

LESSON PLAN -2019-20
SWAMI VIVEKANANDA SCHOOL OF ENGG &TECH,BBSR

DISCIPLINE- FIRST YEAR	SEMESTER-2nd	NAME OF TEACHING FACULTY-SURYAKANTA PARIDA
SUBJECT- ENGINEERING PHYSICS	NO OF CLASS ALLOTTED/PER WEEK- (5+1)	SEMESTER From date-2/1/2020 to 29/4/2020 NO OF WEEKS-20
WEEK	CLASS DAY(DATES)	THEORY TOPICS
1st	1/2/2020	UNITS AND DIMENSIONS:-Physical quantities - (Definition).
	1/3/2020	Definition of fundamental and derived units, systems of units (FPS, CGS, MKS and SI units).
	1/4/2020	Definition of dimension and Dimensional formulae of physical quantities.
	1/6/2020	Definition of dimension and Dimensional formulae of physical quantities.
2nd	1/7/2020	Definition of dimension and Dimensional formulae of physical quantities.
	1/8/2020	Dimensional equations and Principle of homogeneity
	1/9/2020	Checking the dimensional correctness of Physical relations.
	1/10/2020	Checking the dimensional correctness of Physical relations.
	1/11/2020	CLASS TEST
3rd	1/13/2020	SCALARS AND VECTORS:-Scalar and Vector quantities (definition and concept), Representation of a Vector – examples, types of vectors.
	1/14/2020	SCALARS AND VECTORS:-Scalar and Vector quantities (definition and concept), Representation of a Vector – examples, types of vectors.
	1/15/2020	Triangle and Parallelogram law of vector Addition (Statement only). Simple Numerical.
	1/16/2020	Triangle and Parallelogram law of vector Addition (Statement only). Simple Numerical.
	1/17/2020	Resolution of Vectors – Simple Numericals on Horizontal and Vertical components.
	1/18/2020	Vector multiplication (scalar product and vector product of vectors).
4th	1/20/2020	Vector multiplication (scalar product and vector product of vectors).
	1/21/2020	CLASS TEST
	1/22/2020	KINEMATICS:-Concept of Rest and Motion.Displacement, Speed, Velocity, Acceleration & FORCE (Definition, formula, dimension & SI units).
	1/24/2020	Concept of Rest and Motion.Displacement, Speed, Velocity, Acceleration & FORCE (Definition, formula, dimension & SI units).
	1/25/2020	Equations of Motion under Gravity (upward and downward motion) - no derivation.
5th	1/27/2020	Circular motion: Angular displacement, Angular velocity and Angular acceleration (definition, formula & SI units)
	1/28/2020	Relation between –(i) Linear & Angular velocity, (ii) Linear & Angular acceleration).
		Define Projectile, Examples of Projectile.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.
	1/30/2020	Define Projectile, Examples of Projectile.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.
1st	1/31/2020	CLASS TEST
	2/1/2020	WORK AND FRICTION:-Work – Definition, Formula & SI units.Friction – Definition & Concept
	2/3/2020	Types of friction (static, dynamic), Limiting Friction (Definition with Concept).
2nd	2/4/2020	Laws of Limiting Friction (Only statement, No Experimental Verification).Coefficient of Friction – Definition & Formula, Simple Numericals.
	2/5/2020	Methods to reduce friction.
	2/6/2020	CLASS TEST
	2/7/2020	GRAVITATION:-Newton's Laws of Gravitation – Statement and Explanation.
	2/8/2020	Universal Gravitational Constant (G)- Definition, Unit and Dimension.Acceleration due to gravity (g)- Definition and Concept.
	2/10/2020	Internal assessment

3rd	2/11/2020	Definition of mass and weight. Relation between g and G.
	2/12/2020	Variation of g with altitude and depth (No derivation – Only Explanation).
	2/13/2020	Variation of g with altitude and depth (No derivation – Only Explanation).
	2/14/2020	Kepler's Laws of Planetary Motion (Statement only).
	2/15/2020	CLASS TEST
4th	2/17/2020	OSCILLATIONS AND WAVES:-Simple Harmonic Motion (SHM) - Definition & Examples.
	2/18/2020	Expression (Formula/Equation) for displacement, velocity, acceleration of a body/ particle in SHM.
	2/19/2020	Expression (Formula/Equation) for displacement, velocity, acceleration of a body/ particle in SHM.
	2/20/2020	Wave motion – Definition & Concept. Transverse and Longitudinal wave motion – Definition, Examples & Comparison.
	2/22/2020	Transverse and Longitudinal wave motion – Definition, Examples & Comparison.
	2/24/2020	Definition of different wave parameters (Amplitude, Wavelength, Frequency, Time Period).
5th	2/25/2020	Derivation of Relation between Velocity, Frequency and Wavelength of a wave
	2/26/2020	Ultrasonics – Definition, Properties & Applications.
	2/27/2020	CLASS TEST
	2/28/2020	HEAT AND THERMODYNAMICS:-Heat and Temperature – Definition & Difference ,Units of Heat (FPS, CGS, MKS & SI).
1st	2/29/2020	Specific Heat (concept, definition, unit, dimension and simple numerical)
	3/2/2020	Specific Heat (concept, definition, unit, dimension and simple numerical)
2nd	3/3/2020	Change of state (concept), Latent Heat (concept, definition, unit, dimension and simple numerical)
	3/4/2020	Thermal Expansion – Definition & Concept ,Expansion of Solids (Concept)
	3/5/2020	Coefficient of linear, superficial and cubical expansions of Solids – Definition & Units.
	3/6/2020	Relation between α , β & γ
3rd	3/7/2020	Work and Heat - Concept & Relation. Joule's Mechanical Equivalent of Heat (Definition, Unit)
	3/11/2020	First Law of Thermodynamics (Statement and concept only)
	3/12/2020	CLASS TEST
	3/13/2020	OPTICS:-Reflection & Refraction – Definition. Laws of reflection and refraction (Statement only)
	3/16/2020	Refractive index – Definition, Formula & Simple numerical.
	3/17/2020	Critical Angle and Total internal reflection – Concept, Definition & Explanation
	3/18/2020	Refraction through Prism (Ray Diagram & Formula only – NO derivation)..
	3/19/2020	Fiber Optics – Definition, Properties & Applications.
4th	3/20/2020	internal assessment
	3/21/2020	ELECTROSTATICS & MAGNETOSTATICS:-Electrostatics – Definition & Concept. Statement & Explanation of Coulombs laws, Definition of Unit charge.
	3/23/2020	ELECTROSTATICS & MAGNETOSTATICS:-Electrostatics – Definition & Concept. Statement & Explanation of Coulombs laws, Definition of Unit charge.
	3/24/2020	Absolute & Relative Permittivity (ϵ) – Definition, Relation & Unit., Electric potential and Electric Potential difference (Definition, Formula & SI Units).
	3/25/2020	Absolute & Relative Permittivity (ϵ) – Definition, Relation & Unit., Electric potential and Electric Potential difference (Definition, Formula & SI Units).
	3/26/2020	Electric field, Electric field intensity (E) – Definition, Formula & Unit. Capacitance - Definition, Formula & Unit.
	3/27/2020	Series and Parallel combination of Capacitors. (No derivation, Formula for effective/Combined/total capacitance & Simple numericals).
	3/28/2020	Magnet, Properties of a magnet. Coulomb's Laws in Magnetism – Statement & Explanation, Unit Pole (Definition).
	3/30/2020	Magnet, Properties of a magnet. Coulomb's Laws in Magnetism – Statement & Explanation, Unit Pole (Definition).
	3/31/2020	Magnetic field, Magnetic Field intensity (H) - (Definition, Formula & SI Unit), Magnetic lines of force (Definition and Properties), Magnetic Flux (Φ) & Magnetic Flux Density (B) – Definition, Formula & Unit.
5th		

1st	4/2/2020	Magnetic field, Magnetic Field intensity (H) - (Definition, Formula & SI Unit),Magnetic lines of force (Definition and Properties),Magnetic Flux (Φ) & Magnetic Flux Density (B) – Definition, Formula & Unit.
	4/3/2020	CLASS TEST
	4/4/2020	CURRENT ELECTRICITY:-Electric Current – Definition, Formula & SI Units.Ohm’s law and its applications.
	4/6/2020	Series and Parallel combination of resistors (No derivation, Formula for effective/Combined/ total resistance & Simple numericals).
	4/7/2020	Kirchhoff’s laws (Statement & Explanation with diagram).
	4/8/2020	Application of Kirchhoff’s laws to Wheatstone bridge - Balanced condition of Wheatstone’s Bridge – Condition of Balance (Equation).
2nd	4/9/2020	Application of Kirchhoff’s laws to Wheatstone bridge - Balanced condition of Wheatstone’s Bridge – Condition of Balance (Equation).
	4/10/2020	ELECTROMAGNETISM & ELECTROMAGNETIC INDUCTION:-Electromagnetism – Definition & Concept.Force acting on a current carrying conductor placed in a uniform magnetic field,
	4/11/2020	ELECTROMAGNETISM & ELECTROMAGNETIC INDUCTION:-Electromagnetism – Definition & Concept.Force acting on a current carrying conductor placed in a uniform magnetic field,
	4/13/2020	Faraday’s Laws of Electromagnetic Induction (Statement only) Lenz’s Law (Statement)
	4/14/2020	Fleming’s Left Hand Rule ,Fleming’s Right Hand Rule,Comparison between Fleming’s Right Hand Rule and Fleming’s Left Hand Rule.
	4/15/2020	Fleming’s Left Hand Rule ,Fleming’s Right Hand Rule,Comparison between Fleming’s Right Hand Rule and Fleming’s Left Hand Rule.
3rd	4/16/2020	LASER & laser beam (Concept and Definition) Principle of LASER (Population Inversion & Optical Pumping)
	4/17/2020	LASER & laser beam (Concept and Definition) Principle of LASER (Population Inversion & Optical Pumping)
	4/18/2020	Properties & Applications of LASER
	4/20/2020	Wireless Transmission – Ground Waves, Sky Waves, Space Waves(Concept & Definition)
	4/21/2020	CLASS TEST
4th	4/22/2020	Revision-1 previous year question answer discussion
	4/23/2020	Revision-2 previous year question answer discussion
	4/24/2020	Revision-3 previous year question answer discussion
	4/25/2020	Revision-4 previous year question answer discussion
	4/27/2020	Revision-5 previous year question answer discussion
5th	4/28/2020	Revision-6 previous year question answer discussion
	4/29/2020	Revision-7 previous year question answer discussion
	4/30/2020	Revision-8 previous year question answer discussion