BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, KATAKA

DEPARTMENT: HUMANITIES AND SCIENCES

LESSON PLAN

SUBJECT: - APPLIED PHYSICS (PRACTICAL)

ACADEMIC SESSION:-2026-27

YEAR: - 1ST

SECTION: I2

BRANCH:- MECHANICAL

PREPARED BY-

Sri Dillip Kumar Nayak &

Dr BISWAMBHAR MOHANTY

Lesson Plan
Subject: Applied Physics Lab(PR-2)

Discipline: MECHATRONICS Sec : I2 Group-1 & 2 Year: 1st	Name of Faculty : Dr Biswambhar Mohanty & Sri Dillip Kumar Nayak
No. of period per week allotted: 02 (2 Hours) (THURSDAY), Total Period:64	Session From Date: 17-08-2026 To date : 17-04-2027

Week	Periods per week	EXPERIMENTS	Activity to be performed
1st	2	**EXPERIMENT- 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.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
2nd	2	**EXPERIMENT- 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.**	Record writing by the students,Record checking and viva voce of Expt. 1
3rd	2	**EXPERIMENT - 2 : To determine diameter of a wire, a solid ball and thickness of card board using a screw gauge.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
4th	2	**EXPERIMENT - 2 : To determine diameter of a wire, a solid ball and thickness of card board using a screw gauge.**	Record writing by the students,Record checking and viva voce of Expt. 2
5th	2	**EXPERIMENT - 3 : To determine radius of curvature of a convex and a concave mirror/surface using a spherometer.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
6th	2	**EXPERIMENT - 3 : To determine radius of curvature of a convex and a concave mirror/surface using a spherometer.**	Record writing by the students,Record checking and viva voce of Expt. 3
7th	2	**EXPERIMENT - 4: To verify triangle and parallelogram law of forces. / To find the co-efficient of friction between wood and glass using a horizontal board.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.

8th	2	**EXPERIMENT - 4: To verify triangle and parallelogram law of forces. / To find the co-efficient of friction between wood and glass using a horizontal board.**	Record writing by the students,Record checking and viva voce of Expt. 4
9th	2	**EXPERIMENT - 5: To determine force constant of a spring using Hooke's Law.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
10th	2	**EXPERIMENT - 5: To determine force constant of a spring using Hooke's Law.**	Record writing by the students,Record checking and viva voce of Expt. 5
11th	2	**EXPERIMENT - 6: To find Moment of Inertia of a fly wheel.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
12th	2	**EXPERIMENT - 6: To find Moment of Inertia of a fly wheel.**	Record writing by the students,Record checking and viva voce of Expt. 6
13th	2	**EXPERIMENT - 7:To verify laws of reflection from a plane mirror/interface.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
14th	2	**EXPERIMENT - 7:To verify laws of reflection from a plane mirror/interface.**	Record writing by the students,Record checking and viva voce of Expt. 7
15th	2	**EXPERIMENT - 8: To verify laws of refraction (Snell's law) using a glass slab.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
16th	2	**EXPERIMENT - 8: To verify laws of refraction (Snell's law) using a glass slab.**	Record writing by the students,Record checking and viva voce of Expt. 8

17th	2	**EXPERIMENT - 9: To verify Ohm's law plotting graph between current and potential difference.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
18th	2	**EXPERIMENT - 9: To verify Ohm's law plotting graph between current and potential difference.**	Record writing by the students,Record checking and viva voce of Expt. 9
19th	2	**EXPERIMENT No.-10 :To verify laws of resistances in series and parallel combination.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
20th	2	**EXPERIMENT No.-10 :To verify laws of resistances in series and parallel combination.**	Record writing by the students,Record checking and viva voce of Expt. 10
21st	2	**EXPERIMENT No.-11 : To verify Kirchhoff's law using electric circuits.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
22nd	2	**EXPERIMENT No.-11 : To verify Kirchhoff's law using electric circuits.**	Record writing by the students,Record checking and viva voce of Expt. 11
23rd	2	**EXPERIMENT No.-12 : To study the dependence of capacitance of a parallel plate capacitor on various factors and determines permittivity of air at a place**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
24th	2	**EXPERIMENT No.-12 : To study the dependence of capacitance of a parallel plate capacitor on various factors and determines permittivity of air at a place**	Record writing by the students,Record checking and viva voce of Expt. 12
25th	2	**EXPERIMENT No.-13 : To find resistance of a galvanometer by half deflection method.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.

26th	2	**EXPERIMENT No.-13 : To find resistance of a galvanometer by half deflection method.**	Record writing by the students,Record checking and viva voce of Expt. 13
27th	2	**EXPERIMENT No.-14: To convert a galvanometer into an ammeter.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
28th	2	**EXPERIMENT No.-14: To convert a galvanometer into an ammeter.**	Record writing by the students,Record checking and viva voce of Expt. 14
29th	2	**EXPERIMENT No.-15: To convert a galvanometer into a voltmeter.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
30th	2	**EXPERIMENT No.-15: To convert a galvanometer into a voltmeter.**	Record writing by the students,Record checking and viva voce of Expt. 15
31st	2	**EXPERIMENT No.-16: To draw V-I characteristics of a semiconductor diode (Ge,Si) and determine its knee voltage.**	Record checking and viva voce along with final record evaluation and allocation of sessional marks.
32nd	2	**EXPERIMENT No.-16: To draw V-I characteristics of a semiconductor diode (Ge,Si) and determine its knee voltage.**	Record checking and viva voce along with final record evaluation and allocation of sessional marks.

Total periods=64

BOOK REFERNCE:

Applied Physics -I & II by Prof. Vinod Kumar Yadav

Dillip Kumar Nayak 31/07/20

Concerned faculty
Dr Biswambhar Mohanty
Sri Dillip Kumar Nayak

31/7/2020

HOD
Dept. of Humanities & Sc.
BOSE, Kataka

BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, KATAKA

DEPARTMENT: HUMANITIES AND SCIENCES

LESSON PLAN

SUBJECT: - APPLIED PHYSICS (PRACTICAL)

ACADEMIC SESSION:-2026-27

YEAR: - 1ST

SECTION: J

BRANCH:- MECHATRONICS

PREPARED BY-

Sri Dillip Kumar Nayak &

Dr BISWAMBHAR MOHANTY

Lesson Plan
Subject: Applied Physics Lab(PR-2)

Discipline: MECHATRONICS Sec : J Group-1 & 2 Year: 1st	**Name of Faculty : Dr Biswambhar Mohanty & Sri Dillip Kumar Nayak**
No. of period per week allotted: 02 (2 Hours) (WEDNESDAY), Total Period:64	**Session From Date: 17-08-2026 To date : 17-04-2027**

Week	Periods per week	EXPERIMENTS	Activity to be performed
1st	2	**EXPERIMENT- 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.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
2nd	2	**EXPERIMENT- 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.**	Record writing by the students,Record checking and viva voce of Expt. 1
3rd	2	**EXPERIMENT - 2 : To determine diameter of a wire, a solid ball and thickness of card board using a screw gauge.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
4th	2	**EXPERIMENT - 2 : To determine diameter of a wire, a solid ball and thickness of card board using a screw gauge.**	Record writing by the students,Record checking and viva voce of Expt. 2
5th	2	**EXPERIMENT - 3 : To determine radius of curvature of a convex and a concave mirror/surface using a spherometer.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
6th	2	**EXPERIMENT - 3 : To determine radius of curvature of a convex and a concave mirror/surface using a spherometer.**	Record writing by the students,Record checking and viva voce of Expt. 3
7th	2	**EXPERIMENT - 4: To verify triangle and parallelogram law of forces. / To find the co-efficient of friction between wood and glass using a horizontal board.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.

8th	2	**EXPERIMENT - 4: To verify triangle and parallelogram law of forces. / To find the co-efficient of friction between wood and glass using a horizontal board.**	Record writing by the students,Record checking and viva voce of Expt. 4
9th	2	**EXPERIMENT - 5: To determine force constant of a spring using Hooke's Law.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
10th	2	**EXPERIMENT - 5: To determine force constant of a spring using Hooke's Law.**	Record writing by the students,Record checking and viva voce of Expt. 5
11th	2	**EXPERIMENT - 6: To find Moment of Inertia of a fly wheel.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
12th	2	**EXPERIMENT - 6: To find Moment of Inertia of a fly wheel.**	Record writing by the students,Record checking and viva voce of Expt. 6
13th	2	**EXPERIMENT - 7:To verify laws of reflection from a plane mirror/interface.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
14th	2	**EXPERIMENT - 7:To verify laws of reflection from a plane mirror/interface.**	Record writing by the students,Record checking and viva voce of Expt. 7
15th	2	**EXPERIMENT - 8: To verify laws of refraction (Snell's law) using a glass slab.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
16th	2	**EXPERIMENT - 8: To verify laws of refraction (Snell's law) using a glass slab.**	Record writing by the students,Record checking and viva voce of Expt. 8

17th	2	**EXPERIMENT - 9: To verify Ohm's law plotting graph between current and potential difference.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
18th	2	**EXPERIMENT - 9: To verify Ohm's law plotting graph between current and potential difference.**	Record writing by the students,Record checking and viva voce of Expt. 9
19th	2	**EXPERIMENT No.-10 :To verify laws of resistances in series and parallel combination.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
20th	2	**EXPERIMENT No.-10 :To verify laws of resistances in series and parallel combination.**	Record writing by the students,Record checking and viva voce of Expt. 10
21st	2	**EXPERIMENT No.-11 : To verify Kirchhoff's law using electric circuits.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
22nd	2	**EXPERIMENT No.-11 : To verify Kirchhoff's law using electric circuits.**	Record writing by the students,Record checking and viva voce of Expt. 11
23rd	2	**EXPERIMENT No.-12 : To study the dependence of capacitance of a parallel plate capacitor on various factors and determines permittivity of air at a place**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
24th	2	**EXPERIMENT No.-12 : To study the dependence of capacitance of a parallel plate capacitor on various factors and determines permittivity of air at a place**	Record writing by the students,Record checking and viva voce of Expt. 12
25th	2	**EXPERIMENT No.-13 : To find resistance of a galvanometer by half deflection method.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.

26th	2	**EXPERIMENT No.-13 : To find resistance of a galvanometer by half deflection method.**	Record writing by the students,Record checking and viva voce of Expt. 13
27th	2	**EXPERIMENT No.-14: To convert a galvanometer into an ammeter.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
28th	2	**EXPERIMENT No.-14: To convert a galvanometer into an ammeter.**	Record writing by the students,Record checking and viva voce of Expt. 14
29th	2	**EXPERIMENT No.-15: To convert a galvanometer into a voltmeter.**	Introduction of the instrument and demonstration of Experiment, Experiment performed & Observations taken by students.
30th	2	**EXPERIMENT No.-15: To convert a galvanometer into a voltmeter.**	Record writing by the students,Record checking and viva voce of Expt. 15
31st	2	**EXPERIMENT No.-16: To draw V-I characteristics of a semiconductor diode (Ge,Si) and determine its knee voltage.**	Record checking and viva voce along with final record evaluation and allocation of sessional marks.
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	Total periods=64		

BOOK REFERNCE:

Applied Physics -I & II by Prof. Vinod Kumar Yadav

Dillip Kumar Nayak 31/07/26

Concerned faculty

Dr Biswambhar Mohanty

Sri Dillip Kumar Nayak

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BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, KATAKA

DEPARTMENT: HUMANITIES AND SCIENCES

LESSON PLAN

SUBJECT: - APPLIED PHYSICS (PRACTICAL)

ACADEMIC SESSION:-2026-27

YEAR: - 1ST

SECTION: -G3

BRANCH:- ELECTRICAL

PREPARED BY-

Dr BISWAMBHAR MOHANTY &

Dr SHWETAPADMA SWAIN

Lesson Plan
Subject: Applied Physics Lab(PR-2)

Discipline: ELECTRICAL Sec :G3 Year: 1st	Name of Faculty : Dr Biswambhar Mohanty & Dr Shwetapadma Swain
No. of period per week allotted: 02 (2 Hours) (SATURDAY), Total Period:64	Session From Date: 17-08-2026 To date : 17-04-2027

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BOOK REFERNCE:

Applied Physics -I & II by Prof. Vinod Kumar Yadav

Shwetapadma Swain 31/07/24

Concerned faculty

Dr Biswambhar Mohanty

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