

Lesson Plan

of Structural Mechanics (Code) Th-1 Name of faculty Sadega Khafun

Semester 3<sup>RD</sup> Class allotted (65/75) periods Branch CIVIL ENGG.

Discipline	Semester	From date: 15/09/22 To date: 22/12/22	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical - Topics/Lesson	
Week	Date/Period	Ch-1 (Review of Basic concepts)	White Board
1	15/09/22	Basic Principle of mechanics. Review of	& Marker
	to 16/09/22	CGI & MI of different sections	
	(2P/W)		
2	19/09/22	Ch-2: Mechanical Properties of materials	"
	to 24/09/22	Rigidity, Elasticity, Plasticity, compressibility	
	(5P/W)	Hardness, Toughness, stiffness, Brittleness, ductility, Malleability etc.	
		Types of stresses & strains	
3	26/09/22	Derivation of relationship between the elastic constants. Deformation of Prismatic	"
	to 01/10/22	beams due to uniaxial load, Stress - Strain curve of a ductile body	
	(5P/W)		
4	10/10/22	Ch-3:1 Bending stress in beams. Theory of simple bending. Assumptions	White board & Marker
	to 15/10/22	Moment of resistance, curvature of beam. Position of N.A., Flexural rigidity.	
	(5P/W)	3.2 Shear stress distribution in beams of rectangular, circular, etc.	
		3.3:- Concept of torsion, basic assumptions of pure torsion, torsion of solid & hollow circular sections.	
5		3.4 Combined direct & bending stresses	"
		Max <sup>m</sup> & Min <sup>m</sup> stresses in sections.	
		conditions for no tension, Limit of eccentricity, core, kern for square	
		rectangular & circular sections.	

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Week	Date/Period	Theory/ Practical - Topics/Lesson	Teaching Aid
5	17/10/22	Ch-4 Short & Long column, End conditions, Equivalent Length/Effective length, slenderness ratio, Axially loaded short & long column, Euler's theory of long columns.	White Board & marker
	+0		
	22/10/22 (5P/w)		
6	25/10/22	5.1 Types of loads & supports & Reactions; Types of Beams based on support conditions. Equation of static equilibrium.	"
	+0		
	29/10/22 (5P/w)		
7	31/10/22	5.2 Shear Force & Bending Moment sign convention for SF & BM. SF & BM of determinate beams with concentrated loads & udl only. SF & BM. D. For cantilever, simply supported over hanging beams, position of max <sup>m</sup> BM, point of contraflexure, Relation between intensity of load SF & BM.	"
	+0		
	05/11/22 (5P/w)		
8	07/11/22	6.1 Shape & nature of elastic curve Relationship between slope, deflection & curvature. importance of slope & deflection.	"
	+0		
9	12/11/22	6.2 :- slope & deflection of cantilever & simply supported beams under concentrated & uniformly distributed load by Double integration method	"
	+0		
10	14/11/22	slope & deflection of cantilever & simply supported beams under concentrated & uniformly distributed load by Macaulay's Method.	"
	+0		
10	19/11/22	7.1 :- Indeterminacy of beams, Principle of consistent deformation compatibility.	"
	+0		
	21/11/22	Analysis of propped cantilever	
	26/11/22 (5P/w)		

  
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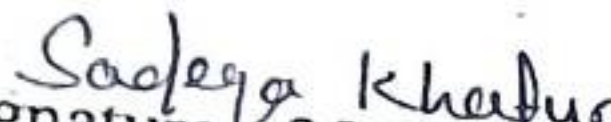
Sadaya Khatun  
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## Lesson Plan

Structural Mechanics (Code) Th-1 Name of faculty Sadega Khatun  
 r 3<sup>rd</sup> Class allotted 5P/week Branch Civil Engg.

S. No.	Semester	From date:	To date:	Teaching Aid
		Theory/ Practical - Topics/Lesson		
Date/Period				
11		28/11/22	Fixed & two span continuous	
		to	beams by principle of superposition	
		03/12/22	SF & BM diagrams (point	
		(5P/w)	Load & udl covering full span.	
12			Propped cantilever beam	
			by principle of superposition.	
		05/12/22	S.1:- Types of trusses	
		to	statically determinate &	
	10/12/22	indeterminate trusses,		
	(5P/w)	degree of indeterminacy		
		Stable & unstable trusses		
		Advantages of truss		
13		12/12/22 to	S.2:-	
		17/12/22	Analysis of truss:-	
		(5P/w)	Analytical Method	
			(Method of joints)	
14		19/12/22 to	Analysis of truss:-	White board
		22/12/22	Analytical Method	
		(4P/w)	Method of section	Newspaper
7				

  
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