



LESSON PLAN

Program Name	Civil Engineering
Subject Name	
Subject Code	STEEL STRUCTURES DESIGN AND DRAWING
Semester	6 th
Subject Teacher Name	Er. Amish Rehalia(Theory) , Er Sonika Thakur(Practical), Er Amit Thakur(Practical)

Evaluation Scheme

Sr. No.	Subject Name	Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
				Internal Assessment			External Assessment		
		Th	PR	Th	Pr	Total	Th	Pr	Total
1.	STEEL STRUCTURES DESIGN AND DRAWING	4	4	30	20	50	100+50	-	150
Reference Books		(i) "Design of Steel Structures" by Duggal SK, Standard Publishers Distributors (ii) "Structures Design and Drawing" by Birinder Singh, Kaptian Publishing House, Ludhiana							

Course Outcomes (COs)

CO - 1	Proficiency in analyzing and designing steel structures, including beams, columns, and connections, using principles of structural engineering
CO - 2	Understanding and application of applicable building codes and standards in the design process to ensure structural integrity and safety in compliance with industry regulations.
CO - 3	Ability to communicate design solutions effectively through clear and comprehensive drawings, reports, and presentations, essential for collaboration with construction teams and other stakeholders in civil engineering projects

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
Structural Steel and Sections	Terminology, Properties of structural steel as per IS Code, grades of steel	31-01-2024		
	Terminology, Properties of structural steel as per IS Code, grades of steel	01-02-2024		
	Designation of structural steel sections as per IS handbook and IS: 800	02-02-2024		
	Classification of sections in Limit State Method	03-02-2024		
	Hollow Sections; Hot rolled and Cold Formed, advantages and applications	07-02-2024		
Bolted Connections	Types of Bolts	08-02-2024		
	Forces in Bolts	09-02-2024		
	Types of Bolted joints with Sketches	14-02-2024		

	Types of Bolted joints with Sketches	15-02-2024		
	Design of bolted connections (limit state)	16-02-2024		
	Design of bolted connections (limit state)	17-02-2024		
	Design of bolted connections (limit state)	21-02-2024		
Welded Connections (LSM)	Introduction, types of welds, ,	22-02-2024		
	defects in welds	23-02-2024		
	Permissible stress in weld,	28-02-2024		
	strength of weld, advantages and disadvantages of welded joint..	29-02-2024		
	strength of weld, advantages and disadvantages of welded joint..	01-03-2024		
	Types of weld sand their symbols	02-03-2024		
	Types of weld sand their symbols	06-03-2024		
	Design of fillet weld and butt weld subjected to axial load.(Descriptive No numerical on plug and slot welds)	07-03-2024		
	Design of fillet weld and butt weld subjected to axial load.(Descriptive No numerical on plug and slot welds)	13-03-2024		
	Tension Members (LSM)	Types of section used,	14-03-2024	
Permissible stresses in axial tension.		15-03-2024		
Gross and net cross-sectional area of tension member, Analysis		16-03-2024		
Class Test -1		20-03-2024		
Design of tension member with welded and riveted connection		21-03-2024		
Design of tension member with welded and riveted connection		22-03-2024		
Design of tension member with welded and riveted connection		23-03-2024		
Design of tension member with welded and riveted connection		27-03-2024		
Introduction to Lug Angle and Tension splice. (Theory only)		28-03-2024		
Types of sections used, Effective length		30-03-2024		

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Compression Members (LSM)


	Radius of gyration, slenderness ratio and its limit,	03-04-2024		
	Permissible compressive stresses. Analysis	04-04-2024		
	Design of axially loaded angle struts with welded and riveted connection. Stanchion	05-04-2024		
	Design of axially loaded angle struts with welded and riveted connection. Stanchion	06-04-2024		
	Design of axially loaded angle struts with welded and riveted connection. Stanchion	10-04-2024		
	Columns Types of sections- simple and built-up sections,	12-04-2024		
	Columns Types of sections- simple and built-up sections, Effective length,	18-04-2024		
	Class Test-2	19-04-2024		
	Introduction to lacing and battening (No numerical problem on Lacing and Battening)	20-04-2024		
Beams (LSM)	Different steel sections used	24-04-2024		
	Simple and built-up sections.	25-04-2024		
	Permissible bending stresses	26-04-2024		
	Design of simple I beam section, check for shear only.	27-04-2024		
	Design of simple I beam section, check for shear only	01-05-2024		
	Design of simple I beam section, check for shear only	02-05-2024		
	Plate Girder: Various components and their functions. (No numerical Problem on Plate Girder	03-05-2024		
	Parts of plate girder a) Flange plate	04-05-2024		
	Doubt Session	08-05-2024		
	Plate Girder (Conceptual knowledge)	b) Flange angle	09-05-2024	
c) Flange splice		15-05-2024		
d) Web splice		16-05-2024		
e) Vertical stiffener		17-05-2024		
f) Intermediate stiffener		18-05-2024		
g) Horizontal stiffener		22-05-2024		
h) Bearing stiffener		24-05-2024		
Doubt Session		25-05-2024		

Assignments

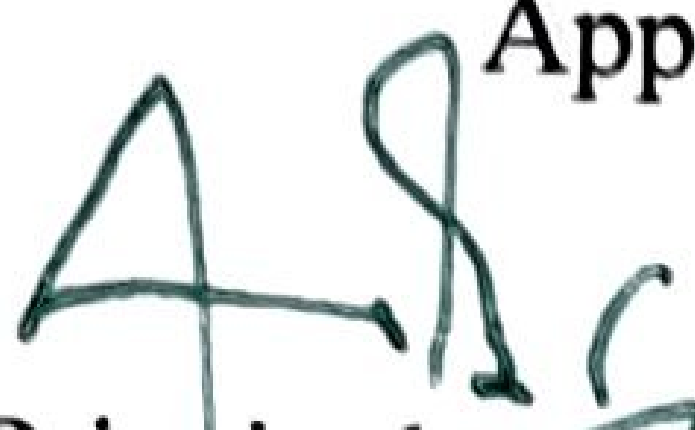
Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1 2			
A-2	Unit-3 4 5			
A-3	Unit--6 7			

House Test/Class Test

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


(Signature of Teacher)
Amish Rihali


(Signature of HOD)

Approved

Principal 27.1.24
Govt. Polytechnic for Women
Rehan Distt. Kangra (H.P.)