

Atomic, molecular And Laser PHYSICS (Paper - I)

- 17 Jan - 23 Jan.
 - Unit - I - vector Atom model
 - Spinning Electron • Spatial quantisation
- 24 Jan. - 30 Jan.
 - Penetrating And Non-Penetrating Orbits
 - Quantum Numbers associated with vector Atom model
- 31 Jan. - 06 Feb.
 - Spectral lines in different series of Alkali spectrum
 - Spin - Orbit Interaction
- 07 Feb. - 13 Feb.
 - Doublet term separation
 - Spin-Orbit Interaction for penetrating & non-penetrating Orbits.
- 14 Feb. - 20 Feb.
 - Coupling Schemes
 - LS And JJ Coupling Scheme
- 21 Feb. - 27 Feb.
 - Interaction Energies for LS Coupling Scheme.
 - Interaction Energies for JJ Coupling Scheme.
- 28 Feb. - 06 March.
 - Unit - II - Zeeman Effect (normal)
 - Anomalous Zeeman Effect.
- 07 March - 13 March
 - Zeeman pattern of D_1 and D_2 lines of Na - Atom.
 - Zeeman shift.

14 march - 20 march.

- Paschen Back Effect
- Weak field Stark Effect of Hydrogen Atom.

21 march - 27 march

- Discrete set of Electronic Energies of molecules
- Quantisation of Vibrational Energy

28 march - 03 April

- Quantisation of Rotational Energy
- Raman Effect.

04 April - 10 April

- Stokes and Antistokes lines.
- Numericals

11 April - 17 April

- Unit - III - Features of Laser.
- Directionality, high intensity, High degree of Coherence.

18 April - 24 April

- Spatial And Temporal Coherence
- Einstein's Coefficients And possibility of Amplification
- Momentum Transfer.

25 April - 01 May

- Kinetics of Optical Absorption
- Threshold Condition for Laser emission
- Laser pumping.

02 May - Onwards

- He-Ne Laser And Ruby Laser
- Applications of Laser.