

COURSE CODE	COURSE NAME	L	T	P	CREDIT	YEAR OF INTRODUCTION
101908/PH922S	ENGINEERING PHYSICS LAB	0	0	2	1	2021

1. Preamble

The aim of this course is to make the students gain practical knowledge to correlate with the theoretical studies and to develop practical applications of engineering materials and use the principle in the right way to implement the modern technology.

2. Prerequisite

Higher secondary level Physics

3. Syllabus

LIST OF EXPERIMENTS

(Minimum 8 experiments should be completed)

1. CRO- Measurement of frequency and amplitude of waveforms
2. Measurement of strain using strain gauge and Wheatstone bridge
3. LCR Circuit – Forced and damped harmonic oscillations
4. Melde's string apparatus-Measurement of frequency in the transverse and longitudinal mode
5. Wavelength measurement of a monochromatic source of light using Newton's Ring's method.
6. Determination of diameter of a thin wire or thickness of a thin strip of paper using air wedge method.
7. To measure the wavelength using a millimeter scale as a grating
8. Measurement of wavelength of a source of light using grating.
9. Determination of dispersive power and resolving power of a plane transmission grating
10. Determination of the particle size of lycodium powder
11. Determination of the wavelength of He-Ne laser or any standard laser using diffraction grating
12. Calculate the numerical aperture and study the losses that occur in optical fiber

cable.

13. I-V characteristics of Solar cell.

14. LED Characteristics.

15. Ultrasonic Diffractometer-Wavelength and velocity measurement of Ultrasonic waves in a liquid

16. Deflection magnetometer-Moment of a magnet- Tan A position.

4. Reference Books

1. S. L. Gupta and Dr. V. Kumar, *Practical physics with viva voice*, Pragati Prakashan Publishers, Revised Edition, 2009.
2. M. N. Avadhanulu, A. A. Daniand, P. M. Pokely, *Experiments in Engineering Physics*, S. Chand & Co, 2008.
3. S. K. Gupta, *Engineering physics practicals*, Krishna Prakashan Pvt. Ltd., 2014.
4. P. R. Sasikumar "Practical Physics", PHI Ltd., 2011.

5. Course Outcomes

After the completion of the course the student will be able to

C01: Develop analytical/experimental skills and impart prerequisite hands-on experience for engineering laboratories

C02: Understand the need for precise measurement practices for data recording

C03: Understand the principle, concept, working and applications of relevant technologies and comparison of results with theoretical calculations

C04: Analyze the techniques and skills associated with modern scientific tools such as lasers and fiber optics.

C05: Develop basic communication skills through working in groups in performing the laboratory experiments and by interpreting the result

6. Mapping of Course Outcomes with Program Outcomes

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012
C01	3				2			1	2			1
C02	3				2			1	2			1
C03	3				2			1	2			1
C04	3				2			1	2			1
C05	3				2			1	2			1

7. Assessment Pattern

Learning Objectives	Continuous Internal Evaluation (CIE)
Remember	30
Understand	50
Apply	20
Analyse	
Evaluate	
Create	

8. Mark Distribution

Total	CIE				ESE
	Attendance	Internal Examination	Daily Evaluation and viva	Total	
100	20	30	50	100	0

9. Internal Examination Pattern

There will be multiple choice questions of one and two marks. The total marks will be 30.
