Semester 1
Minor Course-113P
2 Credits

Semester: 1	**Course No.: 113 (P)**	**Course Code:** PHE 113(P) **Course Title: :** Physics lab
Credits: 2		**Course Category: Minor 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	Hands on training to measure passive components required for any electronic circuits and to impart knowledge to study fundamental principles in various electronic circuits.
CO111 T-3	APPLYING	To measure different physical quantities related to general physics , optics and passive components of electronic circuits
CO111 T-4	ANALYSING	
CO101.5	EVALUATING	

Unit No.	Unit Contents	Sessions Allotted
1	**GROUP A** 1. To find the prism angle and refractive index of a prism using spectrometer. 2. Melde's Experiment. (i) To prove P/L constant. (ii) To prove T/L^2 constant 3. Resonator To test the accuracy of relation $n^2 (V + Kv)$ = constant and to determine the frequency of unknown fork. 4. Flywheel To determine the moment of inertia. 5. Radioactive decay Simulation of Nuclear Radioactive decay using Calculator. 6. 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.	**30**

2	**GROUP: B** 1. Measurement of resistance, capacitor and inductance using LCR meter. Resistance and capacitance value using color code, Diode testing using multimeter, Transistor and their configurations, identification of type of transistors and leads of Transistors. Study of diode using multimeter , Resistance value using colour code Testing of continuity of fuse 2. Measurement of Boltzmann's constant using Diode 3. Thevenin Theorem 4. Norton theorem 5. Maximum power transfer theorem 6. Value of capacitance For given two capacitors determine the value of capacitance for each of them (i) by connecting them in series and (ii) by connecting them parallel.	**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,2010, Pragati Prakashan.