

LESSON PLAN

SUBJECT: APPLIED PHYSICS LAB (PR-2)

BRANCH: MECHANICAL, ELECTRICAL, TEXTILE, CSE

ACADEMIC SESSION: 2026-27

NAME OF THE FACULTY: Dr. ABHILASH PADHY



GOVERNMENT POLYTECHNIC, BHADRAK


17/07/2026
HOD, Humanities & Sciences


17.7.26
Academic Co-ordinator


Principal
Govt. Polytechnic, Bhadrak
Principal
Govt. Polytechnic
Bhadrak

Practical Course Outcomes (PCOs)

Course Outcomes (COs)

CO1:

Use precision measuring instruments such as Vernier callipers, screw gauges, and spherometers to determine the dimensions and physical parameters of various objects with accuracy.

CO2:

Apply the principles of mechanics to verify laws of forces, friction, Hooke's law, and determine the moment of inertia of a flywheel through experimental investigations.

CO3:

Demonstrate and verify the fundamental laws of geometrical optics, including reflection and refraction, and determine optical parameters using appropriate laboratory techniques.

CO4:

Perform electrical circuit experiments to verify Ohm's law, Kirchhoff's laws, and the laws of resistances in series and parallel combinations.

CO5:

Analyze capacitor and galvanometer characteristics by determining capacitance, permittivity of air, galvanometer resistance, and converting a galvanometer into measuring instruments such as ammeters and voltmeters.

CO6:

Investigate the electrical behaviour of semiconductor devices by plotting V-I characteristics of diodes and determining important parameters such as knee voltage.

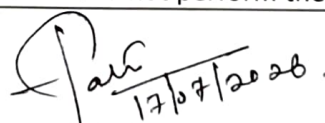
GOVT. POLYTECHNIC BHADRAK		
DEPARTMENT OF HUMANITIES & SCIENCES		
LESSON PLAN (ACADEMIC SESSION 26-27)		
Discipline: Physics		Name of the teaching faculty: Dr. Abhilash Padhy
Subject: Applied Physics Lab	No of Days/Week class allotted: 1	Semester from Date: 17/08/2026 to 17/04/2027 Total no. of periods: 64
Week	Class Day	Practical Topics
1st	1st	Introduction to Physics lab, Identification of lab equipment, Discussion of Lab Rules and Regulations, Marking Scheme, Probable errors while performing experiment.
2nd	2nd	Explanation of theory as well as demonstration of the following experiments 1.To measure length, radius of a given cylinder, a test tube and a beaker using a Vernier caliper and find volume of each object. 2. To determine diameter of a wire, a solid ball and thickness of card board using a screw gauge. 3. To determine radius of curvature of a convex and a concave mirror/surface using a spherometer.
3rd	3rd	Groupwise conduction of the experiments 1.To measure length, radius of a given cylinder, a test tube and a beaker using a Vernier caliper and find volume of each object. 2. To determine diameter of a wire, a solid ball and thickness of card board using a screw gauge. 3. To determine radius of curvature of a convex and a concave mirror/surface using a spherometer.
4th	4th	Conduction of the above experiments in alternating group.
5th	5th	Conduction of the above experiments in alternating group.
6th	6th	Remedial Laboratory Class for the students who could not perform the experiment and conduction of viva for the above experiments.
7th	7th	Explanation of theory as well as demonstration of the following experiments 4.To verify triangle and parallelogram law of forces. Or To find the co-efficient of friction between wood and glass using a horizontal board. 5. To determine force constant of a spring using Hooke's Law. 6. To find Moment of Inertia of a fly wheel.
8th	8th	Group wise conduction of the experiments 4.To verify triangle and parallelogram law of forces. Or To find the co-efficient of friction between wood and glass using a horizontal board. 5. To determine force constant of a spring using Hooke's Law. 6. To find Moment of Inertia of a fly wheel.

Week	Class Day	Practical Topics
9th	9th	Conduction of the above experiments in alternating group.
10th	10th	Conduction of the above experiments in alternating group.
11th	11th	Remedial Laboratory Class for the students who could not perform the experiment and conduction of viva for the above experiments.
12th	12th	Explanation of theory as well as demonstration of the following experiments 7. To verify laws of reflection from a plane mirror/interface. 8. To verify laws of refraction (Snell's law) using a glass slab. 9. To verify Ohm's law plotting graph between current and potential difference.
13th	13th	Group wise conduction of the experiments 7. To verify laws of reflection from a plane mirror/interface. 8. To verify laws of refraction (Snell's law) using a glass slab. 9. To verify Ohm's law plotting graph between current and potential difference.
14th	14th	Conduction of the above experiments in alternating group.
15th	15th	Conduction of the above experiments in alternating group.
16th	16th	Remedial Laboratory Class for the students who could not perform the experiment and conduction of viva for the above experiments.
17th	17th	Explanation of theory as well as demonstration of the following experiments 10. To verify laws of resistances in series and parallel combination. 11. To verify Kirchhoff's law using electric circuits. 12. To study the dependence of capacitance of a parallel plate capacitor on various factors and determines permittivity of air at a place.
18th	18th	Group wise conduction of the experiments 10. To verify laws of resistances in series and parallel combination. 11. To verify Kirchhoff's law using electric circuits. 12. To study the dependence of capacitance of a parallel plate capacitor on various factors and determines permittivity of air at a place.
19th	19th	Conduction of the above experiments in alternating group.
20th	20th	Conduction of the above experiments in alternating group.
21st	21st	Remedial Laboratory Class for the students who could not perform the experiment and conduction of viva for the above experiments.
22nd	22nd	Explanation of theory as well as demonstration of the following experiments 13. To find resistance of a galvanometer by half deflection method. 14. To convert a galvanometer into an ammeter. 15. To convert a galvanometer into a voltmeter. 16. To draw V-I characteristics of a semiconductor diode (Ge,Si) and determine its knee voltage.

Week	Class Day	Practical Topics
23rd	23rd	Group wise conduction of the experiments 13. To find resistance of a galvanometer by half deflection method. 14. To convert a galvanometer into an ammeter. 15. To convert a galvanometer into a voltmeter. 16. To draw V-I characteristics of a semiconductor diode (Ge,Si) and determine its knee voltage.
24th	24th	Conduction of the above experiments in alternating group.
25th	25th	Conduction of the above experiments in alternating group.
26th	26th	Conduction of the above experiments in alternating group.
27th	27th	Remedial Laboratory Class for the students who could not perform the experiment and conduction of viva for the above experiments.
28th	28th	Remedial Laboratory Class for the students who could not perform the experiment.
29th	29th	Remedial Laboratory Class for the students who could not perform the experiment.
30th	30th	Remedial Laboratory Class for the students who could not perform the experiment.
31st	31st	Remedial Laboratory Class for the students who could not perform the experiment.
32nd	32nd	Remedial Laboratory Class for the students who could not perform the experiment.
33rd	33rd	Remedial Laboratory Class for the students who could not perform the experiment.
34th	34th	Remedial Laboratory Class for the students who could not perform the experiment.

 17.07.26

Signature of the Teaching Faculty

 17/07/2026

Signature of HOD, Humanities & Sciences