

**LESSON PLAN FOR ACADEMIC SESSION 2022-23**

<b>Discipline: Physics</b>	<b>Semester: 1st Branch: Mechanical</b>	<b>Name of the Teaching Faculty: Abhilash Padhy</b>
<b>Subject: Engg. Physics (Th 2A)</b>	<b>No. of Days/per week class allotted: 04</b>	<b>Semester From date: 25/10/2022 To Date: 31/01/2023 No. of Weeks: 13</b>
<b>Week</b>	<b>Class Day/ Period</b>	<b>Topics to be covered</b>
<b>1st (25-29) Oct.</b>	<b>1st</b>	Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S. , C.G.S. , F.P.S. , S.I.), Metric Prefixes
	<b>2nd</b>	Definition of dimension and Dimensional formulae of physical quantities, Dimensional Equations and Principle of Homogeneity, Checking the dimensional correctness of physical relations
	<b>3rd</b>	Definition and concept of scalar and vector quantities, examples and types of vector
	<b>4th</b>	Triangle and parallelogram law of vector addition, Simple Numericals
<b>2nd (31 Oct. - 05Nov.)</b>	<b>1st</b>	Resolution of vectors, vector multiplication (scalar and vector product)
	<b>2nd</b>	Discussion of Assignment 1 and 2
	<b>3rd</b>	Concept of rest and motion, displacement, speed, velocity, acceleration, force (Definition, formula, dimension & SI units)
	<b>4th</b>	equations of motion under gravity
<b>3rd (7-12) Nov.</b>	<b>1st</b>	Definition and example of projectile, Time of flight, maximum height, horizontal range, for projectile fired at an angle
	<b>2nd</b>	Equation of trajectory for projectile fired at an angle, condition for maximum horizontal range
	<b>3rd</b>	circular motion (angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration
	<b>4th</b>	Discussion of Assignment 3
<b>4th (14-19) Nov.</b>	<b>1st</b>	Definition, formula and SI unit of work
	<b>2nd</b>	Definition and concept of friction, types of friction (static and dynamic), limiting friction
	<b>3rd</b>	laws of limiting friction, coefficient of friction, simple numericals and methods of reducing friction
	<b>4th</b>	Discussion of Assignment 4
<b>5th (21-26) Nov.</b>	<b>1st</b>	Newton's laws of gravitation- Statement and Explanation, Universal gravitational constant (G)- Definition, Unit and Dimension
	<b>2nd</b>	Acceleration due to gravity (g)- Definition and Concept, Relation between g and G and comparison between mass and weight, variation of g with altitude and depth (Explanation)
	<b>3rd</b>	kepler's laws of planetary motion, Monthly Assessment 1
	<b>4th</b>	Simple Harmonic Motion (SHM)- Definition and Examples
<b>6th (28 Nov. - 3 Dec.)</b>	<b>1st</b>	Expression for displacement, velocity, acceleration of a body in SHM
	<b>2nd</b>	Wave motion- Definition & Concept, Transverse and Longitudinal wave motion- Definition, Examples & Comparison
	<b>3rd</b>	Definition of different wave parameters (amplitude, wavelength, frequency, time period), Derivation of relation between velocity, frequency and wavelength of a wave.
	<b>4th</b>	Ultrasonics- definition, properties and applications

<b>7th (5-10) Dec.</b>	<b>1st</b>	Discussion of Assignment 5
	<b>2nd</b>	Heat and Temperature- definition, concept, units and difference
	<b>3rd</b>	specific heat, change of state, latent heat (concept, definition, unit, dimension) with simple numericals
	<b>4th</b>	Definition and concept of thermal expansion
<b>8th (12-17) Dec.</b>	<b>1st</b>	expansion of solids, coefficient of linear, superficial and cubical expansion, relation between alpha, beta, gamma
	<b>2nd</b>	concept and relation of work and heat, joules mechanical equivalent of heat, first law of thermodynamics
	<b>3rd</b>	Discussion of Assignment 6
	<b>4th</b>	Definition and laws of reflection and refraction
<b>9th (19-24) Dec.</b>	<b>1st</b>	definition and concept of refractive index, simple numericals
	<b>2nd</b>	Critical angle and total internal reflection
	<b>3rd</b>	Refraction through prism (ray diagram and formula)
	<b>4th</b>	Fibre optics: definition, properties and applications
<b>10th (2-7) Jan</b>	<b>1st</b>	Discussion of Assignment 7 and Monthly Assessment 2
	<b>2nd</b>	Definition and concept of Electrostatics, Statement and explanation of Coulomb's law, definition of unit charge, absolute and relative permittivity
	<b>3rd</b>	electric field, electric field intensity
	<b>4th</b>	Electric Potential and Electric Potential Difference (Definition, Formula & SI Units)
<b>11th (9-14) Jan</b>	<b>1st</b>	Capacitance, series and parallel combination of capacitors, simple numericals
	<b>2nd</b>	Magnet, properties of magnet, Coulomb's laws in magnetism, Unit pole
	<b>3rd</b>	Magnetic field and magnetic field intensity, magnetic lines of force, magnetic flux and magnetic flux density
	<b>4th</b>	Electric current: definition, formula and SI units, Ohm's law and its applications
<b>12th (16-21) Jan</b>	<b>1st</b>	Series and parallel combination of resistors, Simple numericals, Discussion of Assignment 8
	<b>2nd</b>	Kirchhoff's Laws (Statement & Explanation with diagram), Application of Kirchhoff's law to Wheatstone bridge, balanced WB and condition for balance, Discussion of Assignment 9
	<b>3rd</b>	electromagnetism: definition and concept, force acting on a current carrying conductor placed in uniform magnetic field, Fleming's left hand rule
	<b>4th</b>	Faraday's laws of electromagnetic induction, Lenz's law, Fleming's right hand rule and comparison with Fleming's left hand rule
<b>13th (23-28) Jan</b>	<b>1st</b>	Laser and Laser beam (concept and Definition), Population inversion and Optical pumping, properties and applications of laser,
	<b>2nd</b>	wireless transmission: ground waves, sky waves, space waves
	<b>3rd</b>	Discussion of Assignment 10
	<b>4th</b>	Monthly Assessment 3

**LESSON PLAN FOR ACADEMIC SESSION 2022-23**

<b>Discipline: Physics</b>	<b>Semester: 1st Branch: Mechanical Group: 3</b>	<b>Name of the Teaching Faculty: Abhilash Padhy</b>
<b>Subject: Engg. Physics Practical (Pr 2a)</b>	<b>No. of Days/per week class allotted: 04</b>	<b>Semester From date: 25/10/2022 To Date: 31/01/2023  No. of Weeks: 14</b>
<b>Week</b>	<b>Class Day/ Period</b>	<b>Topics to be covered</b>
<b>1st (25-29)</b>	<b>1st</b>	Introductory Remarks on Course Structure, Laboratory Criteria, Identification of Various Lab Equipment, Theory of measurement of length with vernier calliper with demonstration of measurement
	<b>2nd</b>	
<b>2nd (31 Oct. - 05Nov.)</b>	<b>1st</b>	Experiment 01 : Determination of the volume of a solid cylinder using Vernier Caliper  Theory of measurement of length with vernier calliper with demonstration of measurement
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>3rd (7-12)</b>	<b>1st</b>	Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper
	<b>2nd</b>	
<b>4th (14-19) Nov.</b>	<b>1st</b>	Theory of measurement of length with Screw gauge with demonstration of measurement Experiment 03 : Determination of the crosssectional area of a wire using screw gauge (and) Experiment o4 : Determination of Volume of a glass lamina using screw gauge.
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>5th (21-26) Nov.</b>	<b>1st</b>	Experiment 03 : Determination of the crosssectional area of a wire using screw gauge (and) Experiment o4 : Determination of Volume of a glass lamina using screw gauge.  Theory of measurement of length with Spherometer with demonstration of measurement
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>6th (28 Nov. - 3 Dec.)</b>	<b>1st</b>	Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and) Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and) Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>7th (5-10) Dec.</b>	<b>1st</b>	Makeup lab from Experiment 01 to Experiment 06  Theory Class on Simple pendulum, Magnetic lines of force and Neutral point
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>8th (12-17) Dec.</b>	<b>1st</b>	Experiment 07: Determination of 'g' by using simple pendulum  Experiment 07: Determination of 'g' by using simple pendulum
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>9th (19-24) Dec.</b>	<b>1st</b>	Theory of magnetic field, magnetic lines of forces and the neutral point along with demonstration Experiment 08 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing north.
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>10th (2-7) Jan</b>	<b>1st</b>	Experiment 09 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing south.  Theory class on Refraction through Prism
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>11th (9-14) Jan</b>	<b>1st</b>	Experiment 10 : Determination of the angle of minimum deviation for a prism.  Experiment 11 : Determination of angle of prism.
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>12th (16-21) Jan</b>	<b>1st</b>	Makeup lab from Experiment 01 to Experiment 11  Makeup lab from Experiment 01 to Experiment 11
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	
<b>13th (23-28)</b>	<b>1st</b>	Makeup lab from Experiment 01 to Experiment 11
	<b>2nd</b>	
<b>14th (30-31) Jan</b>	<b>1st</b>	Makeup lab from Experiment 01 to Experiment 11  Makeup lab from Experiment 01 to Experiment 11
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	

<b>Date</b>	<b>Class Day/ Period</b>
<b>25/10/2022</b>	<b>1st</b>
	<b>2nd</b>
<b>31/10/2022</b>	<b>3rd</b>
	<b>4th</b>
<b>1/11/2022</b>	<b>5th</b>
	<b>6th</b>
<b>7/11/2022</b>	<b>7th</b>
	<b>8th</b>
<b>14/11/2022</b>	<b>9th</b>
	<b>10th</b>
<b>15/11/2022</b>	<b>11th</b>
	<b>12th</b>
<b>21/11/2022</b>	<b>13th</b>
	<b>14th</b>
<b>22/11/2022</b>	<b>15th</b>
	<b>16th</b>
<b>28/11/2022</b>	<b>17th</b>
	<b>18th</b>
<b>29/11/2022</b>	<b>19th</b>
	<b>20th</b>
<b>5/12/2022</b>	<b>21st</b>
	<b>22nd</b>
<b>6/12/2022</b>	<b>23rd</b>
	<b>24th</b>
<b>12/12/2022</b>	<b>25th</b>
	<b>26th</b>
<b>13/12/2022</b>	<b>27th</b>
	<b>28th</b>
<b>19/12/2022</b>	<b>29th</b>
	<b>30th</b>
<b>20/12/2022</b>	<b>31st</b>
	<b>32nd</b>
<b>2/1/2023</b>	<b>33rd</b>
	<b>34th</b>
<b>3/1/2023</b>	<b>35th</b>
	<b>36th</b>
<b>9/1/2023</b>	<b>37th</b>
	<b>38th</b>
<b>10/1/2023</b>	<b>39th</b>
	<b>40th</b>
<b>16/1/2023</b>	<b>41st</b>
	<b>42nd</b>
<b>17/1/2023</b>	<b>43rd</b>
	<b>44th</b>
<b>24/1/2023</b>	<b>45th</b>
	<b>46th</b>
<b>30/1/2023</b>	<b>47th</b>
	<b>48th</b>
<b>31/1/2023</b>	<b>49th</b>
	<b>50th</b>

**LESSON PLAN FOR ACADEMIC SESSION 2022-23**

<b>Discipline:</b> Physics	<b>Semester: 1st</b> <b>Branch:</b> Mechanical <b>Group: 4</b>	<b>Name of the Teaching Faculty: Abhilash Padhy</b>
<b>Subject: Engg. Physics Practical (Pr 2a)</b>	<b>No. of Days/per week class allotted: 04</b>	<b>Semester From date: 25/10/2022 To Date: 31/01/2023</b> <b>No. of Weeks: 13</b>
<b>Week</b>	<b>Class Day/Period</b>	<b>Topics to be covered</b>
<b>1st (25-29) Oct.</b>	<b>1st</b>	Introductory Remarks on Course Structure, Laboratory Criteria, Identification of Various Lab
	<b>2nd</b>	Equipment, Theory of measurement of length with vernier calliper with demonstration of
	<b>3rd</b>	
	<b>4th</b>	Theory of measurement of length with vernier calliper with demonstration of measurement
<b>2nd (31 Oct. - 05Nov.)</b>	<b>1st</b>	
	<b>2nd</b>	Experiment 01 : Determination of the volume of a solid cylinder using Vernier Caliper
	<b>3rd</b>	
	<b>4th</b>	Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper
<b>3rd (7-12) Nov.</b>	<b>1st</b>	
	<b>2nd</b>	Theory of measurement of length with Screw gauge with demonstration of measurement
	<b>3rd</b>	Experiment 03 : Determination of the crosssectional area of a wire using screw gauge (and)
	<b>4th</b>	Experiment o4 : Determination of Volume of a glass lamina using screw gauge.
<b>4th (14-19) Nov.</b>	<b>1st</b>	Experiment 03 : Determination of the crosssectional area of a wire using screw gauge (and)
	<b>2nd</b>	Experiment o4 : Determination of Volume of a glass lamina using screw gauge.
	<b>3rd</b>	
	<b>4th</b>	Theory of measurement of length with Spherometer with demonstration of measurement
<b>5th (21-26) Nov.</b>	<b>1st</b>	Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and)
	<b>2nd</b>	Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer
	<b>3rd</b>	Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and)
	<b>4th</b>	Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer
<b>6th (28 Nov. - 3 Dec.)</b>	<b>1st</b>	
	<b>2nd</b>	Makeup lab from Experiment 01 to Experiment 06
	<b>3rd</b>	
	<b>4th</b>	Theory Class on Simple Oscillation
<b>7th (5-10) Dec.</b>	<b>1st</b>	
	<b>2nd</b>	Experiment 07: Determination of 'g' by using simple pendulum
	<b>3rd</b>	
	<b>4th</b>	Experiment 07: Determination of 'g' by using simple pendulum
<b>8th (12-17) Dec.</b>	<b>1st</b>	
	<b>2nd</b>	Theory of magnetic field, magnetic lines of forces and the neutral point along with demonstration
	<b>3rd</b>	Experiment 08 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing north.
	<b>4th</b>	
<b>9th (19-24) Dec.</b>	<b>1st</b>	Experiment 09 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing south.
	<b>2nd</b>	
	<b>3rd</b>	
	<b>4th</b>	Theory class on Refraction through Prism
<b>10th (2-7) Jan</b>	<b>1st</b>	
	<b>2nd</b>	Experiment 10 : Determination of the angle of minimum deviation for a prism.
	<b>3rd</b>	
	<b>4th</b>	Experiment 11 : Determination of the angle of a prism.
<b>11th (9-14) Jan</b>	<b>1st</b>	
	<b>2nd</b>	Makeup lab from Experiment 01 to Experiment 11
	<b>3rd</b>	
	<b>4th</b>	Makeup lab from Experiment 01 to Experiment 11
<b>12th (16-21) Jan</b>	<b>1st</b>	
	<b>2nd</b>	Makeup lab from Experiment 01 to Experiment 11
	<b>3rd</b>	
	<b>4th</b>	Makeup lab from Experiment 01 to Experiment 11
<b>13th (23-28) Jan</b>	<b>1st</b>	
	<b>2nd</b>	Makeup lab from Experiment 01 to Experiment 11
	<b>3rd</b>	
	<b>4th</b>	Makeup lab from Experiment 01 to Experiment 11

<b>Date</b>	<b>Class Day/ Period</b>
<b>26/10/2022</b>	<b>1st</b>
	<b>2nd</b>
<b>28/10/2022</b>	<b>3rd</b>
	<b>4th</b>
<b>2/11/2022</b>	<b>5th</b>
	<b>6th</b>
<b>4/11/2022</b>	<b>7th</b>
	<b>8th</b>
<b>9/11/2022</b>	<b>9th</b>
	<b>10th</b>
<b>11/11/2022</b>	<b>11th</b>
	<b>12th</b>
<b>16/11/2022</b>	<b>13th</b>
	<b>14th</b>
<b>18/11/2022</b>	<b>15th</b>
	<b>16th</b>
<b>23/11/2022</b>	<b>17th</b>
	<b>18th</b>
<b>25/11/2022</b>	<b>19th</b>
	<b>20th</b>
<b>30/11/2022</b>	<b>21st</b>
	<b>22nd</b>
<b>2/12/2022</b>	<b>23rd</b>
	<b>24th</b>
<b>7/12/2022</b>	<b>25th</b>
	<b>26th</b>
<b>9/12/2022</b>	<b>27th</b>
	<b>28th</b>
<b>14/12/2022</b>	<b>29th</b>
	<b>30th</b>
<b>16/12/2022</b>	<b>31st</b>
	<b>32nd</b>
<b>21/12/2022</b>	<b>33rd</b>
	<b>34th</b>
<b>23/12/2022</b>	<b>35th</b>
	<b>36th</b>
<b>4/1/2023</b>	<b>37th</b>
	<b>38th</b>
<b>6/1/2023</b>	<b>39th</b>
	<b>40th</b>
<b>11/1/2023</b>	<b>41st</b>
	<b>42nd</b>
<b>13/1/2023</b>	<b>43rd</b>
	<b>44th</b>
<b>18/1/2023</b>	<b>45th</b>
	<b>46th</b>
<b>20/1/2023</b>	<b>47th</b>
	<b>48th</b>
<b>25/1/2024</b>	<b>49th</b>
	<b>50th</b>
<b>27/1/2025</b>	<b>51st</b>
	<b>52nd</b>

**LESSON PLAN FOR ACADEMIC SESSION 2022-23**

<b>Discipline: Physics</b>	<b>Semester: 1st Branch: Civil</b>	<b>Name of the Teaching Faculty: Abhilash Padhy</b>
<b>Subject: Engg. Physics (Th 2A)</b>	<b>No. of Days/per week class allotted: 04</b>	<b>Semester From date: 25/10/2022 To Date: 31/01/2023  No. of Weeks: 14</b>
<b>Week</b>	<b>Class Day/ Period</b>	<b>Topics to be covered</b>
<b>1st (25-29) Oct.</b>	<b>1st</b>	Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S. , C.G.S. , F.P.S. , S.I.), Metric Prefixes
	<b>2nd</b>	Definition of dimension and Dimensional formulae of physical quantities, Dimensional Equations and Principle of Homogeneity, Checking the dimensional correctness of physical relations
<b>2nd (31 Oct. - 05Nov.)</b>	<b>1st</b>	Definition and concept of scalar and vector quantities, examples and types of vector
	<b>2nd</b>	Triangle and parallelogram law of vector addition, Simple Numericals
	<b>3rd</b>	Resolution of vectors, vector multiplication (scalar and vector product)
	<b>4th</b>	Discussion of Assignment 1 and 2
<b>3rd (7-12) Nov.</b>	<b>1st</b>	Concept of rest and motion, displacement, speed, velocity, acceleration, force (Definition, formula, dimension & SI units)
	<b>2nd</b>	equations of motion under gravity
<b>4th (14-19) Nov.</b>	<b>1st</b>	Definition and example of projectile, Time of flight, maximum height, horizontal range, for projectile fired at an angle
	<b>2nd</b>	Equation of trajectory for projectile fired at an angle, condition for maximum horizontal range
	<b>3rd</b>	circular motion (angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration
	<b>4th</b>	Discussion of Assignment 3
<b>5th (21-26) Nov.</b>	<b>1st</b>	Definition, formula and SI unit of work
	<b>2nd</b>	Definition and concept of friction, types of friction (static and dynamic), limiting friction
	<b>3rd</b>	laws of limiting friction, coefficient of friction, simple numericals and methods of reducing friction
	<b>4th</b>	Discussion of Assignment 4
<b>6th (28 Nov. - 3 Dec.)</b>	<b>1st</b>	Newton's laws of gravitation- Statement and Explanation, Universal gravitational constant (G)- Definition, Unit and Dimension
	<b>2nd</b>	Acceleration due to gravity (g)- Definition and Concept, Relation between g and G and comparison between mass and weight, variation of g with altitude and depth (Explanation)
	<b>3rd</b>	Kepler's laws of planetary motion, Monthly Assessment 1
	<b>4th</b>	Simple Harmonic Motion (SHM)- Definition and Examples
<b>7th (5-10) Dec.</b>	<b>1st</b>	Expression for displacement, velocity, acceleration of a body in SHM
	<b>2nd</b>	Wave motion- Definition & Concept, Transverse and Longitudinal wave motion- Definition, Examples & Comparison
	<b>3rd</b>	Definition of different wave parameters (amplitude, wavelength, frequency, time period), Derivation of relation between velocity, frequency and wavelength of a wave.
	<b>4th</b>	Ultrasonics- definition, properties and applications
<b>8th (12-17) Dec.</b>	<b>1st</b>	Discussion of Assignment 5
	<b>2nd</b>	Heat and Temperature- definition, concept, units and difference
	<b>3rd</b>	specific heat, change of state, latent heat (concept, definition, unit, dimension) with simple numericals
	<b>4th</b>	Definition and concept of thermal expansion

<b>9th (19-24) Dec.</b>	<b>1st</b>	expansion of solids, coefficient of linear, superficial and cubical expansion, relation between alpha, beta, gamma
	<b>2nd</b>	concept and relation of work and heat, joules mechanical equivalent of heat, first law of thermodynamics
	<b>3rd</b>	Discussion of Assignment 6
	<b>4th</b>	Definition and laws of reflection and refraction
<b>10th (2-7) Jan</b>	<b>1st</b>	definition and concept of refractive index, simple numericals
	<b>2nd</b>	Critical angle and total internal reflection
	<b>3rd</b>	Refraction through prism (ray diagram and formula)
	<b>4th</b>	Fibre optics: definition, properties and applications
<b>11th (9-14) Jan</b>	<b>1st</b>	Discussion of Assignment 7 and Monthly Assessment 2
	<b>2nd</b>	Definition and concept of Electrostatics, Statement and explanation of Coulomb's law, definition of unit charge, absolute and relative permittivity
	<b>3rd</b>	electric field, electric field intensity
	<b>4th</b>	Electric Potential and Electric Potential Difference (Definition, Formula & SI Units)
<b>12th (16-21) Jan</b>	<b>1st</b>	Capacitance, series and parallel combination of capacitors, simple numericals
	<b>2nd</b>	Magnet, properties of magnet, Coulomb's laws in magnetism, Unit pole
	<b>3rd</b>	Magnetic field and magnetic field intensity, magnetic lines of force, magnetic flux and magnetic flux density
	<b>4th</b>	Electric current: definition, formula and SI units, Ohm's law and its applications
<b>13th (23-28) Jan</b>	<b>1st</b>	Series and parallel combination of resistors, Simple numericals, Discussion of Assignment 8
	<b>2nd</b>	Kirchhoff's Laws (Statement & Explanation with diagram), Application of Kirchhoff's law to Wheatstone bridge, balanced WB and condition for balance, Discussion of Assignment 9
<b>14th (30-31) Jan</b>	<b>1st</b>	electromagnetism: definition and concept, force acting on a current carrying conductor placed in uniform magnetic field, Fleming's left hand rule
	<b>2nd</b>	Faraday's laws of electromagnetic induction, Lenz's law, Fleming's right hand rule and comparison with Fleming's left hand rule
	<b>3rd</b>	Laser and Laser beam (concept and Definition), Population inversion and Optical pumping, properties and applications of laser,
	<b>4th</b>	wireless transmission: ground waves, sky waves, space waves, Discussion of Assignment 10, Monthly Assessment 3



**LESSON PLAN FOR ACADEMIC SESSION 2022-23**

Discipline: Physics	Semester: 1st Branch: Civil Group: 1	Name of the Teaching Faculty: Abhilash Padhy
Subject: Engg. Physics Practical (Pr 2a)	No. of Days/per week class allotted: 04	Semester From date: 25/10/2022 To Date: 31/01/2023  No. of Weeks: 14
Week	Class Day/ Period	Topics to be covered
1st (25-29)	1st	Introductory Remarks on Course Structure, Laboratory Criteria, Identification of Various Lab Equipment, Theory of measurement of length with vernier calliper with demonstration of measurement
	2nd	
2nd (31 Oct. - 05Nov.)	1st	Theory of measurement of length with vernier calliper with demonstration of measurement  Experiment 01 : Determination of the volume of a solid cylinder using Vernier Caliper
	2nd	
	3rd	
	4th	
3rd (7-12)	1st	Theory of measurement of length with vernier calliper with demonstration of measurement
	2nd	
4th (14-19) Nov.	1st	Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper  Theory of measurement of length with Screw gauge with demonstration of measurement
	2nd	
	3rd	
	4th	
5th (21-26) Nov.	1st	Experiment 03 : Determination of the crossectional area of a wire using screw gauge (and) Experiment o4 : Determination of Volume of a glass lamina using screw gauge. Experiment 03 : Determination of the crossectional area of a wire using screw gauge (and) Experiment o4 : Determination of Volume of a glass lamina using screw gauge.
	2nd	
	3rd	
	4th	
6th (28 Nov. - 3 Dec.)	1st	Theory of measurement of length with Spherometer with demonstration of measurement Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and) Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer
	2nd	
	3rd	
	4th	
7th (5-10) Dec.	1st	Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and) Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer  Makeup lab from Experiment 01 to Experiment 06
	2nd	
	3rd	
	4th	
8th (12-17) Dec.	1st	Theory Class on Simple pendulum, Magnetic lines of force and Neutral point Experiment 07: Determination of 'g' by using simple pendulum
	2nd	
	3rd	
	4th	
9th (19-24) Dec.	1st	Experiment 07: Determination of 'g' by using simple pendulum  Theory of magnetic field, magnetic lines of forces and the neutral point along with demonstration
	2nd	
	3rd	
	4th	
10th (2-7) Jan	1st	Experiment 08 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing north. Experiment 09 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing south.
	2nd	
	3rd	
	4th	
11th (9-14) Jan	1st	Theory class on Refraction through Prism Experiment 10 : Determination of angle of prism
	2nd	
	3rd	
	4th	
12th (16-21) Jan	1st	Experiment 11 : Determination of the angle of minimum deviation for a prism. Makeup lab from Experiment 01 to Experiment 11
	2nd	
	3rd	
	4th	
13th (23-28)	1st	Makeup lab from Experiment 01 to Experiment 11
	2nd	
14th (30-31) Jan	1st	Makeup lab from Experiment 01 to Experiment 11
	2nd	
	3rd	
	4th	

**LESSON PLAN FOR ACADEMIC SESSION 2022-23**

Discipline: Physics	Semester: 1st Branch: Civil Group: 2	Name of the Teaching Faculty: Abhilash Padhy
Subject: Engg. Physics Practical (Pr 2a)	No. of Days/per week class allotted: 04	Semester From date: 25/10/2022 To Date: 31/01/2023  No. of Weeks: 13
Week	Class Day/ Period	Topics to be covered
<b>1st</b> (25-29) Oct.	1st	Introductory Remarks on Course Structure, Laboratory Criteria, Identification of Various Lab Equipment
	2nd	
	3rd	Theory of measurement of length with vernier calliper
	4th	
<b>2nd</b> (31 Oct. -05Nov.)	1st	demonstration of measurement of length with vernier calliper
	2nd	
	3rd	Experiment 01 : Determination of the volume of a solid cylinder using Vernier Caliper
	4th	
<b>3rd</b> (7-12) Nov.	1st	Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper
	2nd	
	3rd	Theory of measurement of length with Screw gauge with demonstration of measurement
	4th	
<b>4th</b> (14-19) Nov.	1st	Experiment 03 : Determination of the crosssectional area of a wire using screw gauge (and) Experiment 04 : Determination of Volume of a glass lamina using screw gauge.
	2nd	
	3rd	Experiment 03 : Determination of the crosssectional area of a wire using screw gauge (and) Experiment 04 : Determination of Volume of a glass lamina using screw gauge.
	4th	
<b>5th</b> (21-26) Nov.	1st	Theory of measurement of length with Spherometer with demonstration of measurement
	2nd	
	3rd	Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and) Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer
	4th	
<b>6th</b> (28 Nov. - 3 Dec.)	1st	Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer (and) Experiment 06 : Determination of Radius of curvature of a concave surface, using spherometer
	2nd	
	3rd	Makeup lab from Experiment 01 to Experiment 06
	4th	
<b>7th</b> (5-10) Dec.	1st	Theory Class on Simple Oscillation
	2nd	
	3rd	Experiment 07: Determination of 'g' by using simple pendulum
	4th	
<b>8th</b> (12-17) Dec.	1st	Experiment 07: Determination of 'g' by using simple pendulum
	2nd	
	3rd	Theory of magnetic field, magnetic lines of forces and the neutral point along with demonstration
	4th	
<b>9th</b> (19-24) Dec.	1st	Experiment 08 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing north.
	2nd	
	3rd	Experiment 09 : Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing south.
	4th	
<b>10th</b> (2-7) Jan	1st	Theory class on Refraction through Prism
	2nd	
	3rd	Experiment 10 : Determination of the angle of minimum deviation for a prism.
	4th	
<b>11th</b> (9-14) Jan	1st	Experiment 11 : Determination of angle of prism
	2nd	
	3rd	Makeup lab from Experiment 01 to Experiment 11
	4th	
<b>12th</b> (16-21) Jan	1st	Makeup lab from Experiment 01 to Experiment 11
	2nd	
	3rd	Makeup lab from Experiment 01 to Experiment 11
	4th	
<b>13th</b> (23-28) Jan	1st	Makeup lab from Experiment 01 to Experiment 11
	2nd	

<b>Date</b>	<b>Class Day/ Period</b>
<b>26/10/2022</b>	<b>1st</b>
	<b>2nd</b>
<b>27/10/2022</b>	<b>3rd</b>
	<b>4th</b>
<b>2/11/2022</b>	<b>5th</b>
	<b>6th</b>
<b>3/11/2022</b>	<b>7th</b>
	<b>8th</b>
<b>9/11/2022</b>	<b>9th</b>
	<b>10th</b>
<b>10/11/2022</b>	<b>11th</b>
	<b>12th</b>
<b>16/11/2022</b>	<b>13th</b>
	<b>14th</b>
<b>17/11/2022</b>	<b>15th</b>
	<b>16th</b>
<b>23/11/2022</b>	<b>17th</b>
	<b>18th</b>
<b>24/11/2022</b>	<b>19th</b>
	<b>20th</b>
<b>30/11/2022</b>	<b>21st</b>
	<b>22nd</b>
<b>1/12/2022</b>	<b>23rd</b>
	<b>24th</b>
<b>7/12/2022</b>	<b>25th</b>
	<b>26th</b>
<b>8/12/2022</b>	<b>27th</b>
	<b>28th</b>
<b>14/12/2022</b>	<b>29th</b>
	<b>30th</b>
<b>15/12/2022</b>	<b>31st</b>
	<b>32nd</b>
<b>21/12/2022</b>	<b>33rd</b>
	<b>34th</b>
<b>22/12/2022</b>	<b>35th</b>
	<b>36th</b>
<b>4/1/2023</b>	<b>37th</b>
	<b>38th</b>
<b>5/1/2023</b>	<b>39th</b>
	<b>40th</b>
<b>11/1/2023</b>	<b>41st</b>
	<b>42nd</b>
<b>12/1/2023</b>	<b>43rd</b>
	<b>44th</b>
<b>18/1/2023</b>	<b>45th</b>
	<b>46th</b>
<b>19/1/2023</b>	<b>47th</b>
	<b>48th</b>
<b>25/1/2024</b>	<b>49th</b>
	<b>50th</b>