

Semester 1
Multidisciplinary (MDC) Course-114P
(Elective Course – 2 Credits)

Semester: 1	Course No.: 114 (P)	Course Code: PHMDC 114(P) Course Title : Physics lab
Credits: 2		Course Category: Multidisciplinary

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	To measure different physical quantities related to general physics , optics and electronics and understanding of some basic electronic circuits .
CO111 T-3	APPLYING	
CO111 T-4	ANALYSING	
CO101.5	EVALUATING	

Unit No.	Unit Contents	Sessions Allotted
1	<p style="text-align: center;">GROUP A</p> <ol style="list-style-type: none"> Study of travelling microscope To find distance between two given points, to find diameter of a ring, to find inner and outer diameter of a rubber tube. Graphical method to draw the Lissajous figure. Simple pendulum. To find the relaxation time and quality factor. 'g' by Bar pendulum To obtain the value of 'g' by bar pendulum. Liquid lens Find the refractive index of the given liquid Analysis of error 	30

2	<p>GROUP: B</p> <p>1. Value of capacitance</p> <p>For given two capacitors determine the value of capacitance for each of them</p> <p>(i) by connecting them in series and (ii) by connecting them parallel.</p> <p>2. Value of inductance</p> <p>For given two inductors determine the value of inductance for each of them</p> <p>(i) by connecting them in series and (ii) by connecting them parallel.</p> <p>3. Study of Transformer</p> <p>To determine (i) turn ratio (ii) percentage efficiency (iii) energy loss due to copper, for a given transformer.</p> <p>4. Logic Gates (AND, OR, NOT) (Using discrete components)</p> <p>Verification of truth tables and giving understanding of voltage level for '0' and '1' level.</p> <p>5. Half-Wave Rectifier</p> <p>Obtain load characteristic and % regulation of Half-wave rectifier without filter and with capacitor filter. Determine ripple factor also.</p> <p>6. Series Resonance</p> <p>To determine the frequency of a.c. emf by series resonance circuit varying capacitor.</p>	30
---	--	----

Reference books:

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