

LESSON PLAN

Program Name	ELECTRICAL ENGG
Course/Subject Name	Applied Physics-I
Course/Subject Code	BS-103 & BS-105
Course/Subject Coordinator Name	Manoj Kumar

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Applied physics-I & Applied Physics-I lab	4 (L: 3, T:0, P: 2)	50	50	100	100
Reference books		(i)	Text Book of Physics for Class XI& XII (Part-I, Part-II); N.C.E.R.T., Delhi			
		(ii)	Concepts in Physics by HC Verma, Vol. I & II, Bharti Bhawan Ltd. New Delhi			
		(iii)	Applied Physics, Vol. I and Vol. II, TTTI Publications, Tata McGraw Hill, Delhi			
		(iv)	Engineering Physics by DK Bhattacharya & Poonam Tandan; Oxford University Press, New Delhi			
		(v)	Textbook of Applied Physics-I by Amit Pathak, Manoj Kumar Saini & Dr. Raj Kumar Jagota, True-Edu Publication			
		(vi)	Practical Physics by C. L. Arora, S. Chand Publication.			

Course Outcomes: After the completion of the course the student will be able to

CO1	Explain and apply the concepts of physical quantities, systems of units, dimensions, dimensional analysis and error analysis for accurate physical measurements.
CO2	Explain scalar and vector quantities, force, motion and conservation laws.
CO3	Apply the concepts of work, power and energy to solve simple numerical problems.
CO4	Explain the concepts of elasticity, stress, strain, pressure and their applications.
CO5	Differentiate between heat and temperature and explain the modes of heat transfer and temperature scales.
CO6	Perform basic physics experiments using standard laboratory instruments and interpret the observations.

Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual Date	Remarks
1	Unit-1 Units & Dimensions: Physical quantities - fundamental and derived quantities	10-08-2026		
2	systems of units CGS, FPS, MKS and SI units	13-08-2026		
3-4	Dimensional formulae SI units of physical quantities	14-08-2026 & 17-08-2026		
5	Principle of homogeneity of dimensions	20-08-2026		
6-7	Application of dimensional analysis : checking the correctness of physical equation(three equations of motion)	21-08-2026 & 24-08-2026		
8	Limitations of dimensional analysis	27-08-2026		
9	Errors, types of errors- Instrumental, systematic, random and gross error	28-08-2026		
10	Unit-2 Force & motion: Scalar and vector quantities – examples, representation of vector	31-08-2026		
11-12	Types of vectors- Equal, Negative, Unit, co-initial, co-planar	03-09-2026 & 04-09-2026		
13	Linear momentum & law of conservation of linear momentum	07-09-2026		
14	Angular displacement, angular velocity, angular acceleration	10-09-2026		
15	Relation between linear and angular velocity	11-09-2026		
16	Torque and angular momentum	14-09-2026		
17= 18	Law of conservation of angular momentum and its applications	17-09-2026 & 18-09-2026		
19	Moment of inertia and its physical significance	21-09-2026		

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20-21	Unit-3 Work, Power & Energy Work: Concept and units, examples of zero work, positive work and negative work	24-09-2026 & 25-09-2026		
22	Energy and its units:	28-09-2026		
23	Examples of transformation of energy	01-10-2026		
24	Kinetic energy-definition, examples and derivation gravitational	05-10-2026		
25	Potential energy with examples and derivation of formula	08-10-2026		
26	Law of conservation of mechanical energy for freely falling bodies,	09-10-2026		
27-28	Power, calculation of power (numerical problems)	12-10-2026 & 15-10-2026		
29-30	Unit-4 Properties of matter- Elasticity & Plasticity- definition, Definition of stress and strain	16-10-2026 & 19-10-2026		
31	Types of stress and Strain	22-10-2026		
32	Hooke's Law	23-10-2026		
33-34	Modulus of elasticity and its type	26-10-2026 & 29-10-2026		
35-36	Pressure- definition, atmospheric pressure, gauge pressure, absolute pressure	30-10-2026 & 02-11-2026		
37	Unit-5 Heat & Temperature: Definition of heat and temperature (on the basis of Kinetic theory)	05-11-2026		
38-39	Modes of transfer of heat (Conduction, convection and radiation with examples)	06-11-2026 & 09-11-2026		
40	Different scales of temperature and their relationship	12-11-2026		
41-42	Numerical problems based on conversion of temperature into various scales	13-11-2026 & 16-11-2026		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Units & Dimensions, force and motion	01-09-2026		
A-2	Work, power, Energy & Properties of matter	05-10-2026		
A-3	Heat & Temperature	05-11-2026		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	2 nd week of September 2026		
CT-II	Next 30% of the syllabus	2 nd week of October 2026		
House Test	80% of the syllabus	1 st Week of November 2026		

Lab Plan:

Exp. No.	Name of experiment	Actual date		Remarks
		G-1	G-2	
1	Laboratory Safety and Familiarization: To acquaint students with laboratory safety rules and the construction, least count, handling, and reading of common measuring instruments such as the Vernier Calliper, Screw Gauge, Spherometer, Fortin's Barometer, and Thermometer. <i>(Compulsory for all students.)</i>			
2	To find the diameter of a solid cylinder using a Vernier Calliper.			
3	To find the internal diameter and depth of a beaker using a Vernier Calliper and hence find its volume.			
4	To find the diameter of wire & thickness of cardboard by using a screw gauge.			
5	To determine the thickness of the glass strip using a spherometer.			
6	To determine the radius of curvature of a given spherical surface by a spherometer.			
7	To determine the force constant of spring using Hooke's law.			
8	To measure room temperature using a thermometer and convert it into different temperature scales.			
9	To verify the law of conservation of mechanical energy (PE to KE).			
10	To find the moment of inertia of a fly wheel			

(Signature of Teacher)

(Signature of HOD)

LESSON PLAN

Program Name	MECHANICAL ENGG
Course/Subject Name	Applied Physics-I
Course/Subject Code	BS-103 & BS-105
Course/Subject Coordinator Name	Manoj Kumar

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
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Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual Date	Remarks
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3-4	Dimensional formulae SI units of physical quantities	14-08-2026 & 17-08-2026		
5	Principle of homogeneity of dimensions	18-08-2026		
6-7	Application of dimensional analysis : checking the correctness of physical equation(three equations of motion)	21-08-2026 & 24-08-2026		
8	Limitations of dimensional analysis	25-08-2026		
9	Errors, types of errors- Instrumental, systematic, random and gross error	28-08-2026		
10	Unit-2 Force & motion: Scalar and vector quantities – examples, representation of vector	31-08-2026		
11-12	Types of vectors- Equal, Negative, Unit, co-initial, co-planar	01-09-2026 & 04-09-2026		
13	Linear momentum & law of conservation of linear momentum	07-09-2026		
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19	Moment of inertia and its physical significance	21-09-2026		

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20-21	Unit-3 Work, Power & Energy Work: Concept and units, examples of zero work, positive work and negative work	22-09-2026 & 25-09-2026		
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23	Examples of transformation of energy	29-09-2026		
24	Kinetic energy-definition, examples and derivation gravitational	05-10-2026		
25	Potential energy with examples and derivation of formula	06-10-2026		
26	Law of conservation of mechanical energy for freely falling bodies,	09-10-2026		
27-28	Power, calculation of power (numerical problems)	12-10-2026 & 13-10-2026		
29-30	Unit-4 Properties of matter- Elasticity & Plasticity- definition, Definition of stress and strain	16-10-2026 & 19-10-2026		
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32	Hooke's Law	23-10-2026		
33-34	Modulus of elasticity and its type	26-10-2026 & 27-10-2026		
35-36	Pressure- definition, atmospheric pressure, gauge pressure, absolute pressure	30-10-2026 & 02-11-2026		
37	Unit-5 Heat & Temperature: Definition of heat and temperature (on the basis of Kinetic theory)	03-11-2026		
38-39	Modes of transfer of heat (Conduction, convection and radiation with examples)	06-11-2026 & 09-11-2026		
40	Different scales of temperature and their relationship	10-11-2026		
41-42	Numerical problems based on conversion of temperature into various scales	13-11-2026 & 16-11-2026		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
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A-2	Work, power, Energy & Properties of matter	05-10-2026		
A-3	Heat & Temperature	05-11-2026		

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House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
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Lab Plan:

Exp. No.	Name of experiment	Actual date		Remarks
		G-1	G-2	
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2	To find the diameter of a solid cylinder using a Vernier Calliper.			
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6	To determine the radius of curvature of a given spherical surface by a spherometer.			
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8	To measure room temperature using a thermometer and convert it into different temperature scales.			
9	To verify the law of conservation of mechanical energy (PE to KE).			
10	To find the moment of inertia of a fly wheel			

(Signature of Teacher)

(Signature of HOD)

LESSON PLAN

Program Name	CIVIL ENGG
Course/Subject Name	Applied Physics-I
Course/Subject Code	BS-103 & BS-105
Course/Subject Coordinator Name	Manoj Kumar & Vijay Thakur

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Applied physics-I & Applied Physics-I lab	4 (L: 3, T:0, P: 2)	50	50	100	100
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Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual Date	Remarks
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Assignments:

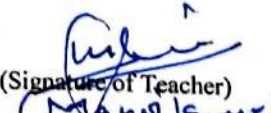
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Lab Plan:

Exp. No.	Name of experiment	Actual date		Remarks
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10	To find the moment of inertia of a fly wheel			

(Signature of Teacher)


(Signature of HOD)


LESSON PLAN

Program Name	COMPUTER ENGG
Course/Subject Name	Applied Physics-I
Course/Subject Code	BS-103 & BS-105
Course/Subject Coordinator Name	Vijay Thakur

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
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29-30	27-10-2026 & 29-10-2026	02-11-2026 & 03-11-2026		
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(Signature of Teacher)

(Signature of HOD)

LESSON PLAN

Program Name	COMPUTER ENGG & IOT
Course/Subject Name	Applied Physics-I
Course/Subject Code	BS-103 & BS-105
Course/Subject Coordinator Name	Vijay Thakur

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
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6-7	Application of dimensional analysis : checking the correctness of physical equation(three equations of motion)	25-08-2026 & 27-08-2026		
8	Limitations of dimensional analysis	31-08-2026		
9	Errors, types of errors- Instrumental, systematic, random and gross error	01-09-2026		
10	Unit-2 Force & motion: Scalar and vector quantities – examples, representation of vector	03-09-2026		
11-12	Types of vectors- Equal, Negative, Unit, co-initial, co-planar	10-09-2026 & 14-09-2026		
13	Linear momentum & law of conservation of linear momentum	15-09-2026		
14	Angular displacement, angular velocity, angular acceleration	17-09-2026		
15	Relation between linear and angular velocity	21-09-2026		
16	Torque and angular momentum	22-09-2026		
17= 18	Law of conservation of angular momentum and its applications	24-09-2026 & 28-09-2026		
19	Moment of inertia and its physical significance	29-09-2026		

20-21	Unit-3 Work, Power & Energy Work: Concept and units, examples of zero work, positive work and negative work	01-10-2026 & 05-10-2026		
22	Energy and its units:	06-10-2026		
23	Examples of transformation of energy	08-10-2026		
24	Kinetic energy-definition, examples and derivation gravitational	12-10-2026		
25	Potential energy with examples and derivation of formula	13-10-2026		
26	Law of conservation of mechanical energy for freely falling bodies,	15-10-2026		
27-28	Power, calculation of power (numerical problems)	22-10-2026 & 26-10-2026		
29-30	Unit-4 Properties of matter- Elasticity & Plasticity- definition, Definition of stress and strain	02-11-2026 & 03-11-2026		
31	Types of stress and Strain	05-11-2026		
32	Hooke's Law	09-11-2026		
33-34	Modulus of elasticity and its type	10-11-2026 & 12-11-2026		
35-36	Pressure- definition, atmospheric pressure, gauge pressure, absolute pressure	16-11-2026 & 17-11-2026		
37	Unit-5 Heat & Temperature: Definition of heat and temperature (on the basis of Kinetic theory)	19-11-2026		
38-39	Modes of transfer of heat (Conduction, convection and radiation with examples)	06-11-2026 & 09-11-2026		
40	Different scales of temperature and their relationship	10-11-2026		
41-42	Numerical problems based on conversion of temperature into various scales	13-11-2026 & 16-11-2026		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Units & Dimensions, force and motion	01-09-2026		
A-2	Work, power, Energy & Properties of matter	05-10-2026		
A-3	Heat & Temperature	05-11-2026		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	2 nd week of September 2026		
CT-II	Next 30% of the syllabus	2 nd week of October 2026		
House Test	80% of the syllabus	1 st Week of November 2026		

Lab Plan:

Exp. No.	Name of experiment	Actual date		Remarks
		G-1	G-2	
1	Laboratory Safety and Familiarization: To acquaint students with laboratory safety rules and the construction, least count, handling, and reading of common measuring instruments such as the Vernier Calliper, Screw Gauge, Spherometer, Fortin's Barometer, and Thermometer. <i>(Compulsory for all students.)</i>			
2	To find the diameter of a solid cylinder using a Vernier Calliper.			
3	To find the internal diameter and depth of a beaker using a Vernier Calliper and hence find its volume.			
4	To find the diameter of wire & thickness of cardboard by using a screw gauge.			
5	To determine the thickness of the glass strip using a spherometer.			
6	To determine the radius of curvature of a given spherical surface by a spherometer.			
7	To determine the force constant of spring using Hooke's law.			
8	To measure room temperature using a thermometer and convert it into different temperature scales.			
9	To verify the law of conservation of mechanical energy (PE to KE).			
10	To find the moment of inertia of a fly wheel			

(Signature of Teacher)

(Signature of HOD)