LESSION PLAN			
DISCIPLINE : CIVIL ENGINEERING	Semester : 5th SEM SEC A	Name of the Teaching faculty: KALYANI MOHANTY	
Subject :- Structural Design - II	No.of Days/ week class allotted : 04/week	Semester from date: 01/08/2023 to 30/11/2023 No. of Weeks :18 Topics to be covered:-	
Week	Class Day	Topics	Remarks
		Chapter-1 Introduction (5P)	
1st Week	1st	1.1 Common steel structures, Advantages & disadvantages of steel structures.	
	2nd	1.2 Types of steel, properties of structural steel.	
	3rd	1.3 Rolled steel sections, special considerations in steel design	
	4th	1.4 Loads and load combinations.	
2nd Week	1st	1.5 Structural analysis and design philosophy 1.6 Brief review of Principles of Limit State design.	
		Chapter-2 Structual steel fasteners and connections (10P)	
	2nd	2.1 Bolted connection 2.1.1 Classification of bolts, advantages & diadvantages of bolted connection	
	3rd	2.1.2 Different terminology, spacing and edge distance of bolt holes.	
	4th	2.1.3 Types of bolted connections.	
3rd Week	2nd	2.1.4 Types of action of fasteners, assumptions and principles of design.	
	3rd	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.	
	4th	2.1.6 Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)	
4th Week	1st	2.1.7 Efficiency of a joint.	
	2nd	**2.2 Welded Connections:** 2.2.1 Advantages and Disadvantages of welded connection. 2.2.2 Types of welded joints and specifications for welding	
	3rd	2.2.3 Design stresses in welds.	
	4th	2.2.4 Strength of welded joints.	
		3.0 Design of steel tession member (10P)	
5th Week	1st	3.1 Common shapes of tension members.	
	3rd	3.2 Maximum value of effective slenderness ratio	
	4th	Problem practice	
6th Week	1st	Problem practice	
	3rd	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)	

6th Week	4th	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)	
7th Week	1st	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)	
	2nd	3.4 Analysis and Design of tension members.(	
	3rd	Problem practice	
	4th	Design problem practice	
8th Week		**4.0 DESIGN OF STEEL COMPRESSION MEMBERS (10P)**	
	3rd	4.1 Common shapes of compression members.	
	4th	4.2 Buckling class of cross sections, slenderness	
9th Week	1st	4.2 Buckling class of cross sections, slenderness ratio	
	2nd	4.3 Design compressive stress and strength of compression members.	
	3rd	4.3 Design compressive stress and strength of compression members.	
10th Week	1st	4.3 Design compressive stress and strength of compression members.	
	2nd	4.4 Analysis and Design of compression members (axial load only).	
	3rd	4.4 Analysis and Design of compression members (axial load only).	
	4th	4.4 Analysis and Design of compression members (axial load only).	
11th Week	1st	Problem practice	
		5.0 DESIGN OF STEEL BEAMS (10P)	
	2nd	5.1 Common cross sections and their classification.	
	3rd	5.1 Common cross sections and their classification.	
	4th	5.2 Deflection limits, web buckling and web crippling.	
12th Week	1st	5.2 Deflection limits, web buckling and web crippling.	
	2nd	5.2 Deflection limits, web buckling and web crippling.	
	3rd	5.2 Deflection limits, web buckling and web crippling.	
	4th	5.3 Design of laterally supported beams against bending and shear.	
13th Week		**PUJA HOLIDAYS**	
14th Week	1st	5.3 Design of laterally supported beams against bending and shear.	
	2nd	5.3 Design of laterally supported beams against bending and shear.	
	3rd	5.3 Design of laterally supported beams against bending and shear.	
		6.0 DESIGN OF TUBULAR STEEL STRUCTURES	
	4th	6.1 Round Tubular Sections, Permissible Stresses	
15th Week	1st	6.1 Round Tubular Sections, Permissible Stresses	

15th Week	2nd	6.2 Tubular Compression & Tension Members	
	3rd	6.2 Tubular Compression & Tension Members	
	4th	6.3 Joints in tubular Trussess	
16th Week	1st	6.3 Joints in tubular Trussess	
		7.0 DESIGN OF MASONRY STRUCTURES:(9P)	
	2nd	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
	3rd	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
	4th	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
17th Week	1st	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
	2nd	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
	3rd	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
	4th	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
18th Week	1st	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
	2nd	7.1 Design considerations for Masonry walls & Columns, Load Bearing & Non-Load Bearing walls, Permissible stresses, Slenderness Ratio, Effective Length, Height & Thickness.	
	3rd	Class Test & Revision Class	

Kalyani Mohanty
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