

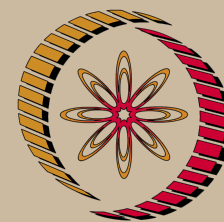
Oscillation and Wave - Web course

COURSE OUTLINE

Oscillations, Waves, Interference, Diffraction, Polarisation and Elementary Quantum Mechanics.

COURSE DETAIL

Sl. No.	Module	Lecture
1	OSCILLATIONS	SIMPLE HARMONIC OSCILLATOR UNDERDAMPED OSCILLATOR CRITICAL AND OVER DAMPING FORCED OSCILLATIONS - I FORCED OSCILLATIONS - II RESONANCE COUPLED OSCILLATOR
2	WAVES	SINUSOIDAL WAVES SUPERPOSITION OF WAVES AND BEATS ELECTROMAGNETIC WAVES - I ELECTROMAGNETIC WAVES - II THE VECTOR NATURE OF LIGHT ELECTROMAGNETIC SPECTRUM TRANSVERSE WAVES LONGITUDINAL WAVES SOLVING THE WAVE EQUATION
3	INTERFERENCE AND DIFFRACTION	YOUNG'S DOUBLE SLIT REALISATION OF TWO BEAM INTERFERENCE MICHELSON INTERFEROMETER COHERENCE SINGLE SLIT DIFFRACTION RAYLEIGH CRITERION AND RESOLUTION DIFFRACTION GRATING X-RAY DIFFRACTION
4	POLARISATION	POLARISATION – I POLARISATION – II
5	DUAL NATURE OF MATTER	WAVE-PARTICLE DUALITY – I WAVE-PARTICLE DUALITY – II INTERPRETING THE ELECTRON WAVES – I INTERPRETING THE ELECTRON WAVES – II
		PROBABILITY



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Physics

Pre-requisites:

- Class XII
PHYSICS AND
MATHEMATICS

Coordinators:

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6	QUANTUM MECHANICS	UNCERTAINTY RELATION BASIC POSTULATES OF QM OPERATORS & THEIR INTERPRETATION OPERATOR ALGEBRA THE SCHRODINGER EQUATION PARTICLE IN A POTENTIAL PARTICLE IN A BOX STEP POTENTIALS TUNNELLING
Total		40

References:

1. The Feynman Lectures on Physics I-III, R.P.Feynman, R. B. Leighton, M. Sands (Pearson / Narosa)
2. Optics, E. Hecht (Addison-Wesley)
3. Vibrations and Waves , A P French (CBS)