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

LESSON PLAN

Program Name	Civil Engineering	Kangra (4.9)
Subject Name	Pre stressed Concrete	Tan Igra
Subject Code		
Semester	6 th Semester	
Subject Teacher Name	Er. Amish Rehalia	

Evaluation Scheme

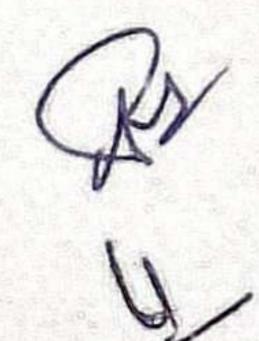
		Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
Sr. No. Subject Name	Internal Assessment			External Assessment					
		Th	DCS	Th	Pr	Total	Th	Pr	Total
1.	Pre stressed Concrete	4		50	-	50	100	•	100
Reference Books		(i) Prestressed Concrete by N Krishna Raju, Tata McGraw Hill, Delhi							
		(ii)							

Course Outcomes (COs)

Course Ou	itcomes (COs)
	Gain a solid grasp of pre-stressing principles, including pre-tensioning and post-
CO - 1	tensioning methods, and comprehend the behavior of pre-stressed concrete structures
	under different loads.
	Develop skills in designing pre-stressed concrete elements, covering structural
CO - 2	analysis, pre-stress force calculations, and adherence to relevant design codes and
	standards.
	Acquire knowledge in the practical aspects of pre-stressed concrete construction,
CO - 3	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	Concept of bending and shear capacity of prestressed members.	26-04-2024	
Capacity	Concept of bending and shear capacity of prestressed members	27-04-2024	
	Concept of bending and shear capacity of	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	03-05-2024	

	Calculation of bending stresses in rectangular simply supported beams with straight and parabolic profile of tendons Calculation of bending	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	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		
Class Test -2	Unit-3,4,	HPTSB	TI III	
House Test - 1	Unit-1, Unit-2 and Unit-3	Academic Schedule		

(Signature of Teacher)

Amish Phol-

(Signature of HOD)

Approved

Dainaidal