

C. V. RAMAN POLYTECHNIC, BHUBANESWAR

LESSON PLAN

Session (2025-2026)

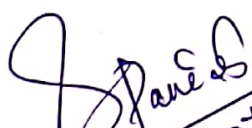
Discipline: Civil Engineering	Semester: 5 TH , Winter/2025	Name of the Teaching Faculty: Miss Sumitra Parida (Assistant Professor) Email ID: rashmi.sumi123@gmail.com
Subject: Structural Design-II (TH.2)	No. of Days/Weeks: 04	Start Date: 14.07.2025 End Date: 15.11.2025


Week	Class Day	Theory Topics
1st	1st	Introduction to steel structures, types & advantages.
	2nd	Disadvantages of steel structures, types of steel.
	3rd	Properties of structural steel, rolled sections.
	4th	Loads, combinations, philosophy & limit state review.
2nd	1st	Bolted connections: Types of bolts, advantages/disadvantages.
	2nd	Bolt terminology, spacing & edge distance.
	3rd	Types of bolted connections, types of actions.
	4th	Assumptions and principles of design.
	1st	Strength of plates and bearing bolts, shear/bearing capacity.
	2nd	HISFG bolts: Design and shear capacity.

3rd	3rd	Analysis & design using bearing and HSFG bolts.
	4th	Joint efficiency.
4th	1st	Welded connections: Advantages, disadvantages.
	2nd	Types of welds, weld specifications.
	3rd	Design stresses in welds, strength of welded joints.
	4th	CLASS TEST / DOUBT CLEARING CLASS
5th	1st	Common tension members, slenderness ratio.
	2nd	Analysis of tension members, strength & block shear failure
	3rd	Design of tension members.
	4th	DOUBT CLEARING CLASS
6th	1st	Common compression members, buckling class.
	2nd	Slenderness ratio, design compressive stress.
	3rd	Design strength, axial loading.
	4th	Design of compression members.
	1st	Common steel beams, cross-section classifications.

7th	2nd	Deflection limits, web buckling, crippling.
	3rd	Bending and shear resistance of supported beams.
	4th	Design of supported beams.
8th	1st	Tubular structures: Round sections, permissible stresses.
	2nd	Tubular tension & compression members.
	3rd	Tubular truss joints.
	4th	DOUBT CLEARING CLASS
9th	1st	Introduction to masonry structures.
	2nd	Load bearing & non-load bearing walls.
	3rd	Permissible stresses, slenderness ratio.
	4th	Effective length, height & thickness.
10th	1st	Design considerations of masonry columns.
	2nd	Detailed example on masonry wall design.
	3 rd	Assignment discussion & preparation.
	4th	ASSIGNMENT SESSION (Unit I – Unit IV)
11th	1st	Combined revision of steel connection designs.
	2nd	Combined revision of tension & compression member design.
	3rd	Doubt clearing and special numerical.

	4th	CLASS TEST / DOUBT CLEARING CLASS
12th	1st	Practice problems – steel beams
	2nd	Practice problems – tubular members
	3rd	Practice problems – masonry walls
	4th	DOUBT CLEARING CLASS
13th	1st	Analysis & design summary: Connection types.
	2nd	Analysis & design summary: Members under different loads.
	3rd	Question pattern understanding
	4th	ASSIGNMENT SESSION (Unit V – Unit VII)
14th	1st	MOCK TEST – Full syllabus MCQs
	2nd	MOCK TEST – Short answer / design questions
	3rd	Previous Year Question Discussion (Part 1)
	4th	Previous Year Question Discussion (Part 2)
15th	1st	Previous Year Question Discussion (Part 3)
	2nd	Recap of key formulas and codes
	3rd	Final Doubt Clearing and viva preparation
	4th	Submission & Feedback Collection


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 14/17/25


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 14/17/25