

PERFORMA OF LESSON PLAN

NAME OF THE FACULTY : DUSHYANT PUNDIR

DISCIPLINE : **All Branches**

SEMESTER : **SECOND**

SUBJECT : **APPLIED PHYSICS**

LESSON PLAN DURATION : **15 WEEKS**

WORK LOAD PER WEEK : Lectures = 4+4 Practicals = 4+4+4

WEEK	THEORY		PRACTICAL	
	LECTURE DAY	TOPIC (WITH ASSIGNMENT & TESTS)	PRACTICAL DAY	TOPIC
1	1	Wave motion	1	To find the time period of a simple pendulum
	2	Transverse and longitudinal wave motion with examples		
	3	Displacement, amplitude, time period, frequency		
	4	Wavelength, wave velocity		
2	5	Relationship among wave velocity	2	To determine and verify the time period of Cantilever
	6	Frequency and wave length		
	7	Simple Harmonic Motion (SHM): definition, examples		
	8	Cantilever (definition ,formula of time period		
3	9	Free, forced and resonant vibrations with examples	3	Checking of files & viva-voce
	10	Acoustics of buildings – reverberation, reverberation time		
	11	Echo, noise, coefficient of absorption of sound, methods to control reverberation time		
	12	Ultrasonics – Introduction		
4	13	Ultrasonics and their engineering applications	4	To verify ohm's laws by plotting a graph between voltage and current.
	14	Problem solving and Assignment		
	15	Reflection and refraction with laws, refractive index, lens formula & power of lens		
	16	Total internal reflection and its applications,		
5	17	Critical angle and conditions for total internal reflection	5	To verify laws of resistances in series combination.
	18	Microscope, Telescope and Uses		
	19	Revision		
	20	Sessional Test		
6	21	Coulombs law, unit charge	6	To verify laws of resistance in parallel combination.
	22	Electric field, Electric lines of force & Electric flux,		
	23	Electric Intensity and Electric potential, Electric field intensity		
	24	Gauss law, Capacitor and Capacitance		
7	25	Series and parallel combination of capacitors	7	Checking of files & viva-voce
	26	Dielectric, its effect on capacitance, dielectric break down		
	27	Problem solving and Assignment		
	28	Revision		
8	29	Electric Current and its Unit	8	To find resistance of galvanometer by half deflection method
	30	Direct and alternating current		
	31	Resistance and Specific Resistance		
	32	Conductance		

9	33	Series and Parallel combination of Resistances	9	Conversion of Galvanometer into an Ammeter of given range.
	34	Ohm's law		
	35	Superconductivity and Heating effect of current		
	36	Electric power, Electric energy and its units		
10	37	Kirchhoff's laws	10	Checking of files & viva-voce
	38	Applications as Wheatstonebridge		
	39	Revision, Problem solving		
	40	Sessional Test		
11	41	Introduction to magnetism, Types of magnetic materials	11	To identify different components like resistance, capacitor, diode.
	42	Dia, para and ferromagnetic materials with examples.		
	43	Magnetic field, magnetic intensity		
	44	Magnetic lines of force, magnetic flux and their units		
12	45	Electromagnetic induction Faraday's Laws	12	To study colour coding scheme of resistance.
	46	Self and Mutual induction		
	47	Energy bands, Insulator, semi conductor, conductor		
	48	Intrinsic and extrinsic semiconductors		
13	49	p-n junction diode and its V-I characteristics	13	Checking of files & viva-voce
	50	Diode as rectifier		
	51	half wave and full wave rectifier semiconductor transistor; pnp and npn		
	52	Application of semiconductor diodes (Zener, LED)		
14	53	Problem solving and Assignment	14	Revision of practicals
	54	Lasers: full form, characteristics		
	55	Engineering and medical applications of lasers		
	56	Introduction to optical fibers & its Applications		
15	57	Introduction to nanotechnology & its Application	15	Revision of practicals
	58	Revision and discussion of previous year Q. Papers		
	59	Revision and discussion of previous year Q. Papers		
	60	Sessional Test		