UNIT I
CLASSICAL MECHANICS

UNIT II
RELATIVITY AND SPACE PHYSICS

UNIT III
MATHEMATICAL PHYSICS
UNIT IV
ELECTRO MAGNETIC THEORY
Gauss law - Poisson and Laplace equations - Solution of Laplace equation in a Rectangular Box - Molecular polarizability and electrical susceptibility - Maxwell's equations - Poynting's theorem - Vector and scalar potentials - Gauge invariance - Coulomb and Lorentz guages - Lorentz force - Equation of continuity - The wave equation - Plane waves in a non-conducting medium - Reflection and refraction at a plane interference between dielectrics - Fresnel’s law.

UNIT V
ELECTRONICS

UNIT VI
THERMODYNAMICS AND STATISTICAL
UNIT VII
OPTICS, SPECTROSCOPY AND MOLECULAR PHYSICS

UNIT VIII
QUANTUM MECHANICS
Postulates - Schrodinger equation Time dependent and time independent - wave function - Hydrogen atom - first order and second order perturbations - Stark effect - WKB quantization rule - Time dependent perturbation theory - Fermi’s golden rule - Adiabatic and sudden Approximation - Scattering Cross section - Born Approximation - Relativistic equation – Free particle - Electromagnetic potentials - Energy level in a coulomb field - Dirac's Relativistic equation - Diracs' equation for a central field - spin angular momentum - Negative energy states.

UNIT IX
SOLID STATE PHYSICS AND NUCLEAR PHYSICS
UNIT X
DIGITAL ELECTRONICS AND MICROPROCESSOR