LESSON PLAN

Semester: 2nd Sem

Subject: Applied Physics-II

Lesson Plan Duration: --16 weeks (from 15 jan,2026 to 30 April, 2026)

Work Load (Lecture/Practical) per week (in hours): Lecture – 02, Practical's -02

Week	Theory		Practical	
	Lecture day	Topic (including assignment/test)	Practical day	Topic
1	1	• Wave motion - Introduction	1	Familiarization with apparatus (resistor, rheostat, key, ammeter, volt meter, telescope, microscope etc.)
	2	• Terms - displacement, amplitude, time period,frequency,wavelength,wave velocity,		
	3	• Transverse wave motion		
	4	• longitudinal wave motion		
2	5	• Difference b/w Transverse & longitudinal wave motion		
	6	• relationship among wave velocity, frequency and wave length. • Simple Harmonic Motion (SHM): definition,examples		
	7	• Cantilever • Vibrations & its types	2	To find the time period of simple pendulum
	8	• Acoustics of buildings – reverberation • reverberation time		
3	9	• Echo, noise, coefficient of absorption of sound		

	10	• methods to control reverberation time.		
	11	• Ultrasonics	3	To study variation of time period of a simple pendulum with change in length of pendulum
	12	• Engineering applications of Ultrasonics		
4	13	• Optics – Introduction		
	14	• Reflection of Light • Refraction of Light		
	15	• refractive index • Total internal reflection • Critical angle	4	To find and verify the time period of cantilever
	16	• Applications of TIR • conditions for TIR		
5	17	• Super Position of Waves, Definition of Interference, Diffraction and Polarization of Waves • Microscope, telescope& their uses		
	18	• Introduction of Lens, lens Formula (no derivation), Power of Lens • Based numerical		
	19	• Assignment – Ultrasonics	5	To find Ohm's laws by plotting a graph between voltage and current
	20	• Test		
6	21	• Electrostatics and Electricity – Introduction		
	22	• Coulombs law • Unit charge		
7	23	• Electric field • Electric lines of force,its properties	6	To study colour coding scheme of resistance
	24	• Electric Intensity • Electric Flux		
8	25	• Electric potential • Electric field intensity due to a point charge.		
	26	• Gauss law(Statement and derivation)		
	27	• Capacitor • Capacitance	7	To verify laws of resistance in series combination
9	28	• Series combination of capacitors		
	29	• parallel combination of capacitors • Ohm's Laws		
10	30	• Numerical based on Grouping of capacitors		

	31	• Classification of Materials and their Properties	8	To verify laws of resistance in parallel combination
11	32	• Types of materials • Conductor, Semi-Conductor, Insulator and Dielectric with examples		
	33	• intrinsic and extrinsic semiconductors (Introduction only)	9	To find resistance of galvanometer by half deflection method
12	34	• Introduction to Magnetism • Types of magnetic materials • Dia materials with example		
	35	• para and ferromagnetic materials with examples	10	To verify laws of reflection of light using mirror
	36	• Magnetic field • magnetic Flux		
13	37	• Magnetic lines of force	11	To verify laws of refraction using glass slab
	38	• Electromagnetic induction (Definition)		
	39	Test	12	To find the focal length of a concave lens using a convex lens
14	40	Modern Physics - Introduction		
	41	• Lasers: full form, Principle, absorption, spontaneous emission, stimulated emission, population inversion • Engineering and applications of laser	13	revision
15	42	• Fibre optics – Definition, principle, parts, light propagation, fiber types (mono- mode, multi-mode) • Applications in medical, tele-communication and sensors		
	43	• Introduction to nanotechnology- Definition of nano materials with examples, properties at nano scale	14	revision
	44	• Applications of nanotechnology(brief)		
16		• Revision and test	15	revision