PHY-101	**Physics-I**	**3.0**	**3.0**
	Physical Optics: Interference of light: Theory of interference, Young's double slit experiment, Fresnel Bi-prism, Interference in thin films: Interference by multiple reflections: constant and varying thickness, Newton's rings and its application. Diffraction of light: Fresnel and Fraunhofer diffraction, Fraunhofer diffraction by single slit and double slit, plane diffraction grating. Polarization: Production and analysis of polarized light, Brewster's law, Malus' law, Polarization by double refraction Nicol prism, Polaroid, Optical activity, polarimeters. Properties of matter: Different states of matter, Review of Elastic properties of solids, bending of beam, Cantilever. Hydrodynamics: Equation of continuity, Laminar and turbulent flow, Reynolds number and its significance, Bernoulli's Theorem. Viscosity: Poiseulle's equation, Motion in a viscous medium, Stokes law: statement and Determination of coefficient of viscosity. Surface tension: Surface tension, force of cohesion, force of surface tension, molecular theory of surface tension, surface energy, Calculation of excess pressure inside a curved membrane, Capillarity, Quinck's method. Waves and Oscillations: Differential equation of a simple harmonic motion, total energy and average energy, combination of simple harmonic oscillation, Lissajous figures, spring-mass system, time period of torsional pendulum; damped oscillation, determination of damping co-efficient, forced oscillation, Resonance, two-body oscillations, reduced mass. Differential equation of a progressive wave, power and intensity of wave motion, stationary wave, group velocity and phase velocity. Architectural acoustics, reverberation and Sabine's formula		