GOVERNMENT POLYTECHNIC JAJPUR
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LESSON PLAN

1ST SEMESTER

No. of classes available per week-4

Total period available-60

Class duration-55 minutes

Teaching Method: Offline, Lecture note,
Learning Method- Daily Assignment, Unit test, quiz.

DEPARTMENT OF MATH & SCIENCE

LESSON PLAN

Discipline: Math &	Semester: 1st	Name of the Teaching faculty: Dr BISWAMBHAR MOHANTY Name of the Teaching faculty: SUNITA SAHOO
Subject: Engg. Physics	No of Days/Week class alloted: 4	Semester from Date: 25/10/2021 To Date: 19/02/2022 No of weeks: 15

Week	Class Day	Topics
1st	1st	i) introduction to Units
		ii)System of units
	2nd	Dimensions and Dimensional formula
	3rd	Application to dimensional Analysis
	4th	i) Identification of Scalar and vector quantities
2nd	1st	i) Types of vectors
		ii) Vector addition
	2nd	i) Multiplication of Two vectors(Dot product)
	3rd	i) Cross Product
	4th	i) concept of rest and moving body
		ii) Equation of motion under gravity
3rd	1st	i)Solving Numericals
	2nd	i) Circular motion
	3rd	i) Solving numericals
	4th	i) Projectile motion.
		ii) Facts about Projectile.
	1st	i) Projectile fired horizontally by making an angle

4th	2nd	i) Work
	3rd	i) Friction
		ii) Types of Friction
	4th	i) Laws of limiting Friction
5th	1st	i) coefficient of friction
		ii) Methods of reducing Friction
	2nd	i)Numericals
		ii) Class test 1 conducted
	3rd	i) Gravitation
		ii) Newtons laws of Gravitation
	4th	i) Relation between g and G
		ii) Universal gravitational constant
6th	1st	i) Variation of g with altitude and depth
	2nd	i) Keplers laws of Planetary motion
	3rd	i)Numericals
	4th	i)Oscillations(Simple Harmonic Motion)
7th	1st	i) Characteristics of SHM
	2nd	i) Numericals
	3rd	i) Waves
		ii) Types of wave motion
	4th	i) Properties of wave motion
8th	1st	i) Ultrasonics
	2nd	i) Heat
		ii) Specific heat
	3rd	i) Latent heat
		ii) Numericals on heat
	4th	i) Thermal expansion(Examples)
		ii) Expansion coefficients
9th	1st	i) Derivation of expansion coefficients
	2nd	i) Relation between expansion coefficients
	3rd	i) Work and heat
		ii) First law of Thermodynamics.
	4th	i) Numericals
	1st	i) Optics
		ii) Reflection & Refraction

10th	2nd	i) Refractive index
		ii) Numericals
	3rd	i) Critical angle & Total Internal Reflection
	4th	i) Refraction through Prism
		ii) Fiber optics
11th	1st	i) Electrostatics
		ii) Coulombs laws
	2nd	i) Electric potential
		ii) Electric field
		iii) Electric capacitance
	3rd	i) Grouping of capacitors
		ii) Numericals
	4th	i) Magnetostatics
		ii) Coulombs laws
12th	1st	i) Magnetic field
		ii) Magnetic field intensity
	2nd	i) Magnetic lines of force
	3rd	i) Magnetic flux
	4th	CLASS Test 2 conducted
13th	1st	i) Concept of electric current
		ii) Ohm's law and its application
	2nd	i) Grouping of resistors
		ii) Numericals on series and parallel combination of resistors
	3rd	Kirchhoff's law
	4th	i) Numericals
14th	1st	i) Application of Kirchhoff's law
		ii) Balanced condition of wheatstone bridge
	2nd	i) Electromagnetism
		ii) Force on a conductor in a uniform magnetic field
	3rd	i) Fleming's left hand rule
		ii) Electro magnetic Induction
		iii) Comparison between Electromagnetism and Electromagnetic Induction
	4th	i) Faraday's laws of Electromagnetic Induction
		i) Fleming's right hand rule

15th	1st	ii) Lenz's law, simple numerical
		iii) Comparison between Fleming's left hand and right hand rule
	2nd	i) LASER (Spontaneous and stimulated emission)
	3rd	i) principle, properties and application of LASER
	4th	i) Wireless Transmission

Signature of Faculty