PNS SCHOOL OF ENGINEERING & TECHNOLOGY MARSHAGHAI KENDRAPARA		
LESSON PLAN		
Discipline : MECHANICAL	**Semester: 3rd**	**Name of the Teaching Faculty : RAMESH CHANDRA PRADHAN**
Subject : SOM Strength of Material	**No. of Days / per week class allotted : 6**	**Semester From date : 01.08.2023 to Date :30.11.2023 No. of Weesks : 14**
Week	**Class Day**	**Topics**
1	1st	Types of load, stresses & strains
	2nd	strains,(Axial and tangential) Hooke's law, Young's modulus
	3rd	bulk modulus, modulus of rigidity, Poisson's ratio,
	4th	derive the relation between three elastic constants,
	5TH	Numerical problems on above
	6TH	Numerical problems on above
2	1st	Principle of super position, stresses in composite section
	2nd	Temperature stress, determine the temperature stress in composite
	3rd	Strain energy and resilience, Stress due to gradually applied,
	4th	Simple problems on above.
	5TH	Numerical problems on above
	6TH	Numerical problems on above
3	1st	Definition of hoop and longitudinal stress, strain
	2nd	Derivation of hoop stress, longitudinal stress
	3rd	hoop strain, longitudinal strain and volumetric strain
	4th	Computation of the change in length, diameter and volume
	5TH	Numerical problems on above
	6TH	Numerical problems on above
4	1st	Simple problems on above
	2nd	Simple problems on above
	3rd	Simple problems on above
	4th	Simple problems on above
	5TH	Numerical problems on above
	6TH	Numerical problems on above
5	1st	Determination of normal stress
	2nd	shear stress and resultant stress on oblique plane
	3rd	Location of principal plane and computation of principal stress
	4th	Location of principal plane and computation of principal stress
	5TH	Numerical problems on above
	6TH	Numerical problems on above
6	1st	Maximum shear stress using Mohr's circle
	2nd	Types of beam and load
	3rd	Concepts of Shear force and bending moment
	4th	Shear Force and Bending moment diagram
	5TH	Numerical problems on above
	6TH	Numerical problems on above

7	1st	its salient features illustration in cantilever beam
	2nd	simply supported beam and over hanging beam under point load
	3rd	Assumptions in the theory of bending,
	4th	Bending equation
	5TH	Numerical problems on above
	6TH	Numerical problems on above
8	1st	Moment of resistance
	2nd	Section modulus& neutral axis
	3rd	Solve simple problems
	4th	Solve simple problems
	5TH	Numerical problems on above
	6TH	Numerical problems on above
9	1st	Define column
	2nd	Axial load, Eccentric load on column,
	3rd	Direct stresses
	4th	Bending stresses
	5TH	Numerical problems on above
	6TH	Numerical problems on above
10	1st	Maximum& Minimum stresses.
	2nd	Numerical problems on above
	3rd	Numerical problems on above
	4th	Numerical problems on above
	5TH	Numerical problems on above
	6TH	Numerical problems on above
11	1st	Buckling load computation using Euler's formula (no derivation) in
	2nd	Assumption of pure torsion
	3rd	The torsion equation for solid and hollow circular shaft
	4th	Comparison between solid and hollow shaft subjected to pure torsion
	5TH	Revision
	6TH	Revision
12	1st	Revision
	2nd	previous questions solved
	3rd	previous questions solved
	4th	previous questions solved

Signature of H.O.D, Mechanical

Signature of Lecturer