

GOVERNMENT POLYTECHNIC JAJPUR

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019

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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: Online meeting app, Lecture note, ppt, PDF

Learning Method- Daily Assignment, Unit test, quiz.

DEPARTMENT OF MATH & SCIENCE

LESSON PLAN

Discipline: Math & Science	Semester: 1st	Name of the Teaching faculty: SUNITA SAHOO Branch - Civil	
Subject: Engg. Physics	No of Days/Week class allotted: 4	Semester from Date: 25/10/2022 No of weeks: 15	To Date: 31/01/2023
Week	Class Day	Topics	
1st	1st	i) introduction to Units	
		ii) System of units	
	2nd	Dimensions and Dimensional formula	
	3rd	Application to dimensional Analysis	
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.			
4th	1st	i) Projectile fired horizontally by making an angle	
	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	
10th	1st	i) Optics
		ii) Reflection & Refraction
	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
		i) Electric potential

11th	2nd	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	
4th	iii) Comparison between Electromagnetism and Electromagnetic Induction	
15th	1st	i) Faraday's laws of Electromagnetic Induction
		i) Fleming's right hand rule
		ii) Lenz's law , Simple numericals
	2nd	iii) Comparison between Fleming's left hand and right hand rule
3rd	i) LASER(Spontaneous and stimulated emission)	
4th	i) Principle,properties and application of LASER	
		i) Wireless Transmission

Extra one week will be required to complete the syllabus

Sanita Sahoo
Signature of Faculty