


## Government Polytechnic Lahaul Spiti at Udaipur Camp At Sundernagar Distt Mandi (H.P) -175018


### Department of Civil Engineering

#### Lesson Plan for Prestressed Concrete (Semester-6th)Session: (Jan- May 2024)

S.No.	MONTH	WEEK	DATE	Name of Chapter	CONTENTS	REMARKS
1	January	Week 4	27	<b>Introduction</b>	Basic concept of prestressed concrete,	
		Week 5	29,31		Advantages of prestressed concrete in comparison with RCC.application of prestressed to various building elements, bridges	
2	February	Week 1	1,3	<b>Introduction</b>	Application of prestressed to various building elements, water tanks and	
		Week 2	5,7,8		Application of prestressed in precast elements.	
		Week 3	12,14,15,17	<b>Materials</b>	Materials requirement for prestressing concrete – High strength concrete	
		Week 4	19,21,22		Prestressing steel wires, strands and high strength bars.	
		Week 5	26,28,29		Stresses in high strength steel and stress-strain relationship, tend on profile.	
3	March	Week 1	2	<b>Prestressing Methods</b>	Introduction to prestressing methods–pre-tensioning and post-tensioning. Forces due to pretensioning and post-tensioning; their suitability and comparison.	
		Week 2	4,6,7		Circular prestressing and its application	
		Week 3	11,13,14,16	<b>Bending and Shear Capacity</b>	Concept of bending and shear capacity of prestressed members.	<b>Class Test - I</b>
		Week 4	18,20,21,23		Calculation of bending stresses in rectangular simply supported beams with straight profile of tendons. .....Do.....	
		Week 5	27,28,30		Calculation of bending stresses in rectangular simply supported beams with parabolic profile of tendons. .....Do.....	
4	April	Week 1	1,3,4,6	<b>Losses in Prestressing</b>		
		Week 2	8,10			
		Week 3	18,20			<b>Class Test - II</b>
		Week 4	22,24,25,27		Types of losses in prestress–Elastic shortening, creep and shrinkage of concrete	
		Week 5	29		Frictionless and stress relaxation in prestress steel	
5	May	Week 1	1,2,4	<b>Losses in Prestressing</b>	Computation of losses for simple beam problems .....Do.....	
		Week 2	6,8,9			
		Week 3	13,15,16,18	<b>House Test</b>		
		Week 4	20,22,25	Revision		

Total Lecturer Planned : 59

  
 Signature of Teacher  
 (Er Manoj Kumar Thakur)

  
 Signature of OIC  
 (Er Pawan Kumar)

**Government Polytechnic Lahaul Spiti at Udaipur Camp at Sundernagar Distt Mandi (H.P) -175018**  
**Department of Civil Engineering**

**Lesson Plan for Steel Structure and Design (Semester-6th ) Session: (Jan-May) 2024**

S. No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	30,31	1. Structural Steel and Sections	
2	February	Week 1	1,2	1.1 Terminology, Properties of structural steel as per IS Code, grades of steel	
		Week 2	6,7,8,9	1.2 Designation of structural steel sections as per IS handbook and IS: 800	
		Week 3	13,14,15,16	1.3 Classification of sections in Limit State Method	
		Week 4	20,21,22,23	1.4 Hollow Sections: Hot rolled and Cold Formed, advantages and applications	
		Week 5	27,28,29	2. Bolted Connections 2.1 Types of Bolts 2.2 Forces in Bolts 2.3 Types of Bolted joints with Sketches	
3	March	Week 1	1	2.4 Design of bolted connections (limit state)	Class Test-I
		Week 2	5,6,7	3. Welded Connections (LSM) Introduction, types of welds, defects in welds, Permissible stress in weld, strength of weld, advantages and disadvantages of welded joint.	
		Week 3	12,13,14,15	Types of weld sand their symbols. Design of fillet weld and butt weld subjected to axial load.(Descriptive No numerical on plug and slot welds)	
		Week 4	19,20,21,22	Tension Members (LSM) Types of section used, permissible stresses in axial tension.	
		Week 5	26,27,28	Gross and net cross-sectional area of tension member	
4	April	Week 1	2,3,4,5	Analysis and Design of tension member with welded and riveted connection. Introduction to Lug Angle and Tension splice. (Theory only)	Class Test-II
		Week 2	9,10,12	5. Compression Members (LSM) Types of sections used, Effective length, Radius of gyration, slenderness ratio and its limit, Permissible compressive stresses. Analysis and Design of axially loaded angle struts with welded and riveted connection. Stanchion and Columns Types of sections-simple and builtup sections, Effective length,	
		Week 3	16,18,19	Introduction to lacing and battening (No numerical problem on Lacing and Battening) Beams (LSM) Different steel sections used; Simple and built-up sections Permissible bending stresses.	
				Design of simple I beam section, check for shear only.	
				Introduction to Plate Girder: Various components and their functions.	

		Week 4	23,24,25,26	Plate Girder
		Week 5	30	Plate Girder (Conceptual knowledge) Parts of plate girder a) Flange plate
4	May	Week 1	1,2,3	Flange angle c) Flange splice d) Web splice e) Vertical stiffener
		Week 2	7,8,9	f) Intermediate stiffener g) Horizontal stiffener h) Bearing stiffener
		Week 3	14,15,16,17	<b>House Test</b>
		Week 4	21,22,24	Revision

Signature of Teacher  
(Er R.S.Chandel)

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Signature of O.I.C.  
(Er Pawan Kumar)

**Government Polytechnic Lahaul Spiti at Udaipur Camp at Sundernagar Distt Mandi (H.P) -175018**

**Department of Civil Engineering**

**Lesson Plan for Steel Structure Design & Draw ing (Semester-6th ) Session: (Jan-May) 2024**

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	29,30	Details of splicing for steel columns.	
2	February	Week 2	5,6	Beam to beam connections (Seated and framed)	
		Week 3	12,13	Checking & Viva	
		Week 4	19,20	Beam to column (Seated and framed)	
		Week 5	26,27	Checking & Viva	
3	March	Week 2	4,5	Column bases (Slab base, and gusseted base)	Class Test-I
		Week 3	11,12	Checking & Viva	
		Week 4	18,19	Plate Girder Intoduction	
		Week 5	26	Checking & Viva	
4	April	Week 1	1,2	Detailed drawing showing plan and elevation for a riveted plate girder	Class Test-II
		Week 2	8,9	Checking & Viva	
		Week 3	16	Preparation of drawing of a steel roof truss with details of joints	
		Week 4	22,23	Checking & Viva	
		Week 5	29,30	Revision	
5	May	Week 2	6,7	Revision	House Test
		Week 3	13,14		
		Week 4	20,21	Revision	

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(Er Pawan Kumar)



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**Department of Civil Engineering**

**Lesson Plan for Irrigation Engineering (Semester-6th ) Session: (Jan-May) 2024**

S.No	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	29,31	Definition and Necessity of Irrigation , Historical development of Irrigation systems Principal crops in India and their water requirements	
2	February	Week 1	1,2	Crop/base period. Crop seasons –Kharif and Rabi.Duty, Factors affecting duty, Delta,Relationship between Base period, Duty and Delta	
		Week 2	5,7,8,9	Type of irrigation- Surface irrigation and sub-surface irrigation, methods of supplying water to the field (Brief description)	
		Week 3	12,14,15,16	Free Flooding Border Flooding Check Flooding Furrow irrigation method BasinSprinkler irrigation with its suitability Drip Irrigation with its suitability	
		Week 4	19,21,22,23	Defination, importance of hydrology,Hydrological cycle,Precipitation, Definition,Types of precipitation,Raingauges,	
		Week 5	26,28,29	types with diagrams,Runoff, Factors affecting runoff 5 . Use of dams in irrigation Types of dams, Construction of earthen, gravity and rock fill dams Alluvial and non-alluvial canals.Alignment of canal- ridge canal, contour canal, side slope canal.	
3	March	Week 1	1	Distribution system for canal irrigation- Main canal, Branch canal, Distributaries, water course. Cross-section of canal showing-	
		Week 2	4,6,7	Side slope, Berm, Freeboard, Service road, Spoil bank, Dowel and Borrowpit (with their definition & functions), Lining of canals and their types, Maintenance of irrigation canal. Closure of breaches	
		Week 3	11,13,14,15	Open well,Shallow well,Deep well,Construction of open well Yield of open wel IPumping test Recuperating test	Class Test-I
		Week 4	18,20,21,22	Tube well,Types of tube well. Cavitytype tube well. Screen type tube well,Slotted type tube well. Methods of boring tube wells well development	
		Week 5	27,28	Advantages and disadvantages of tube well irrigation over canal irrigation. Definition, object, general layout, functions of different parts of diversion head works.	
4	April	Week 1	1,3,4,5	Types of Weir. Difference between weir and barrage, Functions and necessity of the following types: aqueduct, super Passage, level crossing, inlet and outlet	
		Week 2	8,10,12	Sketches of the above cross drainage works	
		Week 3	18,19	Introduction.Cross and head regulators,	Class Test-II
		Week 4	22,24,25,26	Outlets.Canal Escapes, Falls	
		Week 5	29	Control and river training.Objective of river training.Method of river training Marginal embankment	

4	May	Week 1	1,2,3	Groynes,Pitched island,Guide banks
		Week 2	6,8,9	Definition,Causes,Preventive & remedial measures, Reclamation of water logged areas. Well point system
		Week 3	13,15,16,17	<b>House Test</b>
		Week 4	20,22,24	Revision

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(Er R.S.Chandel)



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(Er Pawan Kumar)



**Government Polytechnic Lahaul Spiti at Udaipur Camp at Sundernagar Distt Mandi (H.P) -175018**

**Department of Civil Engineering**

**Lesson Plan for Construction Management and Accounts (Semester-6th ) Session: (Jan-May) 2024**

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 4	27	Significance of construction management, Main objectives of construction management and overview of the subject.	
2	February	Week 1	1,2,3	Functions of construction management, planning, organising, staffing, directing, controlling and coordinating, meaning of each of these with respect to construction job. Classification of construction into light, heavy and industrial construction	
		Week 2	8,9	Stages in construction from conception to completion, Importance of construction planning, Stages of construction planning - Pre-tender stage- Contract stage, construction contracts and specifications	
		Week 3	15,16,17	Scheduling construction works by bar charts- Definition of activity, identification of activities though- Limitations of bar charts, Scheduling by network techniques	
		Week 4	22,23	Introduction to net work techniques; PERT and CPM, differences between PERT and CPM terminology, CPM Network including critical activities, slack, floats & critical path.	
		Week 5	29	Types of organizations: Line, Types of organizations: line and staff	
3	March	Week 1	1,2	Types of organizations of line : functional and their characteristics	
		Week 2	7	Principle of storing and stacking materials at site, Location of equipment	
		Week 3	14,15,16	Organizing labour at site, Site layout of construction project	Class Test-I
		Week 4	21,2,23	Conditions of construction workers in India, wages paid to workers, Important provisions of the following Acts: - Labour Welfare Fund Act 1936 (as amended)	
		Week 5	28,30	Payment of Wages Act 1936 (as amended) - Minimum Wages Act 1948 (as amended)	
4	April	Week 1	4,5,6	Methods of recording progress, Analysis of progress, Taking corrective actions keeping head office informed	
		Week 2	12	Arbitration and settlement.	Class Test-II
		Week 3	18,19,20	Need for inspection and quality control, Principles of inspection	
		Week 4	25,26,27	Stages of inspection and quality control for- Earthwork- Masonry- RCC	
4	May	Week 1	2,3,4	Safety measures for- Excavation work- Hot bituminous works- Scaffolding, form work	
		Week 2	9	Safety campaign and safety devices	
		Week 3	16,17,18	<b>House Test</b>	
		Week 4	24,25	Revision	

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(Er Pawan Kumar)

**Department of Civil Engineering**  
**Government Polytechnic Sundernagar Distt Mandi (H.P) -175018**

<b>Lesson Plan for Railway Bridges &amp; Tunnels (Semester-6th) Session: (29th Jan -25th May 2024)</b>						
S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS	
1	Jan	Week 5	30,31	<b>PART-1: RAILWAYS</b> Introduction to Indian Railways		
		Week 1	2,3	Railways surveys: Factors influencing the railways route, brief description of various types of railway survey		
		Week 2	6,7	Classification of permanent way describing its component part Rail Gauge; Definition, types, practice in India		
		Week 3	13,14,16,17	Rail – types of rails Rail Fastening: Rail joints, types of rail joints,		
		Week 4	20,21,23	Fish plates, spikes bearing plates Sleepers: Functions of sleepers, types of sleepers, requirements of an		
2	Feb	Week 5	27,28	requirements of an ideal material of ballast Crossing and signalling: Brief description regarding different types of crossing/signalling		
		Week 1	1,2	Maintenance of track: Necessity, track fixtures; maintenance and boxing of ballast, maintenance gauges, tools Drains, methods of construction.		
		Week 2	5,6	<b>PART-II: BRIDGES</b> Introduction, Bridge–its function and component parts, difference between a bridge and A culvert		
		Week 3	12,13,15,16	Classification of Bridges Their structural elements and suitability:According to life-permanent and temporary, According to deck level–Deck, through and semi-through		<b>Class Test-1</b>
		Week 4	19,20,22,23	According to material–timber, masonry, steel, RCC, pre-stressed IRC classification Bridge Foundations: Introduction to open foundation pile foundation, Well foundation		
3	Mar	Week 5	26,27,30	Piers–definition, parts; types–solid (masonry and RCC), open Abutment sand wing walls–definition,		
		Week 1	2,3,5,6	types of abutment (straight and tee), abutment with wing walls 47 (straight, splayed, return and curved)		
		Week 2	9,10,12	Bridge bearings Purpose of bearing; types of bearing–fixed plate, rocker and roller,		
		Week 3	16,19,20	Maintenance of Bridges , Inspection of bridges , Routine maintenance		<b>Class Test-2</b>
		Week 4	23,24,26,27	<b>PART-III: TUNNELS</b> Definition and necessity of tunnels Typical section of tunnels for a national highway and single and double broad gauge railway track.		
4	April	Week 5	30	double broad gauge railway track.		
		Week 1	1,3,4	Ventilation-necessity and methods of ventilation, by blowing, exhaust and combination of blowing and exhaust		
		Week 2	7,8	Drainage method of draining water in tunnels Lighting in tunnels & lining of tunnels.		
		Week 3	14,15,17,18			
5	May	Week 4	21,22,24,25	<b>House Test</b>		
				<b>Revision</b>		

  
**Signature of Teacher**  
 (Er Sujaya Sharma)

  
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 (Er Pawan Kumar)



GOVT POLYTECHNIC (L&S) AT UDAIPUR CAMP AT SUNDERNAGAR						
LESSON PLAN (Practice in Communication Skills) 6th Semester Civil Engg. (Jan-May 2024)						
Sr. No.	Month	Week	Dates		Description of the Practical	Remarks
			Group-1	Group-2		
1	Jan/Feb	1st/5th	01-02-2024	31-01-2024	Exercises on Phonetics: Identification of English Phonemes	
2	Feb	2nd	08-02-2024	07-02-2024	Stress and Intonation; Speaking Exercises with emphasis on Voice Modulation ( Reading)	
3	Feb	3rd	15-02-2024	14-02-2024	Extempore Speech	
4	Feb	4th	22-02-2024	21-02-2024	Group Discussion (Dos and Don'ts)	
5	Feb	5th	29-02-2024	28-02-2024	Group Discussion Activity	
6	March	1st	07-03-2024	06-03-2024	Exercises on: Self Assessment using tools like SWOT analysis	
7	March	2nd	14-03-2024	13-03-2024	Listening Skills	
8	March	3rd	21-03-2024	20-03-2024	VIVA	
9	March	4th	28-03-2024	27-03-2024	Internet Communication and Correspondence: Resume writing and Covering Letter	
10	April	1st	04-04-2024	03-04-2024	Agenda and Minutes of Meeting, Business Correspondence	
11	April	2nd/3rd	18-04-2024	10-04-2024	Exercises on: Body Language and Dress Sense	
12	April	4th	25-04-2024	24-04-2024	Etiquettes and Mannerism in difficult situations like business meetings, table manners and telephone etiquette and Manners related to opposite gender	
13	May	1st	02-05-2024	01-05-2024	Cross Cultural Communication	
14	May	2nd	09-05-2024	08-05-2024	Mock Interviews ( Telephonic/ Personal)	
15	May	3rd	16-05-2024	15-05-2024	Role Plays for Effective Communication	
16	May	4th	—	22-05-2024	VIVA	

  
 Signature Of Teacher  
 (Ms Prerna Sharma)

**Govt. Polytechnic Lahaul & Spiti at Udaipur Camp at Sundernagar Distt. Mandi H.P**  
**Lesson Plan**  
**6th Semester Civil Engg. on dated 29/01/2024 to 25/05/2024**

S.No	Date	Week	Activity	Name of Teacher	Remarks
<b>JANUARY</b>	29.30.31	5	Race 100 m,200m,		
<b>FEBRUARY</b>	1	1	Race 400 m800m		
	5.6.7	2	High jump boys		
	12.13.14.15.	3			
	19.20.21.22	4	High jump girl		
	26 .27.28.29	5	Long jump girl		
<b>MARCH</b>	4.5.6.7.	2	Long jump,boys		
	11.12.13.14	3			
	18.19.20.21	4	Shot put boys/girl		
	26.27.28	5	do		
<b>APRIL</b>	1.2.3.4.	1	Dis. Caush,through.		
	8.9.10.	2	do		
	16.18	3	Cultural activity		
	22.23.24.25.	4	do		
	29.30	5	Sports.activity		
	18	1	do		
	20,22,25.	4	do		
	29.30	5	Cultural activity		
<b>MAY</b>	1.2.	1	Sports activity		
	6.7.8.9.	2	do		
	13.14.15.16.	3	do		
	20.21.22	4	do		

  
Signature of Teacher

  
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