

Lesson Plan

Name of the Faculty: Dr. PARMJEET KAUR

Discipline: Applied Science and Humanities (Diploma)

Semester: 1st

Subject: Applied Physics-I, Applied Physics Lab-I

Work Load (Lecture/Practical) per week (in hours): Lectures- 4, Practical - 2

Week	Theory		Practical	
	Lecture day	Topic (including assignment/test)	Practical day	Topic
1 st	1 st	Physical quantities Units - fundamental and derived units	1 st	Familiarisation with Least count of vernier caliper
	2 nd	systems of units- (FPS, CGS and SI units)		
	3 rd	Dimensions and dimensional formulae of physical quantities (area, volume, velocity, acceleration, momentum,		
	4 th	force, impulse, work, power, energy, surface tension, stress, strain, moment of inertia		
2 nd	5 th	Principle of homogeneity of dimensions, Limitations of dimensional analysis	2 nd	Familiarisation with least count of screw gauge
	6 th	Dimensional equations and dimensional analysis		
	7 th	Applications of dimensional equations, conversion from one system of units to other for density, force, work, energy, velocity and acceleration		
	8 th	checking of correctness and derivation of formulas (potential energy, kinetic energy, pressure)		
3 rd	9 th	checking of correctness and derivation of formulas (potential energy, kinetic energy, pressure)	3 rd	Familiarisation with least count of spherometer
	10 th	TEST		
	11 th	Scalar and vector quantities – examples, representation of vector		
	12 th	Addition of Vectors, Triangle and Parallelogram law (Statement only)		
4 th	13 th	Scalar and Vector Product(statement and formula only)	4 th	To find diameter of solid cylinder using a vernier caliper
	14 th	Force, Rectangular components, Resolution of force		
	15 th	Newton's laws of motion(Statement and examples), Momentum, Conservation of linear momentum(statement only),its applications		
	16 th	recoil of gun., Impulse and its examples		
5 th	17 th	Circular motion, definition of angular displacement, angular velocity	5 th	To find the diameter of wire using screw gauge
	18 th	Angular acceleration, frequency, time period		
	19 th	Relation between linear and angular velocity,		

		linear acceleration and angular Acceleration		
	20 th	Centripetal and centrifugal forces(definition and formula only)		
6 th	21 st	Application of centripetal force such as Banking of roads(derivation of angle of banking)	6 th	To find thickness of paper using screw gauge.
	22 nd	REVISION		
	23 rd	TEST		
	24 th	Work: and its units, types of work (zero work, positive work and negative work with examples)		
7 th	25 th	Energy and its units: Kinetic energy and potential energy with examples and their derivation	7 th	To determine the thickness of glass strip using a spherometer
	26 th	Energy and its units: Kinetic energy and potential energy with examples and their derivation		
	27 th	Principle of conservation of mechanical energy for freely falling bodies		
	28 th	examples of transformation of energy		
8 th	29 th	Power (definition,formula and units)	8 th	To determine the thickness of glass strip using a spherometer
	30 th	REVISION		
	31 st	TEST		
	32 nd	Rotational motion with examples		
9 th	33 rd	Definition of torque and angular momentum and their examples	9 th	To verify parallelogram law of forces
	34 th	Conservation of angular momentum (quantitative) and its examples		
	35 th	Moment of inertia and its physical significance		
	36 th	radius of gyration (definition, derivation and formula).		
10 th	37 th	REVISION	10 th	To verify parallelogram law of forces
	38 th	TEST		
	39 th	Definition and types of stress and strain		
	40 th	Hooke's law		
11 th	41 st	different types of module of elasticity	11 th	To determine force constant of spring using Hooke's law
	42 nd	Pressure: definition, its units, atmospheric pressure		
	43 rd	gauge pressure, absolute pressure		
	44 th	Surface tension: definition, its units, applications of surface tension		
12 th	45 th	effect of temperature on Surface tension	12 th	To determine force constant of spring using Hooke's law
	46 th	Viscosity: definition, units, effect of temperature on viscosity		
	47 th	Fluid motion, stream line and turbulent flow.		
	48 th	REVISION		
13 th	49 th	TEST	13 th	REVISION
	50 th	Difference between heat and temperature		
	51 st	Modes of transfer of heat (Conduction, convection and radiation with examples)		
	52 nd	Properties of heat radiation		
14 th	53 rd	Different scales of temperature and their relationship	14 th	REVISION

	54th	Principles of measurement of temperature		
	55th	Thermal conductivity(definition)		
	56th	co-efficient of thermal conductivity		
15th	57th	REVISION	15th	REVISION
	58th	TEST		
	59th	TEST		
	60th	TEST		