

	Civil Engg Department					
	Sem -VI Lesson Plan					
	Subject: Steel Structures and Design					
** Work Load (Lecture/Practical) per week (in hours): Lectures- 04, Lab - 03						
Month	Week	Lectures	Topic	practicals		
MARCH	Week 1	1	Structural Steel and Sections: 1.1 Properties of structural steel as per IS Code 1.2 Designation of structural steel sections as per IS handbook and IS:80		03 hrs	(i) Drawing No. 1: Roof Truss – Drawing of Fink Roof Truss with details of joints, fixing details of purlins and roof sheets.
		2	1.2 Designation of structural steel sections as per IS handbook and IS:80			
		3	1.2 Designation of structural steel sections as per IS handbook and IS:80			
		4	1.2 Designation of structural steel sections as per IS handbook and IS:80			
	Week 2	1	Riveted Connections Types of Rivet, Permissible stresses in rivets, strength and efficiency of riveted joint, Design of Riveted Connection only axially loaded number (No staggered rivetting)		03 hrs	Drawing No.2 : Column and Column Bases - Drawing of splicing of steel columns. Drawings of slab base, gusseted base and grillage base for single section steel columns.
		2	types of riveted joints, specifications as per IS800, Failure of riveted joint,			
		3	strength and efficiency of riveted joint, Design of Riveted Connection only axially loaded number (No staggered rivetting)			
		4	strength and efficiency of riveted joint, Design of Riveted Connection only axially loaded number (No staggered rivetting)			
	Week 3	1	Bolt Connections: (04 Hours) Types of bolt, permissible stresses in bolt, types of bolted joints,		03 hrs	Drawing No.3 : Column Beam Connections (a) Sealed and Framed Beam to Beam Connections (b) Sealed and Framed Beam o Column Connections
		2	specifications for bolted joints as per IS 800. Failure of a bolted joint.			
		3	Assumptions in the theory of bolted joints. Strength and efficiency of a bolted joint.			
		4	Design of bolted joints for axially loaded members (No Staggered bolts).			
	Week 4	1	Welded connections: Types of welds and welded joints,			
		2	advantages and disadvantages of welded joints			
		3	fillet and butt weld for axially loaded members			
		4	revision			

APRIL	Week 1	1	revision			
		2	Sessional-1			
		3	Sessional-1			
		4	Sessional-1			
	Week 2	1	Sessional-1			
		2	Sessional-1			
		3	Tension Members , Analysis and design of single and double section tension members and their rivetted and welded connections with gusset plate as per IS:800-2007			
		4	Tension Members , Analysis and design of single and double section tension members and their rivetted and welded connections with gusset plate as per IS:800-2007			
	Week 3	1	Tension Members , Analysis and design of single and double section tension members and their rivetted and welded connections with gusset plate as per IS:800-2007		03 hrs	Drawing No. 4 : Plate Girder (Bolted) Plan and Elevation of Plate Girder with details at supports and connection of stiffness, flange angles and cover plate with web highlighting curtailment of plates.
		2	Tension Members , Analysis and design of single and double section tension members and their rivetted and welded connections with gusset plate as per IS:800-2007			
		3	Compression Members Analysis and design of single and double angle sections compression members subjected to axial load			
		4	Compression Members Analysis and design of single and double angle sections compression members subjected to axial load			
	Week 4	1	Compression Members Analysis and design of single and double angle sections compression members subjected to axial load		03 hrs	Drawing No. 5 : Draw atleast one sheet using CAD software
		2	Compression Members Analysis and design of single and double angle sections compression members subjected to axial load			
		3	Compression Members Analysis and design of single and double angle sections compression members subjected to axial load			
		4	Compression Members Analysis and design of single and double angle sections compression members subjected to axial load			

MAY	Week 1	1	Roof Trusses Form of trusses, pitch of roof truss, spacing of trusses, spacing of purlins, connection between purlin and roof covering. Connection between purlin and principal rafter (no design, only concept)			
		2	Roof Trusses Form of trusses, pitch of roof truss, spacing of trusses, spacing of purlins, connection between purlin and roof covering. Connection between purlin and principal rafter (no design, only concept)			
		3	Column Bases: Types of column bases i.e. slab base, gusseted base. Concept of buckling, effective length, slenderness ratio, Analysis and Design of axially loaded single section column			
		4	Column Bases: Types of column bases i.e. slab base, gusseted base. Concept of buckling, effective length, slenderness ratio, Analysis and Design of axially loaded single section column			
	Week 2	1	Sessional-2			
		2	Sessional-2			
		3	Sessional-2			
		4	Sessional-2			
	Week 3	1	Sessional-2			
		2	Beams Analysis and design of single section simply supported laterally restrained steel beams. Introduction to plate girder and functions of various elements of a plate girder			
		3	Beams Analysis and design of single section simply supported laterally restrained steel beams. Introduction to plate girder and functions of various elements of a plate girder			
		4	Beams Analysis and design of single section simply supported laterally restrained steel beams. Introduction to plate girder and functions of various elements of a plate girder			

	Week 4		Beams Analysis and design of single section simply supported laterally restrained steel beams. Introduction to plate girder and functions of various elements of a plate girder 1			
			Beams Analysis and design of single section simply supported laterally restrained steel beams. Introduction to plate girder and functions of various elements of a plate girder 2			
			Beams Analysis and design of single section simply supported laterally restrained steel beams. Introduction to plate girder and functions of various elements of a plate girder 3			
			Fabrication and erection of steel structures like trusses, columns and girders 4			
	Week 5		Fabrication and erection of steel structures like trusses, columns and girders 1			
			Fabrication and erection of steel structures like trusses, columns and girders 2			
			Fabrication and erection of steel structures like trusses, columns and girders 3			
JUNE	Week 1		Fabrication and erection of steel structures like trusses, columns and girders 1			
			Fabrication and erection of steel structures like trusses, columns and girders 2			
	Week 2		1 Sessional-3			
			2 Sessional-3			
			3 Sessional-3			
			4 Sessional-3			
	Week 3		1 Sessional-3			
			2 revision			
			3 revision			
			4 revision			
	Week 4		1 revision			
			2 revision			
			3 revision			
			4 revision			