

LESSON PLAN OF ENGINEERING PHYSICS

Discipline:- Civil & Mechanical Engineering	Semester:- 1 st
Subject:- Engg. Physics (Th.2a)	Name of the Teaching Faculty:- Chinmmaya Kumar Panda
No. of weeks: 15	No. of days per week class allotted:-04
Semester From Date: 25/10/2022	To Date:31/01/2023

Week	Class/ day	Theory Topics
1st	1st	UNIT:1 UNIT & DIMENSIONS Physical quantities - (Definition) Definition of fundamental and derived units, systems of units (FPS, CGS, MKS and SI units).
	2nd	Definition of dimension and Dimensional formulae of physical quantities.
	3rd	Dimensional equations and Principle of homogeneity. Checking the dimensional correctness of Physical relations.
	4th	UNIT:2 SCALARS & VECTORS Scalar and Vector quantities (definition and concept), Representation of a Vector – Examples, types of vectors.
2nd	1st	Triangle and Parallelogram law of vector Addition (Statement only). Simple Numerical. Resolution of Vectors – Simple Numericals on Horizontal and Vertical components.
	2nd	Vector multiplication (scalar product and vector product of vectors).
	3rd	UNIT:3 KINEMATICS Concept of Rest and Motion.
	4th	Displacement, Speed, Velocity, Acceleration & FORCE (Definition, formula, dimension & SI units). Equations of Motion under Gravity (upward and downward motion) - no derivation.
3rd	1st	Circular motion: Angular displacement, Angular velocity and Angular acceleration (definition, formula & SI units).
	2nd	Relation between –(i) Linear & Angular velocity, (ii) Linear & Angular acceleration).
	3rd	Define Projectile, Examples of Projectile
	4th	Expression for Equation of Trajectory, Time of Flight, Maximum Height and Horizontal Range for a projectile fired at an angle, Condition for maximum Horizontal Range.
		<i>CLASS TEST</i>
4th	1st	UNIT:4 WORK & FRICTION Work – Definition, Formula & SI units. Friction – Definition & Concept.
	2nd	Types of friction (static, dynamic), Limiting Friction (Definition with Concept).
	3rd	Laws of Limiting Friction (Only statement, No Experimental Verification).
	4th	Coefficient of Friction – Definition & Formula, Simple Numericals.
5th	1st	Methods to reduce friction.
	2nd	UNIT:5 GRAVITATION Newton's Laws of Gravitation – Statement and Explanation. Universal Gravitational Constant (G)- Definition, Unit and Dimension.
	3rd	Acceleration due to gravity (g)- Definition and Concept. Definition of mass and weight.
	4th	Relation between g and G.

