ACADEMIC SESSION: SUMMER-2026

Discipline : Civil engg	**Semester: 4th**	**Name of the Teaching Faculty :Subhasmita Behera, Guest faculty (civil)**
Subject:DESIGN OF STEEL STRUCTURE	No. of Days / Week class allotted:3	Semester Duration: 22/12/2025 to 18/04/2026 No. of Weeks :17
Week	**Class day**	**Theory/Practical Topics:**
1st	1st	**Design of connections in steel structures** Types of connection, bolted connection
	2nd	Strength of bolted joints (shearing strength and bearing strength)
	3rd	Design of bolted joints for axially loaded members.
2nd	1st	numericals
	2nd	Types of weld, welded connections, Permissible stresses in weld,
	3rd	Strength of weld
3rd	1st	Advantages and disadvantages of weld
	2nd	Design of fillet weld and butt weld for axial load.
	3rd	Numericals
4th	1st	Numericals
	2nd	**Design of Steel Tension (Limit State Method)** Types of sections used for Tension members.
	3rd	Slenderness ratio, Shear lag
5th	1st	Strength of tension member by- yielding of section,
	2nd	Numericals
	3rd	rupture of net cross-section and block shear.
6th	1st	Design of axially loaded single angle and double angle tension members with bolted connections
	2nd	Numericals
	3rd	Design of axially loaded single angle and double angle tension members with welded connections
7th	1st	Numericals
	2nd	Numericals
	3rd	Numericals
8th	1st	**Design of Steel Compression Members (Limit State Method)** Types of sections used as compression member
	2nd	Calculation of effective length
	3rd	Radius of gyration
9th	1st	slenderness ratio, Permissible values of slenderness ratio as per IS 800-2007
	2nd	Design compressive stress
	3rd	Numericals
10th	1st	Numericals
	2nd	Numericals
	3rd	Design of column bases for axially loaded columns only.

11th	1st	Numericals
	2nd	• Introduction to built up sections, lacing and battening (Meaning and purpose).
	3rd	Diagrams of single and double lacing and battening system. (No numerical problems).
12th	1st	Design of axially loaded single and double angle struts connected by bolted and welded connections with gusset plate
	2nd	Numericals
	3rd	Numericals
13th	1st	**Design of Steel beams (Limit State Method)** Standard beam sections, Bending stress calculations.
	2nd	Bending stress numericals
	3rd	Design of simple I and channel section.
14th	1st	numericals
	2nd	• • Check for shear as per IS 800 2007 •
	3rd	numericals
15th	1st	numericals
	2nd	Simple and built up sections,
	3rd	Introduction to plate girder: Components and functions (no numerical
16th	1st	Question bank practice of unit 1
	2nd	Question bank practice of unit 1
	3rd	Question bank practice of unit 2
17th	1st	Question bank practice of unit 3
	2nd	Question bank practice of unit 3
	3rd	Question bank practice of unit 4

S. Behera
22/12/25

Prepared By :

Approved By:

22/12/25

HOD(Civil)