Physics Mechanical No. of Days/per week class allotted: 04 Topics to be covered Ist (25-30) Oct. 1st Unit test- 1 and Doubt Solving Definition and concept of scalar and vector quantities, examples and types of vector, triangle and parallelogram law of vectors addition, Testolution of vectors, vector multiplication(scalar and vector product) 1st Unit test- 2 and Doubt Solving Class Topics to be covered Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.), Metric Prefixes Introduction to Physics and Physical qua	LESSON PLAN FOR ACADEMIC SESSION 2021-22			
Semester From date: 25/10/2021 To Date: 31/01/2022 No. of Week: 15 Introduction to Physics and Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.L.). Metric Prefixes	Discipline: Physics	Branch:	Name of the Teaching Faculty: Abhilash Padhy	
Introduction to Physical quantities, fundamental and derived units, System of Units (M.K.S., C.G.S., F.P.S., S.I.), Metric Prefixes	Subject: Engg. Physics (Th 2A)	Days/per week class		
System of Units (M.K.S., C.G.S., F.P.S., S.I.), Metric Prefixes	Week		Topics to be covered	
Oct. 3rd Unit test-1 and Doubt Solving 4th Definition and concept of scalar and vector quantities, examples and types of vector, triangle and parallelogram law of vector addition, 5th resolution of vectors, vector multiplication(scalar and vector product) 6th Unit test-2 and Doubt Solving 7th concept of rest and motion, definition and concept of displacement, speed, velocity, acceleration, force 8th equations of motion under gravity, definition and example of projectile 9th time of flight, maximum height, horizontal range for projectile fired at an angle, condition for maximum horizontal range 10th problem Practice and Doubt Solving 11th circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration 12th Unit test-3 and Doubt Solving 13th definition and concept of work and torque 14th types of friction (static and dynamic), limiting friction, laws of limiting friction, coefficient of friction 15th Angle of friction and Angle of repose, Methods for reducing friction, 15th solving simple numericals 17th Unit test-4 and Doubt Solving 18th explaination of Newton's laws of gravitation, universal gravitational constant 20th variation of gwith allitude and depth 21st kepler's laws of planetary motion 22nd Unit test-5 and Doubt Solving 25th Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of friction between relocity, frequency and wavelength, frequency, timeperiod) 27th (6-11) 27th Ultrasonics- definition, properties and applications		1st		
Unit test-1 and Doubt Solving Problem Practice and Doubt Solving 10th (8-13) Nov. 11th concept of seat and motion, definition and concept of displacement, speed, velocity, acceleration, force equations of motion under gravity, definition and example of projectile fired at an angle, condition for maximum horizontal range 10th problem Practice and Doubt Solving 11th circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular eccleration 12th Unit test-3 and Doubt Solving 13th definition and concept of work and torque 14th types of friction and Angle of repose, Methods for reducing friction, solving simple numericals 17th Unit test-4 and Doubt Solving 18th explaination of Newton's laws of gravitation, universal gravitational constant 20th variation of g with altitude and depth 21st kepler's laws of planetary motion 12th Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition of example of SHM, expression for displacement, velocity and acceleration of a body in SHM 25th Definition of relation between motion, transverse wave and longitudinal wave 25th Definition of relation between relacity, frequency and wavelength of a wave.		2nd		
Sth resolution of vectors, vector multiplication(sealar and vector product)	Oct.	3rd	Unit test- 1 and Doubt Solving	
2nd (1-6) Nov. 6th Unit test- 2 and Doubt Solving 7th concept of rest and motion, definition and concept of displacement, speed, velocity, acceleration, force 8th equations of motion under gravity, definition and example of projectile 10th brizontal range 10th brizontal range 10th Problem Practice and Doubt Solving 11th circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration 12th Unit test- 3 and Doubt Solving 13th definition and concept of work and torque 14th types of friction and Angle of repose, Methods for reducing friction, solving simple numericals 17th Unit test- 4 and Doubt Solving 18th explaination of Newton's laws of gravitation, universal gravitational constant 20th variation of g with altitude and depth 21st kepler's laws of planetary motion 22nd Unit test- 5 and Doubt Solving 23rd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of relation between velocity, frequency and wavelength, frequency, timeperiod) 27th Ultrasonics- definition, properties and applications 2		4th	Definition and concept of scalar and vector quantities, examples and types of vector, triangle and	
Concept of rest and motion, definition and concept of displacement, speed, velocity, acceleration, force equations of motion under gravity, definition and example of projectile time of flight, maximum height, horizontal range for projectile fired at an angle, condition for maximum horizontal range and poubt Solving circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration to trivial motion and concept of work and torque to types of friction (static and dynamic), limiting friction, laws of limiting friction, coefficient of friction for the types of friction and angular definition and concept of work and torque types of friction and angular of repose, Methods for reducing friction, solving simple numericals to the types of friction and Angle of repose, Methods for reducing friction, solving simple numericals to the types of friction and Doubt Solving explaination of Newton's laws of gravitation, universal gravitational constant acceleration due to gravity, it's relation with G and comparison between mass and weight variation of g with altitude and depth to the types of planetary motion to the types of planetary motion to the types of planetary motion and example of SHM, expression for displacement, velocity and acceleration of a body in SHM to Definition and example of wave motion, transverse wave and longitudinal wave to Definition and example of wave motion, transverse wave and longitudinal wave to Definition of relation between velocity, frequency and wavelength, frequency, timeperiod) to Derivation of relation between velocity, frequency and wavelength of a wave.		5th	resolution of vectors, vector multiplication(scalar and vector product)	
Nov. 8th equations of motion under gravity, definition and example of projectile 9th time of flight, maximum height, horizontal range for projectile fired at an angle, condition for maximum horizontal range 10th Problem Practice and Doubt Solving icircular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration 12th Unit test- 3 and Doubt Solving 4th (15-20) Nov. 15th Angle of friction and Angle of repose, Methods for reducing friction, eoefficient of friction 15th Angle of friction and Angle of repose, Methods for reducing friction, 16th solving simple numericals 17th Unit test- 4 and Doubt Solving 18th explaination of Newton's laws of gravitation, universal gravitational constant 22-27) Nov. 19th acceleration due to gravity, it's relation with G and comparison between mass and weight variation of g with altitude and depth 21st kepler's laws of planetary motion 22nd Unit test- 5 and Doubt Solving 23rd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition and example of wave motion, transverse wave and longitudinal wave Definition of different wave parameters (amplitude, wavelength, frequency, timeperiod) Derivation of relation between velocity, frequency and wavelength of a wave.		6th	Unit test- 2 and Doubt Solving	
Sth	` ′	7th	concept of rest and motion, definition and concept of displacement, speed, velocity, acceleration, force	
3rd (8-13) Nov. 10th Problem Practice and Doubt Solving circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration 12th Unit test- 3 and Doubt Solving 13th definition and concept of work and torque 14th (15-20) Nov. 15th Angle of friction(static and dynamic), limiting friction, laws of limiting friction, coefficient of friction 16th solving simple numericals 17th Unit test- 4 and Doubt Solving 18th explaination of Newton's laws of gravitation, universal gravitational constant 20th variation of g with altitude and depth 21st kepler's laws of planetary motion 22nd Unit test- 5 and Doubt Solving Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition of different wave parameters (amplitude, wavelength, frequency, timeperiod) 7th (6-11) Dec. 27th Ultrasonies- definition, properties and applications		8th	equations of motion under gravity, definition and example of projectile	
10th (8-13) Nov. 11th Problem Practice and Doubt Solving circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration 12th Unit test- 3 and Doubt Solving		9th	time of flight, maximum height, horizontal range for projectile fired at an angle, condition for maximum horizontal range	
Nov. 11th circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration 12th Unit test- 3 and Doubt Solving 4th (15-20) Nov. 15th Angle of friction and Angle of repose, Methods for reducing friction, 16th solving simple numericals 17th Unit test- 4 and Doubt Solving 5th (22-27) Nov. 19th acceleration due to gravity, it's relation with G and comparison between mass and weight 20th variation of g with altitude and depth 21st kepler's laws of planetary motion 4th (29 Nov 4 Dec.) 22rd Unit test- 5 and Doubt Solving 24th Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 25th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of relation between velocity, frequency and wavelength of a wave. 27th Ultrasonics- definition, properties and applications		10th		
13th definition and concept of work and torque	` ′	11th	circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration	
14th types of friction(static and dynamic), limiting friction, laws of limiting friction, coefficient of friction		12th	Unit test- 3 and Doubt Solving	
15-20 Nov. 15th Angle of friction(static and dynamic), limiting friction, laws of limiting friction, coefficient of friction		13th	definition and concept of work and torque	
Nov. 15th Angle of friction and Angle of repose, Methods for reducing friction, 16th solving simple numericals 17th Unit test- 4 and Doubt Solving 18th explaination of Newton's laws of gravitation, universal gravitational constant 19th acceleration due to gravity, it's relation with G and comparison between mass and weight 20th variation of g with altitude and depth 21st kepler's laws of planetary motion 4 Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of different wave parameters (amplitude, wavelength, frequency, timeperiod) 7th (6-11) Dec. Ultrasonics- definition, properties and applications		14th	types of friction(static and dynamic), limiting friction, laws of limiting friction, coefficient of friction	
17th Unit test- 4 and Doubt Solving 18th explaination of Newton's laws of gravitation, universal gravitational constant 19th acceleration due to gravity, it's relation with G and comparison between mass and weight 20th variation of g with altitude and depth 21st kepler's laws of planetary motion 22nd Unit test- 5 and Doubt Solving 29 Nov. 4 Dec.) 23rd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of different wave parameters(amplitude, wavelength, frequency, timeperiod) 7th (6-11) Dec. 27th Ultrasonics- definition, properties and applications	, ,	15th	Angle of friction and Angle of repose, Methods for reducing friction,	
Sth (22-27) Nov. 19th acceleration due to gravity,it's relation with G and comparison between mass and weight 20th variation of g with altitude and depth kepler's laws of planetary motion 21st kepler's laws of planetary motion Unit test- 5 and Doubt Solving 22nd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of different wave parameters(amplitude,wavelength,frequency, timeperiod) 7th (6-11) Dec. Ultrasonics- definition, properties and applications		16th	solving simple numericals	
19th acceleration due to gravity, it's relation with G and comparison between mass and weight		17th	Unit test- 4 and Doubt Solving	
Nov. 19th acceleration due to gravity, it's relation with G and comparison between mass and weight 20th variation of g with altitude and depth 21st kepler's laws of planetary motion 22nd Unit test- 5 and Doubt Solving 29 Nov 4 Dec.) 23rd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of different wave parameters(amplitude, wavelength, frequency, timeperiod) 7th (6-11) Dec. 27th Ultrasonics- definition, properties and applications		18th	explaination of Newton's laws of gravitation, universal gravitational constant	
21st kepler's laws of planetary motion 22nd Unit test- 5 and Doubt Solving 23rd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of different wave parameters(amplitude,wavelength,frequency, timeperiod) 7th (6-11) Dec. Ultrasonics- definition, properties and applications	, ,	19th	acceleration due to gravity,it's relation with G and comparison between mass and weight	
21st kepler's laws of planetary motion 22nd Unit test- 5 and Doubt Solving 23rd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of different wave parameters(amplitude, wavelength, frequency, timeperiod) 7th (6-11) Dec. 27th Ultrasonics- definition, properties and applications 20th		20th	variation of g with altitude and depth	
23rd Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM		21st		
23rd Definition and example of strivi, expression for displacement, vertexly and deceleration of a sody in SHM 24th Definition and example of wave motion, transverse wave and longitudinal wave 25th Definition of different wave parameters(amplitude, wavelength, frequency, timeperiod) 7th (6-11) Dec. Derivation of relation between velocity, frequency and wavelength of a wave. Ultrasonics- definition, properties and applications		22nd		
25th Definition of different wave parameters(amplitude,wavelength,frequency, timeperiod) 7th (6-11) Dec. 27th Ultrasonics- definition, properties and applications	`	23rd		
7th (6-11) Dec. 26th Derivation of relation between velocity, frequency and wavelength of a wave. Ultrasonics- definition, properties and applications		24th	Definition and example of wave motion, transverse wave and longitudinal wave	
(6-11) Dec. Derivation of relation between velocity, frequency and wavelength of a wave. Ultrasonics- definition, properties and applications		25th	Definition of different wave parameters(amplitude,wavelength,frequency, timeperiod)	
Dec. 27th Ultrasonics- definition, properties and applications		26th	Derivation of relation between velocity, frequency and wavelength of a wave.	
201	` ′	27th	Ultrasonics- definition, properties and applications	
		28th		

8th (13-18) Dec.	29th	Heat and Temperature- difinition, cocept, units
	30th	specific heat, change of state, latent heat
	31st	simple numericals
	32nd	Definition and concept of thermal expansion
	33rd	expansion of solids, coefficient of linear, superficial and cubical expansion, relation between alpha, beta, gamma
9th (20-25)	34th	cocept and relation of work and heat, joules mechanical equivalent of heat, first law of thermodynamics
Dec.	35th	Unit test- 7 and Doubt Solving
	36th	Definition and laws of reflection and refraction, definition and concept of refractive index
	37th	simple numericals, critical angle and total internal reflection
10th	38th	refraction through prism(ray diagram and formula)
(27 Dec. -1 Jan)	39th	Fibre optics: definition, properties and applications
	40th	Unit test- 8 and Doubt Solving
	41st	difinition and concept of Electrostatics, statement and explaination of coloumb's law, definition of unit charge, absolute and relative pemittivity
11th (3-8)	42nd	Electric potential, potential difference, electric field, electric field intensity
Jan	43rd	capacitance, series and parallel combination of capacitors, simple numericals
	44th	magnet, properties of magnet, coloumb's laws in magnetism,unit pole
	45th	magnetic field and magnetic field intensity,magnetic lines of force,magnetic flux and magnetic flux density, numericals
12th (10-15)	46th	Unit test- 9 and Doubt Solving
Jan	47th	electric current: definition, formula and SI units,
	48th	Ohm's law and it's applications
	49th	series and parallel combination of resistors
13th (17-22)	50th	simple numericals
Jan	51st	explaination of kirchoff's laws,application of kirchoff's law to wheatstonebridge, balanced WB and condition for balance
	52nd	Unit test- 10 and Doubt Solving
	53rd	electromagnetism: definition and concept, force acting on a current carrying conductor placed in uniform magnetic field, Fleming's left hand rule
14th (24-29)	54th	Faraday's laws of electromagnetic induction, Lenz's law, Fleming's right hand rule and comparision with Fleming's left hand rule
Jan	55th	Unit test- 11 and Doubt Solving
	56th	Laser and Laser beam(concept and Definition), Population inversion and Optical pumping, properties and applications of laser
15th	57th	wireless transmission: ground waves, sky waves, space waves
31st		

		LESSON PLAN FOR ACADEMIC SESSION 2021-22
Discipline: Physics	Semester: 1st Branch: Mechanical	Name of the Teaching Faculty: Abhilash Padhy
Subject: Engg. Physics Practical (Pr 2A)	No. of Days/per week class allotted: 04	Semester From date: 25/10/2021 To Date: 31/01/2022 No. of Weeks: 15
Week	Class Day/ Period	Topics to be covered
•	1st	Introductory Remarks on Course Structure, Laboratory Criteria,
1st (25-30)	2nd	Identification of Various Lab Equipment
Oct.	3rd	Theory of Vernier calliper and demonstration of of Experiment 01: Determination of the volume of a solid
3000	4th	cylinder using Vernier Caliper
2nd	5th	
(1-6)	6th	Conduction of Experiment 01 : Determination of the volume of a solid cylinder using Vernier Caliper
Nov.	7th	
	8th	Demonstration of Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper
3rd	9th 10th	Conduction of Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper
(8-13)	11th	Make up Lab and Lab Record Verification
Nov.	12th	Triake up Eus and Eus Record Vermounon
4th	13th	
(15-20) Nov.	14th	Theory of Screw Gauge and Demonstration of Experiment 03: Determination of the crossectional area of a wire using screw gauge.
5th	15th	
(22-27)	16th	Conduction of Experiment 03: Determination of the crossectional area of a wire using screw gauge.
Nov.	17th	Down and the distriction of Farmanian and a A. Datamanian distriction of Walance of a classic landing and a constant
	18th 19th	Demonstration of Experiment o4 : Determination of Volume of a glass lamina using screw gauge.
6th	20th	Conduction of Experiment o4 : Determination of Volume of a glass lamina using screw gauge
(29 Nov.	21st	consumer of Emportation of Assume of Assume the Marine and Marine
- 4 Dec.)	22nd	Make up Lab and Lab Record Verification
7th	23rd	Theory of Spherometer and demonstration of Experiment 05 : Determination of Radius of curvature of a
(6-11)	24th	convex surface, using spherometer
Dec.	25th	Conduction of Francisco 4 05 · Determined Conduction Conduction
	26th 27th	Conduction of Experiment 05 : Determination of Radius of curvature of a convex surface, using spherometer Demonstration of Experiment 06 : Determination of Radius of curvature of a concave surface, using
8th	27th 28th	spherometer
(13-18)	29th	Conduction of Experiment 06 : Determination of Radius of curvature of a concave surface, using
Dec.	30th	spherometer
	31st	
9th	32nd	Make up Lab and Lab Record Verification
(20-25) Dec.	33rd	Theory Class on Simple pendulum and demonstration of Experiment 07 : Determination of 'g' by using
	34th	simple pendulum
10th (27 Dec. -1 Jan)	35th	
	36th	Conduction of Experiment 07 : Determination of 'g' by using simple pendulum
	37th	Theory Class on Magnetic field and lines of forces and demonstration of Experiment 08: Determination of the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing
	38th	north.

44.3	39th	Conduction of 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.
11th (3-8)	40th	
Jan	41st	Demonstration of 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.
	42nd	
12th (10-15)	43rd	Conduction of 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.
Jan	44th	
	45th	Theory of Refraction through Prism and demonstration of Experiment 10: Determination of angle of minimum deviation for a prism and Demonstration of Experiment 11: Determination of the angle of prism.
13th (17-22)	46th	
Jan	47th	Conduction of Experiment 10 : Determination of angle of minimum deviation for a prism and Conduction of
	48th	Experiment 11: Determination of the angle of prism.
14th	49th	
(24-29)	50th	Makeup Lab and Lab Record Verification

	LESSON PLAN FOR ACADEMIC SESSION 2021-22
Branch: Civil	Name of the Teaching Faculty: Abhilash Padhy
No. of Days/per week class allotted: 04	Semester From date: 25/10/2021 To Date: 31/01/2022 No. of Weeks: 15
Class Day/ Period	Topics to be covered
1st	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
2nd	Dimensions and Dimensional formulae, Principle of Homogeneity and Applications of Dimensional Analysis
3rd	Unit test- 1 and Doubt Solving
4th	Definition and concept of scalar and vector quantities, examples and types of vector, triangle and parallelogram law of vector addition,
5th	resolution of vectors, vector multiplication(scalar and vector product)
6th	Unit test- 2 and Doubt Solving
7th	concept of rest and motion, definition and concept of displacement, speed, velocity, acceleration, force
8th	equations of motion under gravity, definition and example of projectile
9th	time of flight, maximum height, horizontal range for projectile fired at an angle, condition for maximum horizontal range
10th	Problem Practice and Doubt Solving
11th	circular motion(angular displacement, velocity, acceleration), relation between linear velocity and angular velocity, relation between linear and angular acceleration
12th	Unit test- 3 and Doubt Solving
13th	definition and concept of work and torque
14th	types of friction(static and dynamic), limiting friction, laws of limiting friction, coefficient of friction
15th	Angle of friction and Angle of repose,Methods for reducing friction,
16th	solving simple numericals
17th	Unit test- 4 and Doubt Solving
18th	explaination of Newton's laws of gravitation,universal gravitational constant
19th	acceleration due to gravity,it's relation with G and comparison between mass and weight
20th	variation of g with altitude and depth
21st	kepler's laws of planetary motion
22nd	Unit test- 5 and Doubt Solving
23rd	Definition and example of SHM, expression for displacement, velocity and acceleration of a body in SHM
24th	Definition and example of wave motion, transverse wave and longitudinal wave
25th	Definition of different wave parameters(amplitude, wavelength, frequency, timeperiod)
26th	Derivation of relation between velocity, frequency and wavelength of a wave.
27th	Ultrasonics- definition, properties and applications
	Civil No. of Days/per week class allotted: 04 Class Day/ Period 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 15th 16th 17th 18th 19th 20th 21st 22nd 23rd 24th 25th 26th

	28th	Unit test- 6 and Doubt Solving
8th (13-18) – Dec.	29th	Heat and Temperature- difinition, cocept, units
	30th	specific heat, change of state, latent heat
Ī	31st	simple numericals
	32nd	Definition and concept of thermal expansion
9th	33rd	expansion of solids, coefficient of linear, superficial and
(20-25)		cubical expansion, relation between alpha, beta, gamma
Dec.	34th	cocept and relation of work and heat, joules mechanical equivalent of heat, first law of thermodynamics
	35th	Unit test- 7 and Doubt Solving
	36th	Definition and laws of reflection and refraction, definition and concept of refractive index
10th (27 Dec. –	37th	simple numericals, critical angle and total internal reflection
-1 Jan)	38th	refraction through prism(ray diagram and formula)
	39th	Fibre optics: definition, properties and applications
	40th	Unit test- 8 and Doubt Solving
11th	41st	difinition and concept of Electrostatics statement and explaination of coloumb's law, definition of unit charge, absolute and relative pemittivity
(3-8) Jan	42nd	statement and explanation of coloumo's law, definition of unit enarge, absorute and relative pennutrity
-		Electric potential, potential difference, electric field, electric field intensity
	43rd	capacitance, series and parallel combination of capacitors, simple numericals
12th	44th	magnet, properties of magnet, coloumb's laws in magnetism, unit pole magnetic field and magnetic field intensity, magnetic lines of force, magnetic flux and magnetic flux density,
(10-15)	45th	numericals
Jan _	46th	Unit test- 9 and Doubt Solving
	47th	electric current: definition, formula and SI units,
	48th	Ohm's law and it's applications
	49th	series and parallel combination of resistors
13th	50th	simple numericals
(17-22) Jan	51st	explaination of kirchoff's laws,application of kirchoff's law to wheatstonebridge,balanced WB and condition for balance
	52nd	Unit test- 10 and Doubt Solving
	53rd	electromagnetism: definition and concept, force acting on a current carrying conductor placed in uniform magnetic field, Fleming's left hand rule
14th _ (24-29) Jan =	54th	Faraday's laws of electromagnetic induction, Lenz's law, Fleming's right hand rule and comparision with Fleming's left hand rule
	55th	Unit test- 11 and Doubt Solving
	56th	Laser and Laser beam(concept and Definition), Population inversion and Optical pumping, properties and applications of laser
15th 31st –	57th	wireless transmission: ground waves, sky waves, space waves
Jan –	58th	Unit test- 12 and Doubt Solving

		LESSON PLAN FOR ACADEMIC SESSION 2021-22
Discipline: Physics	Semester: 1st Branch: Civil	Name of the Teaching Faculty: Abhilash Padhy
Engg. Physics	No. of Days/per	Semester From date: 25/10/2021 To Date: 31/01/2022
practical (Pr 2A)	week class allotted: 04	No. of Weeks: 15
Week	Class Day/ Period	Topics to be covered
	1st	Introductory Remarks on Course Structure, Laboratory Criteria,
1st (25-30)	2nd	Identification of Various Lab Equipment
Oct.	3rd	Theory of Vernier calliper and demonstration of of Experiment 01: Determination of the volume of a solid
	4th	cylinder using Vernier Caliper
2nd	5th	
(1-6) Nov.	6th	Conduction of Experiment 01 : Determination of the volume of a solid cylinder using Vernier Caliper
1101.	7th	
3rd	8th	Demonstration of Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper
(8-13) Nov.	9th	
Nov.	10th	Conduction of Experiment 02 : Determination of the volume of an hollow cylinder using Vernier Caliper
	11th	
4th	12th	Make up Lab and Lab Record Verification
(15-20)	13th	
Nov.	14th	Theory of Screw Gauge and Demonstration of Experiment 03: Determination of the crossectional area of
		a wire using screw gauge.
5th	15th	
(22-27)	16th	Conduction of Experiment 03 : Determination of the crossectional area of a wire using screw gauge.
Nov.	17th	
	18th	Demonstration of Experiment o4 : Determination of Volume of a glass lamina using screw gauge.
6th	19th	
(29 Nov.	20th	Conduction of Experiment o4 : Determination of Volume of a glass lamina using screw gauge
- 4 Dec.)	21st	
	22nd	Make up Lab and Lab Record Verification
741	23rd	Theory of Spherometer and demonstration of Experiment 05: Determination of Radius of curvature of a
7th (6-11)	24th	convex surface, using spherometer
Dec.	25th	Conduction of Experiment 05: Determination of Radius of curvature of a convex surface, using
	26th	spherometer
	27th	Demonstration of Experiment 06 : Determination of Radius of curvature of a concave surface, using
8th	28th	spherometer
(13-18) Dec.	29th	Conduction of Experiment 06 : Determination of Radius of curvature of a concave surface, using
	30th	spherometer
0.7	31st	
9th (20-25) Dec.	32nd	Make up Lab and Lab Record Verification
	33rd	Theory Class on Simple pendulum and demonstration of Experiment 07: Determination of 'g' by using
	34th	simple pendulum
10th	35th 36th	Conduction of Experiment 07 : Determination of lat by using simple nondulum
(27 Dec.	37th	Conduction of Experiment 07: Determination of 'g' by using simple pendulum rineory class on wagnetic field and fines of forces and demonstration of experiment os: Determination of
-1 Jan)	38th	the neutral point and drawing magnetic lines of force due to a bar magnet when its north pole is facing
	Joill	north.

11th (3-8)	39th	Conduction of Experiment 08: Determination of the neutral point and drawing magnetic lines of force due
	40th	to a bar magnet when its north pole is facing north.
Jan	41st	Demonstration of Experiment 09 : Determination of the neutral point and drawing magnetic lines of force
	42nd	due to a bar magnet when its north pole is facing south.
	43rd	Conduction of Experiment 09 : Determination of the neutral point and drawing magnetic lines of force due
12th (10-15)	44th	to a bar magnet when its north pole is facing south.
Jan [45th	Theory of Refraction through Prism and demonstration of Experiment 10 : Determination of angle of
	46th	minimum deviation for a prism
	47th	
13th (17-22)	48th	Conduction of Experiment 10 : Determination of angle of minimum deviation for a prism
Jan	49th	
	50th	Demonstration of Experiment 11: Determination of the angle of prism.
	51st	
14th (24-29)	52nd	Conduction of Experiment 11: Determination of the angle of prism.
Jan	53rd	
	54th	Makeup Lab and Lab Record Verification
15th	57th	
31st Jan	58th	Makeup Lab and Lab Record Verification