

3. Preparation methods of amines (i) Gabriel synthesis (ii) Hoffman's bromide reaction, (iii) Schmidt reaction.
4. Paul-Knorr synthesis of 5 membered hetero cyclic compounds.

SEM-I - Assignment - 2

1. Planck's radiation law, photo electric effect.
2. Joule Thomson effect - liquification of gases.
 - (i) Linde's method (ii) Claude's method.
3. Principles involved - solubility product (K_{sp}), common ion effect.
4. Enantiomers, Diastereomers definitions & examples.
5. Derivation of Bragg's equation.

SEM-III - Assignment - 2

1. First law of thermodynamics -
2. Heat capacities. derivation of $C_p - C_v = R$.
3. Kirchoff's equation and problems.
4. Accuracy and precision, Errors -
5. phase equilibria of one component system - water system

SEM-V - Assignment - 2

1. Rate of reaction, factors effecting rate of reaction.
2. First order reaction, derivation of equation for rate constant.
3. Classification of molecules based on moment of inertia (I).
4. Characteristic absorption bands of various functional groups in IR spectra.
5. Types of electronic transitions (UV spectra).

SEM - IIAssignment - 1

- Types of oxides - 1) Normal, acidic, basic, amphoteric and Neutral
2) Mixed, suboxide, peroxide, superoxide.
- structures of Inter Halogen compounds, AB , AB_3 , AB_5 & AB_7
- SN^1 and SN^2 Reactions, Mechanisms with examples.
- Aldol condensation (with mechanism)
- Cannizzaro reaction (Mechanism).

SEM - IVAssignment - I

- HSAB principle, classification of Hard & soft Acids and bases.
- structure of Hemoglobin & chlorophyll.
- structural elucidation of glucose (straight chain)
- preparation methods of Amino acids a) strecker synthesis
b) Gabriel phthalimide synthesis.
- zwitter ion,

SEM - VIAssignment - I

- Batch extraction, continuous extractions
- Thin Layer chromatography (TLC) prep'n of plates,
development of the chromatogram
- column chromatography.
- High performance liquid chromatography (HPLC).

Assignments - 2020-2021

SEM - I :

Assignment - I

1. Common hybridisation - sp , sp^2 , sp^3d , sp^3d^2 , sp^3d^3 hybridisation.
2. MOT - LCAO concept.
3. Inductive effect & its applications
4. Markonikoff's rule & anti Markonikoff's rules.

SEM - III

Assignment - I

1. Lanthanide contraction - cause and consequences.
2. Werner's theory
3. Valence bond theory, applications to octahedral & tetrahedral square planar complexes.
4. Esterification reaction with mechanism.
5. Nitro alkanes reactions (i) Reaction with HNO_2 (Nitrous acid), Nit reaction.

SEM - V

Assignment - I

1. Crystal Field theory, calculation of CFSE values of octahedral complexes.
2. Wade's rules, closo, nido arachno Boranes and Carboranes.

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Topic : First law of Thermodynamics

No. of students attended : 38

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By

B. Anjali BZC-II nd year

Topic: First law of thermodynamics