

Syllabus assigned for Term II (Theory)

Course structure

Time: 2 Hours

Max Marks: 35

		No of Periods	Marks
Unit-V	Electromagnetic Waves	02	17
	Chapter-8: Electromagnetic Waves		
Unit-VI	Optics	18	
	Chapter-9: Ray Optics and Optical Instruments		
	Chapter-10: Wave Optics		
Unit-VII	Dual Nature of Radiation and Matter	07	
	Chapter-11: Dual Nature of Radiation and Matter		
Unit-VIII	Atoms and Nuclei	11	
	Chapter-12: Atoms		
	Chapter-13: Nuclei		
Unit-IX	Electronic Devices	07	7
	Chapter-14: Semiconductor -Electronics: Materials, Devices and Simple Circuits		
Total		45	35

Unit V: Electromagnetic waves

2 Periods

Chapter-8: Electromagnetic Waves

Electromagnetic waves, their characteristics, their Transverse nature (qualitative ideas only).

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Unit VI: Optics

18Periods

Chapter-9: Ray Optics and Optical Instruments

Ray Optics: Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism.

Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Chapter-10: Wave Optics

Wave optics: Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent