroscopy in structure elucidation of simple organic compounds, Structure and nomenclature of Amines.
4	Physical properties, separation of a mixture of primary, secondary and tertiary Amines, structural features affecting basicity of Amines.
5	Preparation of Alkyl and Aryl Amines Reduction of nitro compounds, nitriles, reductive amination of aldehydic and ketonic compounds.
6	Gabriel- phthalimide reaction, Hoffmann bromide reaction, electrophilic aromatic substitution in Aryl Amines, Reactions of amines with HNO ₂ .
7	Revision Test.
8	Mechanism of diazotisation, structure of Benzene diazonium chloride, replacement of diazo group by H, OH, F, Cl, Br, I, NO ₂ and CN group.
9	Reduction of diazonium salt to hydrazines, Coupling reaction and its synthetic application.
10	Preparation of Nitro alkanes and Nitro arenes and their chemical reactions, Mechanism of electrophilic substitution reactions in Nitro Arenes.
11	Reduction reaction of diazonium salt in acidic, neutral, alkaline medium of Nitro compounds.
12	Revision Test
13	Nomenclature and structure of the carbonyl group, synthesis of aldehydes and ketones with Acid chlorides.
14	Advantages of oxidation of alcohols with chromium trioxide (Sarett reagent). (PCC).

15	Pyridinium dichromate, physical properties of aldehydes and ketones.
16	Comparison of reactivities of aldehydes and ketones.
17	Revision Test
18	mechanism of nucleophilic additions of carbonyl group with particular emphasis on Benzoin.
19	Aldol condensation, perkin and Knoevenagel condensation.
20	Condensation with ammonia and its derivatives, witting reactions.
21	Mannich reaction, oxidation of aldehydes, Baeyer villiger oxidation of ketones.
22	Cannizzaro reaction, meerwein ponndorf verlay , Clemmensen.
23	Wolff-kishner, LiAlH₄, and NaBH₄, reductions.
24	Revision Test