



LESSON PLAN

Program Name	Civil Engineering
Subject Name	Design of Steel Structures
Subject Code	CEPC304
Semester	6th
Subject Teacher Name	Sonika Thakur

Evaluation Scheme

Sr. No	Subject Name	Study scheme (Hrs/Week)			Marks in Evaluation Scheme						
					Internal Assessment			External Assessment			
		Th	Pr	DCS	Th	Pr	Total	Th	Pr	Total	
1.	Design of Steel Structures	2	-	2	40	-	40	60	-	60	
Reference Books		1.	Duggal, S. K., Limit State Design of Steel Structures, McGraw - Hill Publications								
		2.	Design of Steel Structures by S.S. Bhavikatti								

Course Outcomes (COs)

After competing this course, student will be able to perform:

CO – 1	Design of steel tension and compression member
CO – 2	Design of steel I and Channel sections
CO – 3	Design of Bolted and welded connections
CO – 4	Understand the intricacies of disputes, related arbitration and settlement laws

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-I Structural Steel and Sections	Terminology	27/01/2026		
	Properties of structural steel as per IS Code	29/01/2026		
	Properties of structural steel as per IS Code	30/01/2026		
	Grades of steel	02/02/2026		
	Designation of structural steel sections as per IS handbook and IS: 800.	03/02/2026		
	Designation of structural steel sections as per IS handbook and IS: 800.	05/02/2026		
	Designation of structural steel sections as per IS handbook and IS: 800.	06/02/2026		
UNIT-II Bolted Connections (LSM)	Types of Bolts	09/02/2026		
	Forces in Bolts, Types of Bolted joints with Sketches (Butt Joint and Lap Joint)	10/02/2026		
	Terminology & IS 800 Provisions for Gauge, Pitch, End & Edge Distance,	12/02/2026		
	Patterns of Bolting (Chain, Diamond, Staggered). Gross and net cross-sectional area of bolted members.	13/02/2026		
	Design of bolted connections & Efficiency of a joint. (Numerical	16/02/2026		

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	problems on Ordinary Bolts only).	17/02/2026		
	Numerical problems on bolted connections	19/02/2026		
	Numerical problems on bolted connections	20/02/2026		
	Numerical problems on bolted connections	23/02/2026		
	Numerical problems on bolted connections	24/02/2026		
UNIT-III Welded Connections (LSM)	Introduction, advantages, and disadvantages of welded joint	26/02/2026		
	defects in welds. Types of welds and their symbols.	27/02/2026		
	Terminology & IS 800 provisions for Size, Throat Thickness, End Returns etc. Longitudinal, Transverse & Intermittent welds.	02/3/2026		
	Design of fillet weld (Plate section)	03/3/2026		
	Design of fillet weld (Single & Double Angle Section) and butt weld subjected to axial load.	05/3/2026		
	Numerical problems on welded connections	06/3/2026		
	Numerical problems on welded connections	09/3/2026		
	Numerical problems on welded connections	10/3/2026		
	Numerical problems on welded connections	12/3/2026		
	Class Test-1	13/3/2026		
	Numerical problems on welded connections	16/3/2026		
	Numerical problems on welded connections	17/3/2026		
	UNIT-IV Tension Members (LSM)	Introduction to tension members	19/3/2026	
Type: of section used in axial tension		20/3/2026		
Gross and net cross-sectional area of tension members (Numerical problems on Plate)		23/3/2026		
Gross and net cross-sectional area of tension members (Numerical problems on Angles Sections)		24/3/2026		
Gross and net cross-sectional area of tension members (Numerical problems on Angles Sections)		27/3/2026		
Analysis & Design of tension member with welded and bolted connections (Plate)		30/3/2026		
Analysis & Design of tension member with welded and bolted connections (Single Angle Sections).		31/3/2026		

	Analysis & Design of tension member with welded and bolted connections (Double Angle Sections)	02/4/2026		
	Numerical Problems on Tension Members	06/4/2026		
	Numerical Problems on Tension Members	07/4/2026		
	Numerical Problems on Tension Members	09/4/2026		
	Introduction to Lug Angle and Tension splice.	10/4/2026		
UNIT-V Compression Members (LSM)	Types of sections used, Effective length, Radius of gyration, slenderness ratio and its limit	13/4/2026		
	Buckling Class, Effective length	16/4/2026		
	Class Test-II	17/4/2026		
	Analysis and Design of axially loaded welded and bolted connections using tables and Equations of IS 800 (I-Section)	20/4/2026		
	Analysis and Design of axially loaded welded and bolted connections using tables and Equations of IS 800(Single Angle Section)	21/4/2026		
	Analysis and Design of axially loaded welded and bolted connections using tables and Equations of IS 800 (Double angle section)	23/4/2026		
	Numerical Problems on Compression Members	24/4/2026		
	Numerical Problems on Compression Members	27/4/2026		
	Numerical Problems on Compression Members	28/4/2026		
	Numerical Problems on Compression Members	30/4/2026		
	Unit VI Beams (LSM)	Introduction, Different steel sections used, Simple and built-up sections	04/5/2026	
Plastic Hinge, Plastic section Modulus		05/5/2026		
Class of Section, Design of simple I-section -Check for shear only (Low Shear & High Shear)		07/5/2026		
Numerical Problems on Beams		08/5/2026		
Numerical Problems on Beams		15/5/2026		
Numerical Problems on Beams		18/5/2026		
Numerical Problems on Beams		19/5/2026		
Numerical Problems on Beams		21/5/2026		
Numerical Problems on Beams		22/5/2026		
Numerical Problems on Beams		25/5/2026		
Numerical Problems on Beams		26/5/2026		

Assignments

Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1, Unit-2	04/03/2026		
A-2	Unit-3, Unit-4	16/04/2026		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1, Unit-2	As per HPTSB		
Class Test -2	Unit-3, Unit-4	Academic		
House Test	Unit-1 to Unit-5	Schedule		



(Signature of Teacher)



(Signature of HOD)

Approved

Principal

27/11/26
Govt. Polytechnic for Women
Rehan Distt. Kangra (H.P.)