Department of Civil Engineering
Govt. Polytechnic for Women Rehan
Distt. – Kangra (H.P.) - 176022

Govt. Polytechnic for Women at Rehan
Dairy No. 248
Date 27/01/24
Distt. Kangra (H.P.)

LESSON PLAN

Program Name	Civil Engineering
Subject Name	Pre stressed Concrete
Subject Code	
Semester	6th Semester
Subject Teacher Name	Er. Amish Rehalia

Evaluation Scheme

Sr. No.	Subject Name	Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
				Internal Assessment			External Assessment		
		Th	DCS	Th	Pr	Total	Th	Pr	Total
1.	Pre stressed Concrete	4		50	-	50	100	-	100
Reference Books		(i) Prestressed Concrete by N Krishna Raju, Tata McGraw Hill, Delhi							
		(ii) Prestressed Concrete by P Dayaratnam							

Course Outcomes (COs)

CO – 1	Gain a solid grasp of pre-stressing principles, including pre-tensioning and post-tensioning methods, and comprehend the behavior of pre-stressed concrete structures under different loads.
CO – 2	Develop skills in designing pre-stressed concrete elements, covering structural analysis, pre-stress force calculations, and adherence to relevant design codes and standards.
CO – 3	Acquire knowledge in the practical aspects of pre-stressed concrete construction, including casting, curing, and quality control measures to ensure the durability and integrity of structures.

Teaching Plan

	Name of Topic	Proposed Date	Actual Date	Remarks
Introduction	Basic concept of Pre stressed concrete.	13-03-2024		
	Advantages of Pre stressed concrete in comparison with RCC	14-03-2024		
	Application of Pre stressed to various building elements, bridges	15-03-2024		
	Class Test -1	16-03-2024		
	Application of Pre stressed to various building elements, bridges	20-03-2024		
	Application of Pre stressed to various building elements water tanks and precast elements	21-03-2024		
	application of Pre stressed to various building elements	22-03-2024		

	water tanks and precast elements			
	Application of Pre stressed to various building elements water tanks and precast elements	23-03-2024		
Materials	Pre stressing steel wires, strands	27-03-2024		
	Pre stressing steel wires, strands	28-03-2024		
	Pre stressing high strength bars	30-03-2024		
	Stresses in high strength steel and stress strain relationship	03-04-2024		
	Stresses in high strength steel and stress strain relationship	04-04-2024		
	Materials requirement for pre stressing concrete – High strength concrete	05-04-2024		
	Tend on profile	06-04-2024		
Pre stressing Methods	Introduction to Pre stressing methods–Pre-Tensioning and Post-Tensioning,	10-04-2024		
	Introduction to Pre stressing methods–Pre-Tensioning and Post-Tensioning,	12-04-2024		
	Introduction to Pre stressing methods–Pre-Tensioning and Post-Tensioning,	18-04-2024		
	Class test-2	19-04-2024		
	Forces due to Pre-Tensioning and Post-Tensioning;	20-04-2024		
	forces due to pre tensioning and post-tensioning; their suitability and comparison	24-04-2024		
	forces due to pre tensioning and post-tensioning; their suitability and comparison	25-04-2024		
Bending and Shear Capacity	Concept of bending and shear capacity of prestressed members.	26-04-2024		
	Concept of bending and shear capacity of prestressed members	27-04-2024		
	Concept of bending and shear capacity of prestressed members	01-05-2024		
	Concept of bending and shear capacity of prestressed members	02-05-2024		
	Calculation of bending stresses in rectangular simply supported beams with straight and parabolic profile of tendons	03-05-2024		

	Calculation of bending stresses in rectangular simply supported beams with straight and parabolic profile of tendons	04-05-2024		
	Calculation of bending stresses in rectangular simply supported beams with straight and parabolic profile of tendons	08-05-2024		
	Doubt Session	09-05-2024		
Losses in Prestressing	Types of losses in prestress–Elastic shortening, creep	15-05-2024		
	shrinkage of concrete, frictionless	16-05-2024		
	stress relaxation in prestress steel.	17-05-2024		
	stress relaxation in prestress steel.	22-05-2024		
	Computation of losses for simple beam problems.	24-05-2024		
	Computation of losses for simple beam problems	25-05-2024		

Assignments

Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1,	23-03-2024		
A-2	Unit-2-3,	25-04-2024		
A-3	Unit-4,5	25-05-2024		

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,			
House Test - 1	Unit-1, Unit-2 and Unit-3			

(Signature of Teacher)
Amisha Rihal

(Signature of HOD)

Approved

Principal 2.2.1.24