

Section - A

Cause of ideal behavior

*** Critical pressure, temperature, volume and determination

Ideal V/s Non-ideal gases.

*** Vander Waal's Constants & their significance (Eqⁿ)

*** Lind's process Liquification of gas

*** Collision Number, frequency

Liquification of gas

Inversion temperature

$T_c = \frac{8a}{27Rb}$.

*** Most probable velocity, average velocity & root mean square velocity

*** Claude's Method Liquification of gases

Mean free path Compressibility factor

Section-B

- Law of Rotational indices.
- Law of Symmetry
- Law of Constancy of interfacial angle.
- Elements of Symmetry
- Space Lattice & Unit cell (definition)
- Liquid crystal and their types
- Bragg's eqⁿ
- Optical activity & Specific Rotation
- Coefficient of Viscosity & Ostwald viscometer Method
- Surface tension & surface energy. Laboratory Method (Stalagometer)
- NaCl & KCl diffraction pattern
- Weiss indices & Miller indices

Numerical

- Calculation of specific refraction & mole refraction.
- Calculation of velocity \rightarrow root mean, average, most probable