

LESSON PLAN FOR WINTER SESSION (2024-25)

PROGRAMME : CIVIL ENGINEERING			NAME OF THE FACULTY: AMLAN MOHANTY
COURSE NAME : STRUCTURAL DESIGN-II			SESSION : 2024-25
COURSE CODE : TH.2			DATE : 01/07/24 To 8/11/24
SEMESTER : 5 th			
PERIODS/WEEK: 4			
TOTAL PERIODS:60			
WEEK	PERIODS	UNITS	TOPICS
JULY 1st Week	1	1	1. Introduction:
	2	1	1.1 Common steel structures, Advantages & disadvantages of steel structures.
	3	1	1.2 Types of steel, properties of structural steel.
	4	2	1.3 Rolled steel sections, special considerations in steel design.
JULY 2nd Week	5	2	1.4 Loads and load combinations.
	6	2	1.5 Structural analysis and design philosophy.
	7	2	1.6 Brief review of Principles of Limit State design.
	8	2	2. Structural Steel Fasteners and Connections.
JULY 3rd Week	9	2	2.1 Bolted Connections
	10	2	2.1.1 Classification of bolts, advantages and disadvantages of bolted connections,
	11	2	2.1.2 Different terminology, spacing and edge distance of bolt holes.
	12	2	2.1.3 Types of bolted connections.
JULY 4th Week	13		2.1.4 Types of action of fasteners, assumptions and principles of design.
	14	2	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.
	15	2	Monthly Test-1
	16	2	2.1.6 Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)
AUG. 1st Week	17	2	2.1.7 Efficiency of a joint.
	18	2	2.2 Welded Connections:
	19	2	2.2.1 Advantages and Disadvantages of welded connection
	20	2	2.2.2 Types of welded joints and specifications for welding
AUG. 2nd Week	21	3	2.2.3 Design stresses in welds.
	22	3	2.2.4 Strength of welded joints.
	23	3	3. Design of Steel tension Members
	24	3	3.1 Common shapes of tension members.
AUG. 3rd Week	25	3	Common shapes of tension members.
	26	3	3.2 Maximum values of effective slenderness ratio.
	27	3	3.2 Maximum values of effective slenderness ratio.
	28	4	3.4 Analysis and Design of tension members
AUG. 4th Week	29	4	3.4 Analysis and Design of tension members
	30	4	3.4 Analysis and Design of tension members
	31	4	4. Design of Steel Compression members.
	32	4	4.1 Common shapes of compression members
SEPT. 1st Week	33	4	Common shapes of compression members.
	34	4	4.2 Buckling class of cross sections, slenderness ratio
	35	4	4.2 Buckling class of cross sections, slenderness ratio
	36	4	Monthly Test-2
SEPT. 2nd Week	37		4.3 Design compressive stress and strength of compression members.
	38	5	4.4 Analysis and Design of compression members (axial load only).
	39	5	4.4 Analysis and Design of compression members (axial load only).
	40	5	4.4 Analysis and Design of compression members (axial load only).
SEPT. 3rd Week	41	5	Internal Assessment Exam
	42	5	5. Design of Steel beams:
	43	5	5.1 Common cross sections and their classification.
	44	5	Common cross sections and their classification.
SEPT. 3rd Week	45	5	5.2 Deflection limits, web buckling and web crippling.
	46	5	5.2 Deflection limits, web buckling and web crippling.
	47	5	5.3 Design of laterally supported beams against bending and shear.
	48	5	5.3 Design of laterally supported beams against bending and shear.
SEPT. 3rd Week	49	5	Problem solving
	50	5	Problem solving
	51	5	Problem solving
	52	5	Problem solving

WEEK	PERIODS	UNITS	TOPICS
SEPT. 4th Week			6. Design of Tubular Steel Structures:
			Monthly Test-3
			6.2 Tubular Compression & Tension Members
			6.2 Tubular Compression & Tension Members
OCT. 1st Week	47	6	6.3 Joints in Tubular trusses
	48		6.3 Joints in Tubular trusses
	49	6	Problem solving
	50	6	Problem solving
	51	6	7. Design of Masonry Structures:
OCT. 2nd Week	52	6	Design considerations for Masonry walls & Columns
	53	6	Puja Holidays
	54	6	
	55	7	
OCT. 3rd Week	57	7	Design considerations for Masonry walls & Columns
	58	7	7.2 Load Bearing & Non-Load Bearing walls.
	59	7	7.2 Load Bearing & Non-Load Bearing walls.
	60	7	7.3 Permissible stresses, Slenderness Ratio
OCT. 4th Week	61	7	7.3 Permissible stresses, Slenderness Ratio
	62	7	7.4 Effective Length, Height & Thickness.
	63	7	7.4 Effective Length, Height & Thickness.
	64		REVISION
	65		Problem solving
NOV. 1st Week	66		Problem solving
	67		Problem solving
	68		Monthly Test-4
	69		Doubt Clearing Class & Previous year question Paper discussion.
	70		Doubt Clearing Class & Previous year question Paper discussion.
	71		Doubt Clearing Class & Previous year question Paper discussion.

Handwritten signature
17.8.24

Concern faculty

Handwritten signature
28.6.24

HOD
Civil engineering

Handwritten signature

Academic Coordinator
GP Nabarangpur

Handwritten signature

Principal
GP Nabarangpur