1.2 10002 APPLIED PHYSICS

UNIT -1 INTERFERENCE OF LIGHT

- Principle of Superposition
- Theory of Interference
- Type of Interferences
- Interference by division of wave front
- Young's double Slit Experiment
- Fresnel's Bi prism

UNIT-2 A) DIFFRACTION OF LIGHT

- Introduction
- Classification of Diffraction
- Fresnel Diffraction
- Zone Plate
- Difference between Zone Plate and Convex Lens.

B) Fraunhoffer Diffraction at a Single Slit.
C) Fraunhoffer Diffraction at a Double Slit.
D) Dispersive Power of Grating
E) Resolving Power

UNIT -3 POLARIZATON OF LIGHT

- Introduction
- Polarized and Un polarized Lights.
- Polarization by Reflection
- Brewster's Law
- Law of Malus
- Nikol Prism
- Optical Activity

UNIT-4 OSCILLATORY MOTION

- Introduction
- Simple Harmonic Motion
- Differential Equation of S.H.M.
- Energy of Simple Harmonic Oscillatory
- Damped Harmonic Motion
- Differential Equation of D.H.M.
- Attenuation Coefficient

- Forced Harmonic Motion
- Differential Equation F.H.M.
- Resonance
- Coupled Motion
- Differential Equation of C.M.
- Normal Modes

UNIT-5 DIELECTRICS

- Introduction
- Classification of Dielectrics
- Dielectric Polarization
- Gauss's Law in Dielectrics
- Internal fields

UNIT-6 THEORY OF RELATIVITY

- Introduction
- Internal Frame of Reference
- Non-Inertial Frame of Reference
- Galilean Transformation Equations
- Postulates of Special Theory of Relativity
- Variation of Mass with Velocity
- Mass Energy Equivalence
- Energy-Momentum Relation

UNIT-7 BONDING IN SOLIDS

- Introduction
- Inter Atomic Forces
- Bonding in Solids
- Ionic Bonds
- Covalent Bonds
- Metallic Bonds
- Hydrogen Bonds

UNIT-8 SCHRODINGER WAVE EQUATION & ITS APPLICATIONS

- Wave Function and its Physical Significance
- Schrodinger Wave Equation
- Operators.

Reference Book:

1. Handbook of Engineering Physics – Anita Singh, Duhan Kumar