Semester 2
MajorCourse-122P
(Compulsory Course – 4 Credits)

Semester: 2	Course No.: 122 (P)	Course Code: PHM 122(P) Course Title: : Physics lab
Credits: 4		Course Category: core paper

Course Outcomes: On successful completion of the course the learner will be able to

CO#	COGNITIVE ABILITIES	COURSE OUTCOMES
CO111 T-1	REMEMBERING	Get acquainted and learn the use of different laboratory instruments
CO111 T-2	UNDERSTANDING	A student will be imparted knowledge to understand principles involve in experiments of general physics , optics and electronics . He will study various basic electronic circuits.
CO111 T-3	APPLYING	To measure different physical quantities related to general physics , optics and electronics.
CO111 T-4	ANALYSING	
CO101-5	EVALUATING	

Unit No.	Unit Contents	Sessions Allotted
	GROUP: A	**30**
	1. Stefan's law	
	To verify the Stefan Boltzmann's fourth power law by using dc power source.	
	2. Diagonalization of matrix.	
	3. Newton's rings	
	To find the wave length of light of given monochromatic source	
	To find the radius of curvature of given lens.	
	4. Deflection Magnetometer	
	To determine the magnetic moment (M) of given bar magnet using deflection	
	magnetometer in Gauss A and B position.	
	5. Spectrometer	
	Calibration of spectrometer and find the wavelength of unknown line of a mercury spectrum	
	6. To find the moment of inertia of a rolling body about an axis passing through the centre of the body on an inclined plane.	
	7. Least Square Method	
	8. Study of mass-spring system and find the force constant k	
	9. Torsional Pendulum	
	To determine the rigidity modulus of the material of the given wire by dynamical method using a Torsional Pendulum.	
	10. Study of probability distribution for two option system (coins)	
	11. Vibration magnetometer	
	Compare the magnetic moments of two bar magnets.	

2	GROUP: B	30
	1. Activation energy of a diode.	
	2. Decay Constant	
	3. Projection Method	
	To find the value of low resistance by the method of projection of potential.	
	4. Absorption coefficient of liquid using photocell.	
	5. LDR Characteristics	
	Obtain IV characteristics of given LDR and calculate its resistance (for at least three different light levels).	
	6. To prove voltage doubling, to draw load characteristic and to find voltage regulation of a Half wave voltage doubler.	
	7. Bridge Rectifier	
	Obtain load characteristic and regulation for Bridge rectifier without using filter circuit and by using capacitor filter circuit. Obtain ripple factor without filter circuit.	
	8. To prove voltage doubling, to draw load characteristic and to find voltage regulation of a full wave voltage doubler.	
	9. I-V Diode characteristics of a PN-junction diode and its load line analysis.	
	10. Parallel Resonance	
	To determine the frequency of a.c. emf by series resonance circuit by varying capacitor.	
	11. Universal Logic Gates NAND, NOR (Using discrete components)	
	Verification of truth tables and giving understanding of voltage level for '0'and	
	'1'level.	

Reference books.

1. B. Sc. Practical Physics by C. L. Arora , 20th Edition , 2020 S. Chand and

   Companny

2. Practical Physics by G. L. Squires. 4th edition , Cambridge , 2001.

3. Practical Physics with viva – voce Dr.S.L. Gupta and Dr.V.Kumar , 27th

edition , 20210 Pragati Prakashan .