

➤ **Physics Old Syllabus:-**

LESSION PLAN

Course No.	:	BS-PHY-112		Title	:	PHYSICS
Credits	:	2+1 = 3		Semester	:	I

THEORY

Lect. No.	Topics	Points Covered	Reference Book No.	Page No.
1,2	Surface Tension :	Introduction ,Force of Adhesion ,Cohesion, Least Surface Area –sphere ,excess pressure inside liquid drop	1	14.1 14.4, 14.7
3,4,5		Angle of contact ,capillary rise method , Jaeger’s method	1	14.8,14.15,14 .17,
6,7	Viscosity	Rate of flow of liquid ,stream line & Turbulent motion, Coefficient of viscosity	1	12.1to 12.7
8,9,10		Critical velocity, Poiseuilles equation for flow of liquid through the tube ,Stock’s method Bernoulli’s theorem	1	12.9,12.11, 12.16 to 12.17
11,12	Semiconductor	Bands of solid ,distinguish between metals ,insulators and semiconductors, intrinsic and extrinsic Semiconductor Doner & Accepti level	2	7.1 to 7.7
14-15	Laser	Spontaneous and stimulated emission, Einsteins A & B Coefficient, Polopulation inversion	2	14.1 to 14.7
16-17		Optical pumping, He-Ne Laser Ruby Laser	2	541 to 547
18-19		Semiconductor Laser, Application of Laser	2	--
20	Illumination	Law of Illumination, luminous flux	4	14.9 to 14.16
21		Illumination intensity	4	
22		Candle power, brightness	4	
23-24	Optical fiber	Physical structure, Basic Theory, Mode type	3	5.1 to 5.10
25		Input Output characteristics of optical fiber	3	
26		Advantages & Dis advantages, applications	3	
27-28	Magnetism	Introduction to dia, para, ferro magnetism, classification	3	8.4 to 8.7
29-30	Quantum Mechanics	Wave particle duality, De-Broglie concepts, uncertainty principle	4	
31.32, 33		Wave function, Time in dependent and dependent, schrodinger wave function.	4	4.1 to 4.3, 4.6 ,4.9,4.10,4.13

Name of Book	Edition
1.Elements of Properties of matter by D.S. Mathur	S. Chand And Co. New Delhi
2. Engineering Physics by R. K. Gaaur & S.L. Gupta	Dhanpat Rai Publ. (P) Ltd.
3.Modern Physics for engineer by S. P. Taneja	R. Chand And Co. New Delhi
4.Principle of physics by N. Subramanyam & Brijlal	R. Chand And Co. New Delhi

Practical

1. To determine surface tension by capillary rise method
2. To determine surface tension by Jaegers method
3. To determine viscosity by Poiseuilles method
4. To determine viscosity by Stokes method
5. To determine wavelength of laser
6. To determine divergence of laser beam
7. To find the frequency of A.C. supply using an electrical vibrator
8. To study the induced emf as a function velocity of the magnet
9. To study the variation of magnetic field with distance along the axis of a current Carrying circular coil and to determine the radius of the coil

10. To find Numerical aperture of optical fiber
11. To study phase relation of L.R. Circuits
12. To study LCR circuits
13. To study the variations of thermo emf of a copper constantan thermocouple with temperature
14. To determine the wavelength of light by prism

➤ Electronics Old Syllabus :-

Lesson Plan For B. Tech. (Agril. Engg)

Course Title: Applied Electronics and Instrumentation Semester: II

Course No. EOES-122

Credits: 3 (2+1)

Lecture No.	Topics to be covered	Book No.	Chapter No.	Article No.	Problem No.
1 - 2	p – n junction, V- I characteristics of p – n junction.	1	8	8.14- 8.19	
3 – 6	Diode as a circuit element, rectifier, clipper, clamper, voltage multiplier, capacitive filter, diode circuits for OR and	1	9, 21	9.1 – 9.18, 21.17 to 21.23	9.2 , 9.3, 9.9 to 9.14, 9.17,

	AND (both positive and negative logic).				9.18 to 9.22
7 - 12	Transistor as an amplifier CB, CE, CC, operating point, classification (A,B & C) of amplifier, various biasing methods (fixed, self, potential divider), h- parameter model of a transistor, CE amplifier, phase shift oscillator.	1	11, 12, 13, 14, 15, 17, 27	11.1 to 11.15, 12.1 to 12.12, 13.1 to 13.4, 13.13, 14.1 to 14.4, 15.4, 15.5 17.12, 17.13, 27.5,	14.1 to 14.8
13 – 20	Ideal op- amp characteristics, linear and non – linear applications (adder, subtractor, integrator, active rectifier, comparator, differentiator, differential instrumentation amplifier and oscillator). op- amp voltage regulators.	1 5	29 9	29.15- 29.17, 29.23, 29.27, 29.34 to 29.39,	
21 – 23	Zener diode voltage regulator, transistor series regulator, current limiting,	1	20	20.21 to 20.6	20.1 to 20.5
24 – 26	Basic theorem of Boolean algebra, combinational logic circuits (basic gates).	1 4	28 5.	28.17-28.18, 28.7 to 28.14 5.1 – 5.2	28.4, 28.5
27 – 30	Binary ladder D/A converter, successive approximation A/D converter.	4	10	10.1 – 10.2	
31	Generalized instrumentation	2	1	1.1 – 1.5	
32 - 38	Measurement of displacement, temperature, velocity, force and pressure using potentiometer, resistance thermometer, thermocouples, bourdon tube, LVDT, strain gauge and tacho – generator.	2	4, 5, 8	4.2, 4.3,4.5, 5.2, to 5.5, 5.7, 5.8, 8.7	

Reference/ Text Books:

1. Principles of electronics – By V. K. Mehta.
2. Industrial instrumentation and control – By S. K. Singh.
3. Digital principles and application – By Malvino & Leach.
4. Modern digital electronics – By R. P. Jain.
5. Op- Amps and linear integrated circuits – By Ramakant A. Gaykwad.