Semester	AUG 2023
Open to semester	1
Course code	**PH1123**
Course title	**Physics Lab-I**
Credits	3 /
Course Coordinator & participating faculty (if any)	Surabhi, Bhas Bapat*, Surjeet Singh, Vijayakumar
Nature of Course	Lab
Pre-requisites	NONE
Objectives (goals, type of students for whom useful, outcome etc)	The course aims to equip students with basic skills in experiments in Mechanics and Optics. One objective is to learn how to verify some theoretical concepts, equations and laws concerning the two topics. The second objective is to understand sources of errors in experiments, and their effect on the quantitative inferences derived from the experiment. It will be useful for all undergraduates, including those who do not intend to major in Physics.
Course contents (details of topics /sections with no. of lectures for each)	At least 8 experiments out a set of 10 experiments are to be done. The experiments are based on pendula of different types (Kater's, Torsion, damped), mechanical properties of media (Elasticity, Viscosity, Friction), laws of refraction and intensity of light and speed of sound.
Evaluation /assessment	End-Sem Examination-20% Mid-Sem Examination-NIL% Others-40% for performance of the experiments and reporting the observations and inferences (lab notebook) 10% for assessments by TAs 30 % for vivas with the instructor.%
Suggested readings (with full list of authors, publisher, year, edn etc.)	1. Art of Experimental Physics by Daryl Preston (Wiley 1991) 2. A practical guide to data analysis for physical science students by Louis Lyons (Cambridge Univ Press, 1991) 3. An introduction to error analysis - the study of uncertainties in physical measurements by John R. Taylor, University Science Books (1997) 4. Elements of Properties of Matter by D S Mathur (S Chand, 2008) 5. Vibrations and Waves by A. P. French (MIT Press)

	6. Optics by Ajoy Ghatak (McGraw Hill)