MSE-1

- o **Fundamental postulates in quantum mechanics**
- o Dirac notation
- o Pauli matrices
- o Differences between quantum and classical mechanics
- o Linear vector space
- o Orthogonality, Normalization, Hermition
- o Qubit and it's properties
- o **Bloch sphere**
- o Formalism-Schrodinger, Heisenberg
- o Hadamard gate

MSE-2

- •Band theory of semiconductors 3 marks.
- • **Hall effect**
- • Conductivity of intrinsic and extrinsic semiconductor
- • Definitions any drift velocity, mobility, mean free path, mean collision path
- •Direct and Indirect band gap
- •Superconductors, Explain properties
- • Types of Superconductors

Unit-3

- ➢ Nd Yag laser
- ➢ Numerical aperture

Numericals from all UNITs