

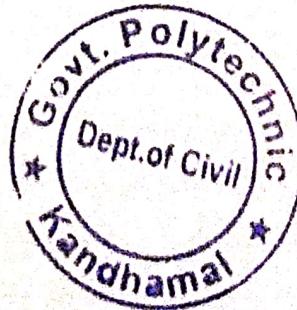


LESSON PLAN OF TH:5(C)- DESIGN OF STEEL STRUCTURES FOR THE SESSION 2025-26(Summer-2026) BATCH-2024-27, GOVT. POLYTECHNIC,KANDHAMAL

Discipline: Civil Engineering	Semester: 4th	Name of the Teaching Faculty: Ashish Nayak, Lect-II in Civil Engineering
Subject: TH:5(C)- DESIGN OF STEEL STRUCTURES	No. of days/ per week class allotted: 3	Semester From Date : 22/12/2025 to Date: 18/04/2025 No. of Weeks: 15
Week	Class Day	Theory/ Practical Topics
		UNIT –I Design of connections in steel structures
1ST	1	• Types of connection, bolted connection, Strength of bolted joints,
	2	• Types of connection, bolted connection, Strength of bolted joints,
	3	Design of bolted joints for axially loaded members.
2ND	1	Design of bolted joints for axially loaded members.
	2	• Types of weld, welded connections, Permissible stresses in weld, Strength of weld.
	3	• Types of weld, welded connections, Permissible stresses in weld, Strength of weld.
3RD	1	• Types of weld, welded connections, Permissible stresses in weld, Strength of weld.
	2	• Advantages and disadvantages of weld, Design of fillet weld and butt weld for axial load.
	3	• Advantages and disadvantages of weld, Design of fillet weld and butt weld for axial load.
4TH	1	• Advantages and disadvantages of weld, Design of fillet weld and butt weld for axial load.
	2	UNIT-II Design of Steel Tension (Limit State Method)
	3	• Types of sections used for Tension members.
5TH	1	• Types of sections used for Tension members.
	2	Strength of tension member by- yielding of section, rupture of net cross-section and block shear.
	3	Strength of tension member by- yielding of section, rupture of net cross-section and block shear.
6TH	1	Strength of tension member by- yielding of section, rupture of net cross-section and block shear.
	2	Strength of tension member by- yielding of section, rupture of net cross-section and block shear.
	3	Design of axially loaded single angle and double angle tension members with bolted and welded connections.
		Design of axially loaded single angle and double angle tension members with bolted and welded connections.
7TH	1	Design of axially loaded single angle and double angle tension members with bolted and welded connections.
	2	UNIT-III Design of Steel Compression Members (Limit State Method)

	3	• Types of sections used as compression member, ,
8TH	1	Calculation of effective length, Radius of gyration and slenderness ratio,
	2	Calculation of effective length, Radius of gyration and slenderness ratio,
	3	Permissible values of slenderness ratio as per IS 800-2007
9TH	1	Permissible values of slenderness ratio as per IS 800-2007
	2	Design compressive stress
	3	Design compressive stress
10TH	1	Design of column bases for axially loaded columns only.
	2	Design of column bases for axially loaded columns only.
	3	• Introduction to built up sections, lacing and battening (Meaning and purpose),
11TH	1	• Introduction to built up sections, lacing and battening (Meaning and purpose),
		Diagrams of single and double lacing and battening system. (No numerical
	2	problems).
		Diagrams of single and double lacing and battening system. (No numerical
	3	problems).
12TH		Design of axially loaded single and double angle struts connected by bolted and
	1	welded connections with gusset plate.
		Design of axially loaded single and double angle struts connected by bolted and
	2	welded connections with gusset plate.
	3	UNIT-IV Design of Steel beams (Limit State Method)
13TH	1	• Standard beam sections, Bending stress calculations.
	2	• Standard beam sections, Bending stress calculations.
	3	• Design of simple I and channel section.
14TH	1	• Design of simple I and channel section.
	2	• Check for shear as per IS 800 2007
	3	• Check for shear as per IS 800 2007
15TH	1	• Simple and built up sections,
	2	Introduction to plate girder: Components and functions (no numerical
	3	Introduction to plate girder: Components and functions (no numerical

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20/12/2025.



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25/12/25
H.O.D
Dept. of Civil Engg.
Govt. Polytechnic
Kandhamal