



# GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

BRANCH- CIVIL ENGINEERING

SEMESTER- 5TH

SUBJECT- Th2. STRUCTURAL DESIGN- II

NAME OF THE FACULTY-Er.ALOKA RANJAN SAHU

		Topic to be taken			Actual topic taken			
Sl. No	Topic/ Module	No. of period	Details of the topics	Date	Topic No.	Topic Name	Date	Remarks
1	Introduction	5	1.1 Common steel structures, Advantages & disadvantages of steel structures. 1.2 Types of steel, properties of structural steel. 1.3 Rolled steel sections, special considerations in steel design. 1.4 Loads and load combinations. 1.5 Structural analysis and design philosophy. 1.6 Brief review of Principles of Limit State design	16.09.2022 23.09.2022	1.1 1.2 1.3 1.4 1.5 1.6	Common steel structures, Advantages & disadvantages of steel structures. Types of steel, properties of structural steel. Rolled steel sections, special considerations in steel design. Loads and load combinations. Structural analysis and design philosophy. Brief review of Principles of Limit State design	15.09.2022 16.09.2022 19.09.2022 20.10.2022 21.09.2022	

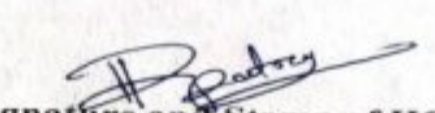


2	Structural Steel Fasteners and Connections	10	2.1 Bolted Connections	26.09.2022 - 18.10.2022	2.1 Bolted Connections		
			2.1.1 Classification of bolts, advantages and disadvantages of bolted connections.		2.1.1 Classification of bolts, advantages and disadvantages of bolted connections.		22.09.2022
			2.1.2 Different terminology, spacing and edge distance of bolt holes.		2.1.2 Different terminology, spacing and edge distance of bolt holes.		23.09.2022
			2.1.3 Types of bolted connections.		2.1.3 Types of bolted connections.		24.09.2022
			2.1.4 Types of action of fasteners, assumptions and principles of design.		2.1.4 Types of action of fasteners, assumptions and principles of design.		26.09.2022
			2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity & bearing capacity), reduction factors, and shear capacity of HSFG bolts.		2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity & bearing capacity), reduction factors, and shear capacity of HSFG bolts.		27.12.2022
			2.1.6 Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)		2.1.6 Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)		28.09.2022
			2.1.7 Efficiency of a joint.		2.1.7 Efficiency of a joint.		11.10.2022
			2.2 Welded Connections:		2.2 Welded Connections:		12.10.2022
			2.2.1 Advantages and Disadvantages of welded connection		2.2.1 Advantages and Disadvantages of welded connection		14.10.2022
			2.2.2 Types of welded joints and specifications for welding		2.2.2 Types of welded joints and specifications for welding		17.10.2022
			2.2.3 Design stresses in welds.		2.2.3 Design stresses in welds.		18.10.2022
			2.2.4 Strength of welded joints.		2.2.4 Strength of welded joints.		



3	Design of Steel tension Members	10	3.1 Common shapes of tension members. 3.2 Maximum values of effective slenderness ratio. 3.3 Analysis and Design of tension members.( Considering strength only and concept of block shear failure.)	19.10.2022 02.11.2022	3.1 Common shapes of tension members. 3.2 Maximum values of effective slenderness ratio.  3.3 Analysis and Design of tension members.( Considering strength only and concept of block shear failure.)	19.10.2022 21.10.2022 28.10.2022 01.11.2022 02.11.2022 04.11.2022 09.11.2022 10.11.2022	
4	Design of Steel Compression members	10	4.1 Common shapes of compression members. 4.2 Buckling class of cross sections, slenderness ratio 4.3 Design compressive stress and strength of compression members. 4.4 Analysis and Design of compression members (axial load only).	04.11.2022 18.11.2022	4.1 Common shapes of compression members. 4.2 Buckling class of cross sections, slenderness ratio 4.3 Design compressive stress and strength of compression members.  4.4 Analysis and Design of compression members (axial load only).	11.11.2022 14.11.2022 15.11.2022 17.11.2022 19.11.2022 02.12.2022	
5	Design of Steel beams	10	5.1 Common cross sections and their classification. 5.2 Deflection limits, web buckling and web crippling. 5.3 Design of laterally supported beams against bending and shear.	21.11.2022 30.11.2022	5.1 Common cross sections and their classification. 5.2 Deflection limits, web buckling and web crippling. 5.3 Design of laterally supported beams against bending and shear.	03.12.2022 07.12.2022 08.12.2022 09.12.2022 10.12.2022	

6	Design of Tubular Steel Structures	6	6.1 Round Tubular Sections, Permissible Stresses 6.2 Tubular Compression & Tension Members 6.3 Joints in Tubular trusses	02.12.2022 07.12.2022	6.1 Round Tubular Sections, Permissible Stresses 6.2 Tubular Compression & Tension Members 6.3 Joints in Tubular trusses	15.12.2022 16.12.2022 17.12.2022 21.12.2022 22.12.2023	
7	Design of Masonry Structures	9	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	09.12.2022 12.12.2022	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	23.12.2023 02.01.2023 03.01.2023 06.01.2023 07.01.2023	

  
 Signature and Stamp of HOD:  
 HOD  
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