

# MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR

## DEPARTMENT OF PHYSICS

### Course: Classical Physics Lab

Course Type	Course Title	Credits	Lecture	Tutorial	Practical	Studio
IC	Classical Physics Lab	1	0	0	2	0

#### COURSE CONTENTS

To equip students with basic knowledge of standard experimental concepts, techniques and apparatus in undergraduate Physics

#### COURSE CONTENTS

The course will consist of the following experiments:

1. [Basic measurements, error analysis and curve fitting]: To learn about various types of basic measurement tools and devices, error propagation and curve fitting using least squares method.
2. [Photoelectric effect]: To determine the value of Plank's constant by measuring the stopping potential of different color filters.
3. [I-H curve]: To plot I-H curve for an iron rod.
4. [Newton's rings]: To determine the wavelength of sodium light by Newton's ring.
5. [Diffraction grating]: To determine the wavelength of any three lines of mercury light by diffraction grating in 1st order spectrum.
6. [Polarimeter]: To determine the specific rotation of glucose by Polarimeter using three different concentrations.
7. [Torsional Pendulum]: To verify equation of motion of a torsional pendulum, and the limits of its applicability.
8. [Moment of Inertia]: To parallel and perpendicular axis theorems for rotating rigid bodies.
9. [Poisson's Ratio]: To determine the Poisson's ratio ( $\sigma$ ) for rubber.

#### Text Books / Reference Books

1. *Concepts of Modern Physics*, Arthur Beiser, Shobhit Mahajan, S. Rai Choudhary (Mc Graw Hill), 2017
2. *Introduction to Electrodynamics* (4th edition), Griffiths (Pearson), 2015
3. *Essentials of Engineering Physics*, A. S. Vasudeva (S. Chand), 2010
4. *Optics* (4th edition), Ajoy Ghatak (Tata McGraw Hill), 2008