Badriprasad Institute of Technology, Sambalpur

Lesson plan for Theory –2a.Engineering Physics
Semester & Branch : 1st Sem. & 2nd Sem. (Common to all)   Total Periods-60
Name of the faculties: Mrs Manasmita Mishra   No of periods /week-4
**   Miss Eetishree Chandan**

WEEK	CLASS	THEORY
1ST	1ST	Physical quantities- definition, fundamental and derived units, systems of units.
	2ND	Dimensional formula- definition and dimensional formula of different physical quantities.
	3RD	Principle of homogeneity of dimensions- numericals
	4TH	Checking the dimensional correctness of physical quantities.
2ND	1ST	scalar and vector quantities, types of vectors.
	2ND	Triangle and parallelogram law of vector addition-statement and numericals
	3RD	Resolution of vector-numerical.
	4TH	Vector multiplication - scalar product and vector product
3RD	1ST	Cocept of rest and motion, displacement, speed, velocity, acceleration, force.
	2ND	Equations of motion under gravity.
	3RD	Circular motion - angular displacement, angular velocity, angular acceleration.
	4TH	Numericals on circular motion
4TH	1ST	Derivation for relation between linear and angular velocity and acceleration
	2ND	Projectile - definition and examples.
	3RD	Finding expressions for time of flight, maximum height,
	4TH	Horizontal range for a projectile, condition for maximum horizontal range.
5TH	1ST	Work, Concept of friction
	2ND	Types of friction- static and dynamic friction.
	3RD	Laws of Limiting Friction

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	4TH	Coefficient of Friction
6TH	1ST	Methods to reduce friction
	2ND	Numericals on friction
	3RD	Newton's Laws of Gravitation,acceleration due to gravity(g)
	4TH	Variation of g with altitude and depth
7TH	1ST	Numericals on acceleration due to gravity.
	2ND	Kepler's law of planetary motion
	3RD	Simple harmonic motion and expression for displacement, velocity and acceleration of a particle
	4TH	Wave motion and types of wave motion
8TH	1ST	Wave parameters and relation between velocity, frequency and wave length of a wave
	2ND	Numericals on wave equation.
	3RD	Ultrasonics
	4TH	Heat and temperature
9TH	1ST	Work and heat, joule's mechanical equivalent of heat
	2ND	1st law of thermodynamics
	3RD	Numericals on work and heat.
	4TH	Reflection and refraction, Laws of reflection and refraction
10TH	1ST	Refractive index and total internal reflection
	2ND	Refraction through prism
	3RD	Fiber optics
	4TH	Numerical on optics.
11TH	1ST	Electrostatics and its concept, coulomb's law

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	2ND	Absolute and relative permeability
	3RD	Electric potential and potential difference, electric field and electric field intensity
	4TH	Numericals on Electrostatics.
12TH	1ST	Magnet and its properties, coulomb's law of magnetism
	2ND	Magnetic field, magnetic field intensity and magnetic lines of force
	3RD	Magnetic flux and magnetic flux density
	4TH	Numericals on Magnetism
13TH	1ST	Electric current , ohm's law and its applications
	2ND	Series and parallel combination of resistors
	3RD	Kirchoff's laws and its applications
	4TH	Numerical on electric current.
14TH	1ST	Electromagnetism,
	2ND	force on a current carrying conductor placed in a uniform magnetic field
	3RD	Faradays laws of electromagnetic induction-
	4TH	Lenz's law, Fleming's right hand rule and left hand rule
15TH	1ST	Numerical on electromagnetism
	2ND	Laser and laser beam, Properties of laser
	3RD	Applications of laser. Principle of laser
	4TH	Numericals on Laser and revision.

Sign of Faculties   Sign of HOD