

<b>LESSON PLAN (From Date:-16-08-2023 to Date:- 11-12-2023), No. of Weeks:- 17</b>			
<b>BRANCH :- MECHANICAL &amp; ELECTRICAL ENGINEERING, SEMESTER:- 1ST SEMESTER(WINTER-2023)</b>			
<b>Subject:- Engg. Physics Theory(Th-2A) , Name of Faculty :- Miss Abhilipsa priyadarsani Das</b>			
<b>Month</b>	<b>Week</b>	<b>Period</b>	<b>Topic to be Discussed</b>
August	3rd	1	Physical Quantities, Fundamental and derived units, CGS,MKS,FPS,SI system of units
		2	Dimension and Dimensionless formula of physical quantities, dimensional equation, principle of homogeneity
August	4th	1	Application of principle of homogeneity(dimensional analysis)
		2	Scalars and vectors,representation of vectors, types of vectors
		3	Triangles and parallelogram of vector addition, vector resolution
		4	Vector multiplication(scalar and vector)
Aug/ Sept	5th/1st	1	Concept of rest and motion, displacement, speed, velocity, acceleration, force
		2	Equation of motion under gravity (upward and downward motion)
		3	Circular motion: Angular displacement, Angular velocity, Angular acceleration
Sept	2nd	1	Relationship between linear and angular velocity, linear and angular acceleration
		2	Projectile, examples, expression for equation of trajectory
		3	Expression for time of flight, Maximum height and maximum horizontal range for a projectile at an angle with horizontal
Sept	3rd	1	Work, Energy power , Friction
		2	Types of friction, limiting friction
		3	Laws of Limiting friction
		4	Coefficient of friction, methods to reduce friction
Sept	4th	1	Newton's law of gravitation, universal gravitational constant
		2	Acceleration due to gravity, variation of g with altitude and depth
Sept	5th	1	relation between g and G, comparision between mass and weight
		2	Kepler's law of planetary motion
		3	SHM, expression for displacement, velocity, acceleration of body executing SHM
		4	wave motion, Transverse wave and Longitudinal wave
Oct	1st	1	Wave parameters (amplitude, wavelength, frequency, time period) relation between the wave parameters
		2	Ultrasonics
		3	Heat and temperatur, unit of heat, specific heat
Oct	2nd	1	Change of state,Latent heat
		2	Thermal expansion, expansion of solids
		3	Co-efficient of linear, superficial, and cubical expansionof solids, relation of between $\alpha,\beta,\gamma$
		4	Work, and heat, Jouels law of mechanical equivalent of heat, First law of thermodyanmics
Oct	3rd	1	simple numerical problems
		2	Reflection, laws of reflection , Refraction and Laws of refraction, Refractive index
		3	Total internal reflection, Critical angle
		4	Refraction through prism, fibre optics
Oct	4th		<b>PUJA HOLIDAYS</b>

Oct/Nov	5th/1st	1	Coloumb's law of electrostatics, unit charge, absolute and relative permittivity
		2	Electric potential, Potential difference
		3	Electric field, Electric field intensity
		4	Capacitance, effective capacitance when capacitors combined in series and parallel
Nov	2nd	1	Magnet, properties of magnet
		2	Coloumb's law of magnetism
		3	Magnetic field, magnetic field intensity
		4	Magnetic lines of force, Magnetic flux density
Nov	3rd	1	Electric current, Ohm's law and its application
		2	Equivalent Resistance when resistors are connected in series and parallel
		3	Kirchoff's law
		4	Application of Kirchoff's law to get balanced condition of Wheatstone bridge
Nov	4th	1	simple numerical problems
		2	Electromagnetism, force acting on a current carrying conductor placed in a uniform magnetic field
		3	Flemming's left hand rule, Faraday's law of electromagnetic induction
		4	Lenz's law, Fleming's Right hand rule
Dec	2nd	1	Comparison between Fleming's left hand rule and Fleming's Right hand rule
		2	Laser, Principle of laser
		3	Wireless Transmission- Ground wave
		4	sky wave and space waves
Dec	3rd	1	Revision
		2	Revision
		3	Revision

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11/8/23