GOVT.POLYTECHNICMAYURBHANJ ,LESSONPLAN-2026/27(WINTER)

Discipline: MEACHANICAL ENGG.	Semester:3rdSem		Name of theTeachingFaculty: Thakura Hansdah
SUBJECT:STRENGTH OF MATERIAL	No.of Days/Perweek classallotted:03	CHAPTER	SemesterFromdate:1.07.2026ToDate:15.11.2026
MONTH	**Week**	**DAY**	**TOPIC**
JULY	1st	*2ND*	**1.0 Simple stress& strain** 1.1 Types of load, stresses & strains,(Axial and tangential)
		3RD	Hooke's law, Young's modulus,
		5th	Hooke's law, Young's modulus,
	2ND	*2ND*	Solve the numerical problem
		3RD	bulk modulus, modulus of rigidity
		5th	Solve the numerical problem
	3rd	*2ND*	Derive the Poisson's ratio
		3RD	Derive the relation between three elastic constants,
		5th	Derive the relation between three elastic constants,
	4TH	*2ND*	1.2 Principle of super position, stresses in composite section
		3RD	1.3 Temperature stress, determine the temperature stress in composite bar (single core)
		4TH	1.4 Strain energy and resilience, Stress due to gradually applied, suddenly applied and impact load
		2ND	**Solve of simple problem**
		3RD	Solve of simple problem

CHAPTER -1

	5TH	4TH		**2.0 Thin cylinder and spherical shell under internal pressure**
		5TH		2.1 Definition of hoop and longitudinal stress, strain
AUGUST	1ST	*2ND*		**REMEDIAL CLASS**
		3RD	CHAPTER-2	Derivation of hoop stress, longitudinal stress, hoop strain, longitudinal strain and volumetric strai
		4TH		2.3Computation of the change in length, diameter and volume
		5th		**Computation of the change in length, diameter and volume**
	2ND	*2ND*		Computation of the change in length, diameter and volume
		3RD		REVISION
		4TH		Solve of simple problem
	3RD	*2ND*		Solve of simple problem
		3RD		**3.0 Two dimensional stress systems** Introduction of Normal stress, Principal plan, shear stress etc
		4TH	chapter-3	3.1 Determination of normal stress, shear stress and resultant stress on oblique plane
		5th		3.1 Determination of normal stress, shear stress and resultant stress on oblique plane
	4TH	*2ND*		CLASS TEST-1
		3RD		3.3 Location of principal plane and computation of principal stress andMaximum shear stress using Mohr's circle
		4TH		3.3 Location of principal plane and computation of principal stress andMaximum shear stress using Mohr's circle
	5TH	*2ND*		Question Discussion
		3RD		**4.0 Bending moment& shear force** 4.1 Types of beam and load
		4TH		4.2 Concepts of Shear force and bending moment of cantilevern beam with ponted load
		5TH		4.2 Concepts of Shear force and bending moment of cantilevern beam UDL

SEPTEMBER	1ST	2ND	CHAPTER-4	Shear Force and Bending moment diagram and its salient features illustration in , simply supported beam under point load .
		3RD		Shear Force and Bending moment diagram and its salient features illustration in , simply supported beam under UDL
		4TH		Solve numerical problem cantilever .simply supported and over hanging beam
		5TH		**REMEDIAL CLASS**
	2ND	2ND		Solve numerical problem cantilever .simply supported and over hanging beam
		3RD		Solve numerical problem cantilever .simply supported and over hanging beam
		4TH		Solve numerical problem cantilever .simply supported and over hanging beam
	3RD	2ND	chapter-5	**5.0 Theory of simple bending.** 5.1 Assumptions in the theory of bending,
		3RD		5.2 Bending equation, Moment of resistance, Section modulus& neutral axis.
		4TH		5.2 Bending equation, Moment of resistance, Section modulus& neutral axis.
		5TH		**INTERNAL ASSESMENT**
	4TH	2ND		5.3 Solve simple problems.
		3RD	CHAPER-6	**6.0 Combined direct & bending stresses** 6.1 Define column Axial load, Eccentric load on column,
		4TH		6.3 Direct stresses, Bending stresses, Maximum& Minimum stresses. Numerical problems on above
		5TH		6.3 Direct stresses, Bending stresses, Maximum& Minimum stresses. Numerical problems on abo
	1ST	4TH		6.4 Buckling load computation using Euler's formula (no derivation) inColumns with various end conditions
	2ND	2ND		**7.0 Torsion** **7.1 Assumption of pure torsion**

OCTOBER		3RD		7.2 The torsion equation for solid shaft
		4TH		The torsion equation for solid shaft
		1st		**The torsion equation for solid shaft**
		2ND		7.2 The torsion equation for solid shaft
		3RD		7.1 The torsion equation for hollow circular shaft
		4TH		7.1 The torsion equation for hollow circular shaft
	3RD	5TH	chapter-7	7.2 Comparison between solid and hollow shaft subjected to pure torsion and solvr the numerical problem on above.
		2ND		7.2 Comparison between solid and hollow shaft subjected to pure torsion and solvr the numerical problem on above.
		3RD		SOLVE SIMPLE NUMERICAL PROBLEM
		4TH		SOLVE SIMPLE NUMERICAL PROBLEM
	4TH	5TH		Comparison between solid and hollow shaft subjected to pure torsion and solvr the numerical problem on above
		2ND		7.2 Comparison between solid and hollow shaft subjected to pure torsion and solvr the numerical problem on above.
		3RD		SOLVE SIMPLE NUMERICAL PROBLEM
		4TH		REVISION
	5TH	5TH		REVISION
NOVEMBER		*2ND*		SOLVE SIMPLE NUMERICAL PROBLEM
		3RD		REVISION
	1st	4TH		CLASS TEST-2
		2ND		REVISION
	2ND	3RD		REVISION

30/6/2026

subject expert
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30.06.26

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