203102	Title: Waves & Oscillations	30 L
Unit 1	**Sound**	**15 L**
	Waves and Sound: The nature of waves, Periodic waves, The speed of wave on the strings, The mathematical description of a wave, The nature of sound, The speed of sound, Sound intensity, Decibels, The Doppler effect, Application of sound in medicine, The sensitivity of human ear, Concepts and calculations. Ref: PHY: 16.1 to 16.12. ***The Principal Linear superposition and Interference phenomenon.*** The principle of superposition, Constructive and destructive interference, Diffraction, Beats, Transverse standing waves, Longitudinal waves, Complex sound waves. Ref: PHY: 17.1 to 17.8	
Unit 2	**Electromagnetic, Light and Particle waves**	**15 L**
	Electromagnetic waves: The nature of electromagnetic waves, The electromagnetic spectrum, The speed of light, The energy carried by waves, The Doppler effect, Polarization. Ref: PHY: 24.1 to 24.7 ***Wave nature of light:*** The principle of superposition, Young's double slit experiment, Thin film interference, The Michelson interferometer, Diffraction, Resolving power, The diffraction Grating, Compact discs, DVD and use of interference. Ref: PHY: 27.1 to 27.10 ***Particles and waves:*** The wave particle duality, Black body radiation and Planck's constant, Photons and photo electric effect, The momentum of a photon,The de Broglie's wavelength and wave nature of matter, The Heisenberg's principle. Ref: PHY: 29.1 to 29.7	
References:		
Physics byCutnell and Johnson--- Wiley India Edition (5th Edition). (PHY)		
Additional References:		
1. Fundamentals of physics by Alan Giambattista, betty McCarthy Richardson, Robert C Richardson- Tata McGraw Hill. 2. Physics: (Volumes I and II) H. C. Verma. 3. Physics: (Volumes I and II) by Resnick, Halliday and Krane- Wiley India Edition (5th Edition)		