Lesson Plan

Name of the Associate Professor- Anju Nandal
Subject- Physics

Lesson Plan- 17 Weeks (January-April 2018)

Week	Date	B.Sc.-IV sem (Sec-c) Wave and optics-II	B.Sc.-II sem (Sec-B) Properties of Matter and kinetic Theory of gases
1.	1-Jan-18	Polarization: Polarisation by reflection, refraction	
	2-Jan-18	Scattering, Malus Law	
	3-Jan-18	Phenomenon of double refraction	
	4-Jan-18		Discussion on basic terms used in unit 1
	5-Jan-18	Holiday	
	6-Jan-18		Introduction to Moment of Inertia
	7-Jan-18	Sunday	
2.	8-Jan-18	Huygen's wave theory of double refraction (Normal and oblique incidence)	
	9-Jan-18	Analysis of polarized Light. Nicol prism	
	10-Jan-18	Quarter wave plate and half wave plate	
	11-Jan-18		Rotation of rigid body, Moment of inertial, Torque
	12-Jan-18		Angular momentum, Kinetic Energy of rotation
	13-Jan-18		Discussion of conceptual based on above topics
	14-Jan-18	Sunday	
3.	15-Jan-18	Production and detection of (i) Plane polarized light (ii) Circularly polarized light	
	16-Jan-18	Production and detection of (iii) Elliptically polarized light.	
	17-Jan-18	Fresnel's theory of optical rotation Specific rotation, Polarimeters (half shade and Biquartz)	
	18-Jan-18		Theorem of perpendicular and parallel axes (with proof)
	19-Jan-18		Moment of inertia of solid sphere, hollow sphere
	20-Jan-18		Moment of Inertia of spherical shell, solid cylinder
	21-Jan-18	Sunday	
4.	22-Jan-18	Vasant Panchami	
	23-Jan-18	Assignment on Analysis of polarized Light. Nicol prism	
	24-Jan-18	Sir Chotu Ram Jayanti	
	25-Jan-18		Moment of Inertia of hollow cylinder

			and solid bar of rectangular cross–section
	26-Jan-18	Republic Day	
	27-Jan-18		Fly wheel
	28-Jan-18	Sunday	
5.	29-Jan-18	Evaluation of Fourier coefficient	
	30-Jan-18	Importance and limitations of Fourier theorem, even and odd functions	
	31-Jan-18	Guru Ravi Das Birthday	
	1-Feb-18		Acceleration of a body rolling down on an inclined plane
	2-Feb-18		Moment of inertia of an irregular body
	3-Feb-18		Problem discussion of unit 1
	4-Feb-18	Sunday	
6.	5-Feb-18	Fourier series of functions f(x) between (i) 0 to 2pi	
	6-Feb-18	Fourier series of functions f(x) between (ii) –pi to pi and (iii) 0 to pi	
	7-Feb-18	Fourier series of functions f(x) between (iv) –L to L	
	8-Feb-18		**Unit I- TEST**
	9-Feb-18		Introduction and Elasticity, Stress and Strain
	10-Feb-18	Maharishi Dayanand Saraswati Jayanti	
	11-Feb-18	Sunday	
7.	12-Feb-18	Complex form of Fourier series	
	13-Feb-18	Maha Shivratri	
	14-Feb-18	Application of Fourier theorem for analysis of complex waves: Solution of triangular	
	15-Feb-18		Hook's law
	16-Feb-18		Elastic constant and their relations
	17-Feb-18		Poisson's ratio, Torsion of cylinder and twisting couple
	18-Feb-18	Sunday	
8.	19-Feb-18	Application of Fourier theorem for analysis of complex waves: Solution of triangular	
	20-Feb-18	Half and full wave rectifier outputs	
	21-Feb-18	Parseval identity for Fourier Series, Fourier integrals	
	22-Feb-18		Determination of coefficient of modulus of rigidity for the material of wire by Maxwell's needle
	23-Feb-18		Bending of beam (Bending moment and its magnitude)
	24-Feb-18		Cantilever and Centrally loaded beam
	25-Feb-18	Sunday	

9.	26-Feb-18	Fourier transforms and its properties	
	27-Feb-18	Application of Fourier transform (i) for evaluation of integrals	
	28-Feb-18	Holiday	
	1-Mar-18	Holiday	
	2-Mar-18	Holiday(HOLI)	
	3-Mar-18	Holiday	
	4-Mar-18	Sunday	
10.	5-Mar-18	Application of Fourier transform (ii) for solution of ordinary differential equations	
	6-Mar-18	Application of Fourier transform (iii) to the following functions: f(x)= e- x2/2 i. f(x)=|X|<a ii f(x) =|X |>a	
	7-Mar-18	Matrix methods in paraxial optics	
	8-Mar-18		Discussion on numericals and conceptual based on above topics
	9-Mar-18		Determination of Young's modulus for the material of the beam
	10-Mar-18		Elastic constants for the material of the wire by Searle's method
	11-Mar-18	Sunday	
11.	12-Mar-18	Effects of translation and refraction	
	13-Mar-18	Derivation of thin lens and thick lens formulae	
	14-Mar-18	Unit plane, nodal planes, system of thin lenses	
	15-Mar-18		Unit 2- TEST
	16-Mar-18		Introduction and Assumption of Kinetic theory of gases,
	17-Mar-18		Pressure of an ideal gas (with derivation)
	18-Mar-18	Sunday	
12.	19-Mar-18	UNIT TEST-2	
	20-Mar-18	Chromatic aberration	
	21-Mar-18	spherical, coma, Astigmatism and distortion aberrations and their remedies	
	22-Mar-18		Pressure of an ideal gas (with derivation)
	23-Mar-18	Shaheedi Diwas	
	24-Mar-18		Ideal Gas equation, Degree of freedom
	25-Mar-18	Sunday	
13.	26-Mar-18	optical fiber	
	27-Mar-18	Total internal reflection and types of modes	
	28-Mar-18	Critical angle of propagation and application	
	29-Mar-18	Mahavir Jayanti	
	30-Mar-18		Law of equipartition of energy and

			its application for specific heat of gases
	31-Mar-18		Real gases, Vander wall's equation, Brownian motion(Qualitative)
	1-Apr-18	Sunday	
14.	2-Apr-18	Discussion on unit-3 problems	
	3-Apr-18	**Unit test-3**	
	4-Apr-18	Mode of Propagation, Acceptance angle	
	5-Apr-18		Kinetic interpretation of Temperature
	6-Apr-18		Introduction of basics to be used in unit 4
	7-Apr-18		Maxwell's distribution of speed and velocities (derivation required)
	8-Apr-18	Sunday	
15.	9-Apr-18	Fractional refractive index change, Numerical aperture	
	10-Apr-18	Types of optics fiber, Normalized frequency	
	11-Apr-18	Pulse dispersion, Attenuation, Applications	
	12-Apr-18		Maxwell's distribution of speed and velocities (derivation required)
	13-Apr-18		Experimental verification of Maxwell's law of speed distribution
	14-Apr-18	Dr. Ambedkar Jayanti / Vaisakhi	
	15-Apr-18	Sunday	
16.	16-Apr-18	Fiber optic Communication, Advantages	
	17-Apr-18	**Unit test-4**	
	18-Apr-18	Parashurama Jayanti	
	19-Apr-18		Most probable speed, average and r.m.s. speed, Mean free path
	20-Apr-18		Transport of energy and momentum, Diffusion of gases
	21-Apr-18		Doubt classes
	22-Apr-18	Sunday	
17.	23-Apr-18	Revision of unit-1	
	24-Apr-18	Revision of unit-2	
	25-Apr-18	Revision of unit-2	
	26-Apr-18		**Unit-4 test**
	27-Apr-18		Discussion on previous year questions
	28-Apr-18		Discussion on previous year questions
	29-Apr-18	Sunday	