Sub :- Mechanics of solids

3rd Sem Mechanical Engg.

Sub code :- 1625303

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Unit	Name of the Topic	Lecture
1	Discussion on syllabus and Difference b/w Mechanics & MOS	L-1
	Definition of Load & types of Loads	L-2
	concept of stress and strain,	L-3
	Types of stresses	
	Types of strain	L-4
	Hook's Law, poission's ration and stress-strain curves	L-5
	concept of thermal stresses, Numericals	
Unit-2	Concept of Deformation of axially loaded members unlex Gradual	L-6
	and impact load	L-7
	Concept of strain energy and strain energy due to self-weight	L-8
Unit-3	Concept of shear force & B.M	L-9
	Rules to draw S.F.D & B.M.D	L-10
	S.F.D and B.M.D for S.S.B	L-11
	S.F.D and B.M.D for Cantilever beam	L-12
	S.F.D and B.M.D when couple is acting on the beam & UVL	L-13, L-14
	Concept of maxm bending point of contra flexture	L-15
	S.F.D & B.M.D of S.S.B & Cantilever beam with combined Load	L-16, L-17,

Unit	Name of the Topic	Lecture
Unit-4	Definition of MoI, MoI for different Laminae & radius of Gyration	L-18
	Parallel & perpendicular axis theorm	L-19
	MoI Calculation for different shape & Sections like rectangular, trainguler I-Section, L-Section, Hollow Rectangular Circular, Semicircular & Hollow cylinder.	L-20, 21
	Polar moment of Inertia	L-22
Unit-7	Definition of Principal plane & principal stresses.	L-23
	Expression for normal & tangential stress, maximum shear stress	L-24, 25
	stresses on inclined planes	L-26
	position of principal planes & planes of maximum shear concept	L-27
	Mohr's circle of stresses	L-28, 29
Unit-5	Theory of simple bending, equation of bendings., Assumptions in theory of bending	L-30
	Concept of M.R, section modulus & N.A	L-31, L-32
	Concept of direct & transverse shear stresses	L-33, L-34
	Numerical on Theory of bending & shear	L-35

Unit	Name of the Topic	Lecture
Unit-6	Concept of Axial load, eccentric load, direct stresses, Bending stresses maximum & minimum stresses	L-36, L-37
	Concept of offset link, C- clamp	L-38
	Bench Vice, Drilling machine frame	L-39
	Concept of short column	L-40
	Condition of no tension in various shapes	L-41
	Total stress Various diagram	L-42
	Numericals on the max^m & min^m stress for Axial load, eccentric load	L-43
Unit-8	Concept of Pure Torsion, Assumptions in theory of pure Torsion	L-44
	Torsion eqn for Solid and hollow circular shafts	L-45
	Comparision between Solid and Hollow shafts subjected to pure torsion	L-46
Unit-1	Concept of stresses & strains in thin cylinder & spherical shells subjected to internal pressure	L-47, L-48
	Concepts of slope & Deflection of beam	L-49, L-50
	Relation b/w bending moment & slope	L-51
	Deflection of S.S.B & cantilever beam subjected to point load	L-52
	Concept of buckling - Rankine's & Euler's formulae for columns under various condition	L-53, L-54