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

Department of Civil Engineering

Lesson Plan for Hydraulics (Semester-4th) Session: (January-June 2026)

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	Jan	Week 5	27,28,30	Introduction, Overview of syllabus, Evaluation scheme, **Pressure measurement and Hydrostatic pressure :** Technical terms used in Hydraulics –fluid, fluid mechanics, hydraulics, hydrostatics, and hydrodynamics - ideal and real fluid, application of hydraulics.	
2	Feb	Week 1	2,3,4,6	Physical properties of fluid – density-specific volume, specific gravity, surface tension, capillarity, and viscosity-Newton's law of viscosity. Various types of pressure – Atmospheric Pressure, Gauge Pressure, Absolute Pressure, Vacuum Pressure. Concept of Pressure head and its unit, Pascal's law of fluid pressure and its uses.	
		Week 2	9,10,11,13	Measurement of differential Pressure by different methods, Numerical Practice	
		Week 3	16,17,18,20	Variation of pressure with depth, Pressure diagram, hydrostatic pressure and center of pressure on immersed surfaces and on tank walls.Determination of total pressure and center of pressure on sides and bottom of water tanks, sides and bottom of tanks containing two liquids, vertical surface in contact with liquid on either side	
		Week 4	23,24,25,27	Numerical Practice, **Fluid Flow Parameters:** Types of flow – Gravity and pressure flow, Laminar, Turbulent, Uniform, Non-uniform, Steady, Unsteady flow. Reynolds number	
3	Mar	Week 1	2,3,6	Discharge and its unit, continuity equation of flow, Energy of flowing liquid: potential, kinetic and pressure energy	
		Week 2	9,10,11,13	Bernoulli's theorem: statement, assumptions, equation.Numerical practice	Class Test-I
		Week 3	16,17,18,20	**Flow through pipes :** Major Head loss in pipe: Frictional loss and its computation by Darcy's Welsbach equation,Minor losses in pipe: loss at entrance, exit, sudden contraction, sudden enlargement, and fittings.	
		Week 4	23,24,25,27	Flow through pipes in series, pipes in parallel and Dupuit's equation for equivalent pipe, Hydraulic gradient line and total energy line, Numerical Practice	

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
		Week 5	30,31	**Flow through Open Channel :** Geometrical properties of channel section: Wetted area, wetted perimeter, hydraulic radius for rectangular and trapezoidal channel section.	
4	April	Week 1	1	Determination of discharge by Chezy's equation and Manning's equation.	
		Week 2	6,7,8,10	Conditions for most economical rectangular and trapezoidal channel section, Discharge measuring devices: Triangular and rectangular Notches.	Class Test-II
		Week 3	13,17	Velocity measurement devices: current meter, floats and Pitot's tube,	
		Week 4	20,21,22,24	Specific energy diagram, Froude's Number, Numerical Practice	
		Week 5	27,28,29	**Hydraulic Pumps:** Concept of pump, Types of pumps - centrifugal	
5	May	Week 2	4,5,6,8	**HOUSE TEST**	
		Week 3	11,12,13,15	Rreciprocating, submersible pump.Suction head, delivery head, static head, Manometric head	
		Week 4	18,19,20,22	Selection and choice of pump,	
		Week 5	25,26	Revision	

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

Department of Civil Engineering

Lesson Plan for Advanced Surveying (Semester-4th) Session: (Jan-May) 2026

S. No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	29,30,31	Principles of plane table survey.Accessories of plane table and their use, Telescopic alidade.	
2	February	Week 1	5,6,7	Setting of plane table; Orientation of plane table - Back sighting and Magnetic meridian method. Methods of plane table surveys- Radiation, Intersection and Traversing	
		Week 2	12,13	Merits and demerits of plane table survey. Theodolite Surveying,Types and uses of Theodolite, Components of transit Theodolite and their functions, Reading the Vernier of transit Theodolite.	
		Week 3	19,20,21	Technical terms- Swinging, Transiting, Face left, Face right. Fundamental axes of transit Theodolite and their relationship	
		Week 4	26,27,28	Temporary adjustment of transit Theodolite. Measurement of horizontal angle- Direct and Repetition method, Errors eliminated by method of repetition	
3	March	Week 1	5,6,7	Measurement of horizontal angle- Direct and Repetition method, Errors eliminated by method of repetition.Measurement of magnetic bearing	
		Week 2	12,13	Theodolite traversing by included angle method and Deflection angle method.Traverse Computation-Latitude, Departure, Consecutive coordinates, independent coordinates.	Class Test-I
		Week 3	19,20,21	Principles of Tacheometry, Tacheometer, and its component parts, Anallatic lens. Tacheometric formula for horizontal distance with telescope horizontal and staff vertical	
		Week 4	27,28	Field method for determining constants of tacheometer, determining horizontal and vertical distances with tacheometer by fixed hair method and staff held vertical, Limitations of tacheometry	
4	April	Week 1	2,4	Types of curves used in roads. Designation of curves. Setting simple circular curve by offsets from long chord and	
		Week 2	9,10	Rankine's method of deflection angles.	Class Test-I
		Week 3	16,17,18	Principle of Electronic Distance Meter (EDM), its component parts and their Functions, use of EDM.	

		Week 4	23,24,25	Use of micro-optic Theodolite and Electronic Digital Theodolite. Use of Total Station, Use of function keys.	
		Week 5	30	Remote sensing, GPS and GIS, Remote Sensing – Overview,	
5	May	Week 1	2	Remote sensing system	
		Week 2	7,8	**House Test**	
		Week 3	14,15,16	Use of Global Positioning System (G.P.S.) instruments.Geographic Information System (GIS): Overview, Components, Applications, Software for GIS.	
		Week 4	21,22,23	Overview, Components, Applications, Software for GIS. Introduction to Drone Surveying.	

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

Department of Civil Engineering

Lesson Plan for Building Planning & Drawing (Semester- 4th) Session: (Jan-May) 2026

Sr.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	28	Conventions as per IS 962, symbols for different materials such as earthwork, brickwork, stonework, concrete, woodwork, and glass.	
2	February	Week 1	4	Graphical symbols for doors and windows, Abbreviations, symbols for sanitary and electrical installations.	
		Week 2	11	Types of lines-visible lines, centre line, hidden line, section line, dimension line, extension line, pointers,	
		Week 3	18	arrowhead, or dots. Appropriate size of lettering and numerals for titles, sub-titles, notes, and dimensions. Types of scale- Monumental, Intimate, criteria for Proper Selection of scale for various types of drawing. Sizes of various standard papers/sheets.	
		Week 4	25	Sizes of various standard papers/sheets.Reading and interpreting readymade Architectural building drawing (To be procured from Architect, Planning Consultants, Planning Engineer). Unit– II Planning of Building Principles of planning for Residential and Public building- Aspect, Prospect, Orientation, Grouping, Privacy, Elegance, Flexibility, Circulation, Furniture requirements, Sanitation, Economy.Space requirement and norms for minimum dimension of different units in the residential and public buildings as per IS 962.	
3	March	Week 2	11	Rules and byelaws of sanctioning authorities for construction work. Plot area built up area, super built-up area, plinth area, carpet area, floor area and FAR (Floor Area Ratio). Line plans for residential building of minimum three rooms including water closet (WC), bath and staircase as per principles of planning. Line plans for public building-school building, primary health centre, restaurant, bank, post office, hostel, Function Hall and Library.	Class test-I
		Week 3	18	Drawing of Single storey Load Bearing residential building (2 BHK) with staircase. Data drawing –plan, elevation, section, site plan, schedule of openings, construction notes with specifications, area statement, Planning and design of staircase- Rise and Tread for residential and public building.	
		Week 4	25	Working drawing – developed plan, elevation, section passing through staircase or WC and bath.Foundation plan of Load bearing structure.	
4	April	Week 1	1	Drawing of Two storeyed Framed Structure (G+1), residential building (2 BHK) with stair-case. Data drawing – developed plan, elevation, section, site plan, schedule of openings, construction notes with specifications, area statement. Planning and design of staircase- Rise and Tread for residential and public building.	
		Week 2	8	Working drawing of Framed Structure – developed plan, elevation, section passing through staircase or WC and bath. Foundation plan of Framed Structure	Class Test-I
		Week 4	22	Details of RCC footing, Column, Beam, Chajjas,	
		Week 5	29	Details of Lintel, Staircase, and slab.	
		Week 2	6	House Test	

5	May	Week 3	13	Drawing with CAD- Draw commands, modify commands, layer commands.	
		Week 4	20	Revision	

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Government Polytechnic L&S at Udaipur Camp at Sundernagar Distt Mandi (H.P) -175018

Lesson Plan for Transportation Engineering (Semester: 4th) Session: (Jan-May, 2026)

S.No	MONTH	WEEK	Date	CONTENTS	REMARKS
1	Jan	Week 5	27, 29	**Unit – 1 Overview of Highway Engineering** , Role of transportation in the development of nation, Scope and Importance of roads in India and its Characteristics.	
2	Feb	Week 1	2,3,5	Different modes of transportation – land way, waterway, airway. Merits and demerits of roadway and railway.General classification of roads. Selection and factors affecting road alignment. **Unit– 2 Geometric Design of Highway** Camber: Definition, purpose, types as per IRC – recommendations.Kerbs: Road margin, road formation, right of way.	
		Week 2	9,10,12	Design speed and various factors affecting design speed as per IRC –recommendations. Gradient: Definition, types as per IRC – Recommendations. Sight distance (SSD): Definition, types IRC – recommendations, simple numerical. Sight distance (SSD): Definition, types IRC – recommendations, simple numerical.	
		Week 3	16,17,19	Curves: Necessity, types: Horizontal, vertical curves.Super elevation: Definition, formula for calculating minimum and maximum Super elevation and method of providing super-elevation. Standards cross-sections of national highway in embankment and cutting.	
		Week 4	23,24,26	**Unit– 3 Construction of Road Pavements** Types of road materials and their Tests – Test on aggregates- Flakiness and Elongation Index tests, Angularity Number test, test on Bitumen- penetration,	
3	March	Week 1	2,3,5	Ductility, Flash and Fire point test and Softening point test. Pavement – Definition, Types Structural Components of pavement and their functions Construction of WBM road. Merits and demerits of WBM & WMM road.	
		Week 2	9,10,12	Construction of Flexible pavement / Bituminous Road, Types of Bitumen and its proper- ties, Emulsion,Cutback, Tar, Terms used in BR-prime coat, tack coat, seal coat, Merits and Demerits of BR.	**Class Test -1**
		Week 3	16,17,19	Cement concrete road methods of construction, Alternate and Continuous Bay Method, Construction joints, filler and sealers, merits and demerits of concrete roads. Types of joints.	
		Week 4	23,24	**Unit– 4 Basics of Railway Engineering Classification of Indian Railways,** zones of Indian Railways. Permanent way: Ideal requirement, Components; Rail Gauge, types, factors affecting selection of a gauge.	
		Week 5	30,31	Rail, Rail Joints - requirements, types.Creep of rail causes and prevention. **Unit-5** **Track geometrics, Construction and Maintenance**t- Factors governing rail alignment.	
4	April	Week 1	2	Track Cross sections – standard cross section of single and double line in cutting and embankment. Important terms- permanent land, formation width, side drains,	

Department of Civil Engineering

4	April	Week 2	6,7,9	Railway Track Geometrics: Gradient, curves- types and factors affecting, grade compensation, super elevation, limits of Super elevation on curves, cant deficiency, negative cant, coning of wheel, tilting of rail.	**Class Test -2**
		Week 3	13,16	Branching of Tracks, Points and crossings, Turn out- types, components, functions and inspection. Track junctions: crossovers, scissor cross over, diamond crossing, track triangle.	
		Week 4	20,21,23	Station -PurposeRequirement of railway station, important technical terms, types of rail- way station, factors affecting site selection for railway station	
		Week 5	27,28,30	Station yard: Classification- Passenger, goods, locomotive and marshalling yards. Function & drawbacks of marshalling yards.Track Maintenance- Necessity, Classification,	
5	May	Week 2	4,5,7	**House Test**	
		Week 3	11,12,14	Tools required for track maintenance with their functions, Organization of track maintenanceDuties of permanent way inspector, gang mate and Key man.	
		Week 4	18,19,21	Revision	
		Week 5	25,26	Revision	

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Government Polytechnic L&S at Udaipur Camp at Sundernagar Distt Mandi (H.P) -175018

Lesson Plan for Construction Management (Semester: 4th) Session: (Jan-May, 2026)

S.No	MONTH	WEEK	Date	CONTENTS	REMARKS
1	Jan	Week 5	27,31	**Unit – I Construction industry and management** Organization-objectives, principles of organization, types of organization:	
2	Feb	Week 1	2,3,7	government/public and private construction industry, Role of various personnel in construction organization Agencies associated with construction work- owner	
		Week 2	9,10	promoter, builder, designer, architects.Role of consultant for various activities: Preparation of Detailed Project Report (DPR), Monitoring of progress and quality, settlement of disputes	
		Week 3	16,17,21	**Unit – II Site Layout** Principles governing site layout.Factors affecting site layout	
		Week 4	23,24,28	Preparation of site layout. Land acquisition procedures and providing compensation	
3	March	Week 1	2,3,7	**Unit- III Planning and scheduling** Identifying broad activities in construction work & allotting time to it, Methods of SchedulingDevelopment of bar charts, Merits & limitations of bar chart.	
		Week 2	9,10	Elements of Network: Event, activity, dummy activities, Precautions in drawing Network, Numbering the events.CPM networks, activity time estimate,	**Class test 1**
		Week 3	16,17	Event Times by forward & backward pass calculation, start and finish time of activity, project duration	
		Week 4	23,24,28	Floats: Types of Floats-Free, independent, and total floats,critical activities and critical path,Purpose of crashing a network, Normal Time and Cost, Crash Time and Cost, Cost slope	
		Week 5	30,31	Optimization of cost and duration.Material Management- Ordering cost, inventory carrying cost,	
4	April	Week 1	4	Economic Order Quantity Store management	
		Week 2	6,7	various records related to store management, inventory control by ABC technique,Introduction to material procurement through portals (e.g. www.inampro.nic.in)	**Class test -2**
		Week 3	13,18	**Unit IV Construction Contracts and Specifications** Types of Construction contracts	
		Week 4	20,21,25	Contract documents, specifications, general special conditions	
		Week 5	27,28	Contract Management, procedures involved in arbitration and settlement (Introduction only)	
5	May	week 1	2	**Unit– V Safety in Construction** Safety in Construction Industry—Causes of Accidents, Remedial and Preventive Measures	
		Week 2	4,5	**House Test**	
		Week 3	11,12,16	Labour Laws and Acts pertaining to Civil construction activities (Introduction only)	
		Week 4	18,19,23	Revision	
		Week 5	25,26	Revision	

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Department of Civil Engineering

Lesson Plan for Elective-II (Railway Bridges & Tunnels) (Semester-4th) Session: (Jan-May 2026)

S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	Jan	Week 5	27 & 28	**PART–1: RAILWAYS** Introduction to Indian Railways,Railways surveys: Factors influencing the railways route.	
2	Feb	Week 1	2,3 & 4	Railways surveys: Factors influencing the railways route, brief description of various types of railway survey Classification of permanent way describing its component part Rail Gauge; Definition, types, practice in India	
		Week 2	9,10,11	Rail – types of rails Rail Fastening: Rail joints, types of rail joints,	
		Week 3	16,17,18	Fish plates, spikes bearing plates Sleepers: Functions of sleepers, types of sleepers, requirements of an ideal material of Sleepers.	
		Week 4	23,24,25	Ballast: Function of ballast, requirements of an ideal material of ballast Crossing and signalling: Brief description regarding different types of crossing/signalling	
3	Mar	Week 1	2,3	Maintenance of track: Necessity, track fixtures;	
		Week 2	9,10,11	maintenance and boxing of ballast, maintenance gauges, toolsDrains, methods of construction.	**Class Test-I**
		Week 3	16,17,18	**PART-II: BRIDGES** Introduction, Bridge–its function and component parts, difference between a bridge and A culvert	
		Week 4	23,24,25	Classification of Bridges Their structural elements and suitability:According to life-permanent and temporary, According to deck level–Deck, through and semi-through	
		Week 5	30,31	According to material–timber, masonry, steel, RCC, pre-stressed IRC classification	
4	April	Week 1	1	Bridge Foundations: Introduction to open foundation pile foundation	
		Week 2	6,7,8	Well foundation Piers, Abutments and Wing walls	**Class Test-II**
		Week 3	13,	Piers–definition, parts; types–solid (masonry and RCC), open Abutment sand wing walls–definition,	
		Week 4	20,21,22	Types of abutment (straight and tee), abutment with wing walls 47 (straight, splayed, return and curved),Bridge bearings Purpose of bearing; types of bearing–fixed plate, rocker and roller,	
		Week 5	27,28,29	Maintenance of Bridges , Inspection of bridges , Routine maintenance	
5	May	Week 2	4,5,6	**House Test**	
		Week 3	11,12,13	**PART–III: TUNNELS:-** Definition and necessity of tunnels, Typical section of tunnels for a national highway and single and double broad gauge railway track.	
		Week 4	18,19,20	double broad gauge railway track. Ventilation-necessity and methods of ventilation, by blowing, exhaust and combination of blowing and exhaust	
		Week 5	25,26	Drainage method of draining water in tunnels Lighting in tunnels & lining of tunnels.	

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

Department of Civil Engineering

Lesson Plan forHydraulics Laboratory (Semester-4th) Session: (January-June 2026)

S.No.	MONTH	WEEK	Group	Date	CONTENTS	REMARKS
1	January	Week 5	1	30	Introduction, Syllabus Overview, Evaluation scheme	
			2	31	Introduction, Syllabus Overview, Evaluation scheme, Use piezometer to measure pressure at a given point.	
2	February	Week 1	1	6	Use piezometer to measure pressure at a given point.	
			2	7	Use U tube differential manometer to measure pressure difference between two given points	
		Week 2	1	13	Use U tube differential manometer to measure pressure difference between two given points	
		Week 3	1	20	Find the resultant pressure and its position for given situation of liquid in a tank.	
			2	21	Find the resultant pressure and its position for given situation of liquid in a tank.	
		Week 4	1	27	Use Reynold's apparatus to determine type of flow.	
			2	28	Use Reynold's apparatus to determine type of flow.	
3	March	Week 1	1	6	Use Bernoulli's apparatus to apply Bernoulli's theorem to get total energy line for a flow in a closed conduit of varying cross sections.	
			2	7	Use Bernoulli's apparatus to apply Bernoulli's theorem to get total energy line for a flow in a closed conduit of varying cross sections.	
		Week 2	1	13	Determine minor losses in pipe fittings due to sudden contraction and sudden enlargement. Determine minor losses in pipe fitting due to Bend and Elbow.	
		Week 3	1	20	Calibrate Venturimeter to find out the discharge in a pipe.	
		Week 4	1	27	Calibrate the Orifice to find out the discharge through a tank	
			2	28	Determine minor losses in pipe fittings due to sudden contraction and sudden enlargement.	
4	April	Week 1	2	4	Determine minor losses in pipe fitting due to Bend and Elbow.	
		Week 2	1	10	Use Current meter to measure the velocity of flow of water in open channel.	
		Week 3	1	17	Use Current meter to measure the velocity of flow of water in open channel.	
			2	18	Calibrate Venturimeter to find out the discharge in a pipe.	

S.No.	MONTH	WEEK	Group	Date	CONTENTS	REMARKS
		Week 4	1	24	Use Pitot tube to measure the velocity of flow of water in open channel.	
			2	25	Calibrate the Orifice to find out the discharge through a tank	
5	May	Week 1	2	2	Use Pitot tube to measure the velocity of flow of water in open channel.	
		Week 2	1	8	**HOUSE TEST**	
		Week 3	1	15	Use triangular notch to measure the discharge through open channel.	
			2	16	Use triangular notch to measure the discharge through open channel.	
		Week 4	1	22	Use Rectangular notch to measure the discharge through open channel.	
			2	23	Use Rectangular notch to measure the discharge through open channel.	

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Department of Civil Engineering

Lesson Plan for Advanced Surveying Lab G-I (Semester-4th) Session: (Jan-May) 2026

S. No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	31	Use plane table survey to prepare plans of a plot of seven-sided closed traverse by Radiation Method.	
2	February	Week 1	2,7	Use plane table survey to prepare plans, locate details by Intersection Method.	
		Week 2	9	Use plane table survey to prepare plans, locate details by Traversing Method.	
		Week 3	16,21	Use plane table survey to carry out Survey Project for closed traverse for minimum five sides around a building.	
		Week 4	23,28	Use transit theodolite to measure Horizontal and Vertical angle by Direct Method.	
3	March	Week 1	2,7	Plot the traverse on A1 size imperial drawing sheet for the collected data from preceding Theodolite Survey Project.	
		Week 2	9	Use Theodolite as a Tacheometer to compute reduced levels and horizontal distances.	
		Week 3	16	Set out a circular curve by Rankine's Method of Deflection Angles	
		Week 4	23,28	Use micro-optic Theodolite to Measure Horizontal angle by Direct Method.	
		Week 5	30	Checking of Files and Viva	
4	April	Week 1	4	Use EDM to measure horizontal distance.	
		Week 2	6	Use Total station instrument to measure horizontal distances.	
		Week 3	13,18	Use Total station instrument to measure vertical angle	
		Week 4	20,25	Use Total station instrument to carry out Survey Project for closed traverse for minimum five sides.	
		Week 5	27	Plot the traverse on A1 size imperial drawing sheet for the collected data from preceding Total Station Survey Project.	
5	May	Week 1	2	Use GPS to locate the coordinates of a station	
		Week 2	4	**House Test**	
		Week 3	11,16	Reperform	
		Week 4	18,23	Reperform	
		Week 5	25	Reperform	

Signature of Teacher
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(Er Nawang Negi)

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

Department of Civil Engineering

Lesson Plan for Advanced Surveying Lab G-II (Semester-4th)Session: (Jan-May) 2026

S. No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	30	Use plane table survey to prepare plans of a plot of seven-sided closed traverse by Radiation Method.	
2	February	Week 1	2,6	Use plane table survey to prepare plans, locate details by Intersection Method.	
		Week 2	9,13	Use plane table survey to prepare plans, locate details by Traversing Method.	
		Week 3	16,20	Use plane table survey to carry out Survey Project for closed traverse for minimum five sides around a building.	
		Week 4	23,27	Use transit theodolite to measure Horizontal and Vertical angle by Direct	
3	March	Week 1	2,6	Plot the traverse on A1 size imperial drawing sheet for the collected data from preceding Theodolite Survey Project.	
		Week 2	9,13	Use Theodolite as a Tacheometer to compute reduced levels and horizontal distances.	
		Week 3	16,20	Set out a circular curve by Rankine's Method of Deflection Angles	
		Week 4	23,27	Use micro-optic Theodolite to Measure Horizontal angle by Direct Method.	
		Week 5	30	Use EDM to measure horizontal distance.	
4	April	Week 2	6,10	Use Total station instrument to measure horizontal distances.	
		Week 3	13,17	Use Total station instrument to measure vertical angle	
		Week 4	20,24	Use Total station instrument to carry out Survey Project for closed traverse for minimum five sides.	
		Week 5	27	Plot the traverse on A1 size imperial drawing sheet for the collected data from preceding Total Station Survey Project.	
5	May	Week 2	4,8	**House Test**	
		Week 3	11,15	Use GPS to locate the coordinates of a station	
		Week 4	18,22	Reperform	
		Week 5	25	Reperform	

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Lesson Plan for Building Planning & Drawing Lab (Semester- 4th) Session: (Jan-May) 2026

S.N	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	28,31	Draw various types of lines, graphical symbols for materials, doors and windows, symbols for sanitary, water supply and electrical installations and write abbreviations as per IS 962.	
2	February	Week 1	4,7	Draw line plan to suitable scale (1BHK, staircase, WC and Bathroom)	
		Week 2	11	Draw submission drawing to the scale 1:100 of a single storey load bearing residential building (2BHK) with flat Roof and staircase showing	
		Week 3	18,21	a. Developed plan and elevation,b. Section passing through Stair or W.C. and Bath	
		Week 4	25,28	c. Foundation plan and schedule of openings. d. Site plan (1:200), area statement, construction notes.	
3	March	Week 1	7	Draw submission drawing, to the scale of 1:100, of (G+1) Framed Structure Residential Building (2BHK) with Flat Roof and staircase: a.Developed plan	
		Week 2	11	Draw submission drawing, to the scale of 1:100, of (G+1) Framed Structure Residential Building (2BHK) with Flat Roof and staircase showing: b. Elevation.	
		Week 3	18	c. Section passing through Staircase, WC and Bath d. Site plan (1:200) and area statement	
		Week 4	25,28	e. Schedule of openings and Construction Notes.	
4	April	Week 1	1,4	Draw working drawing for above mentioned drawing at serial number 5 showing:a. Foundation plan to the scale 1:50	
		Week 2	8	b. Detailed enlarged section of RCC column and footing with plinth filling.	
		Week 3	18	c. Detailed enlarged section of RCC Beam, Lintel and Chajjas.	
		Week 4	22,25	Draw the above-mentioned drawing at serial number 5 using CAD software and enclose the printout.a. Developed plan	
		Week 5	29	b. Elevation.	
5	May	Week 1	2	c. Section passing through Staircase, W.C. and Bath d. Foundation plan.	
		Week 2	6	House Test	

		Week 3	13,16	Site plan (1:200), area statement, Schedule of openings and construction	
		Week 4	20,23	Reperform	

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Lesson Plan for Transportation Engineering lab G-I (Semester: 4th) Session: (Jan-May, 2026)

S.No	MONTH	WEEK	Date	CONTENTS	REMARKS
1	Jan	Week 5	27	Introduction to Lab	
2	Feb	Week 1	3	Draw the sketches showing standard cross sections of Expressways, Freeways, NH/SH, MDR/ODR	
		Week 2	10	Flakiness and Elongation Index of aggregates.	
		Week 3	17	Checking of files Angularity Number of aggregates.	
		Week 4	24	Aggregate impact test	
3	March	Week 1	3	Los Angeles Abrasion test	
		Week 2	10	Checking of files Aggregate crushing test	
		Week 3	17	Softening point test of bitumen	
		Week 4	24	Penetration test of bitumen.	
		Week 5	31	Flash and Fire Point test of bitumen.	
4	April	Week 2	7	Ductility test of Bitumen.	
		Week 4	21	Visit the constructed road for visual inspection to identify defects and suggest remedial measures.	
		Week 5	28	Prepare the photographic report containing details for experiment No. 11.	
5	May	Week 2	5	Checking of files.	
		Week 3	12	Visit the hill road constructed site to understand its components.	
		Week 4	19	Checking of files.	
		Week 5	26	Revision	

Signature of Teacher
(Er.Garima Sharma)

Signature of H.O.D
(Dr. Lalit Goel)

Department of Civil Engineering

Government Polytechnic L&S at Udaipur Camp at Sundernagar Distt Mandi (H.P) -175018

Lesson Plan for Transportation Engineering lab G-II (Semester: 4th) Session: (Jan-May, 2026)

S.No	MONTH	WEEK	Date	CONTENTS	REMARKS
1	Jan	Week 5	30	Introduction to Lab	
2	Feb	Week 1	6	Draw the sketches showing standard cross sections of Expressways, Freeways, NH/SH, MDR/ODR	
		Week 2	13	Flakiness and Elongation Index of aggregates.	
		Week 3	20	Checking of files, Angularity Number of aggregates.	
		Week 4	27	Aggregate impact test	
3	March	Week 1	6	Los Angeles Abrasion test	
		Week 2	13	Checking of files, Aggregate crushing test	
		Week 3	20	Softening point test of bitumen, Penetration test of bitumen.	
		Week 4	27	Flash and Fire Point test of bitumen.	
4	April	Week 2	10	Ductility test of Bitumen.	
		Week 4	17	Visit the constructed road for visual inspection to identify defects and suggest remedial measures.	
		Week 5	24	Prepare the photographic report containing details for experiment No. 11.	
5	May	Week 2	5	Checking of files.	
		Week 3	12	Visit the hill road constructed site to understand its components.	
		Week 4	19	Checking of files.	
		Week 5	26	Revision	

Signature of Teacher
(Er.Garima Sharma)

Signature of H.O.D
(Dr. Lalit Goel)

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

Department of Civil Engineering

Lesson Plan for Essence of Indian Knowledge and Tradition (Semester- 4th) Session: (Jan-May) 2026

S.N.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	January	Week 5	28,29	**Unit-1** Indian knowledge System Introduction and function of Indian knowledge system 2 The Basic Structure of Indian knowledge system The 4 Vedas Rigveda, Yajurveda, Samaveda, Atharvaveda	
2	February	Week 1	4,5	The 4 Up Vedas Ayurveda(health -care) Dhanurveda(archery) Gandharva Veda veda(dance , music etc.) and Sthapatya veda (architecture)	
		Week 2	11,12	The 6 Vedagangs, Shiksha, Kalpa, Vyakarana, Chhandas ,Nirukta, and Jyotisha	
		Week 3	18,19	Itihasa Ramayana and Mahabharata) and Purana Vishnu Purana Bhagavata Purana DharmaShastra,Manusmriti, Yajnavalkya-smriti etc.	
		Week 4	25,26	Darshan , Nayaya (Logic and Epistemology)	
3	March	Week 1	5	**Unit- 2** Modern Science Modern Science: Introduction, Characteristics	
		Week 2	11,12	Importance and Example, Difference between modern Science and Indian knowledge system , Role of IKS in modern Science	Class-I
		Week 3	18,19	**Unit-3** Traditional Knowledge Definition, nature,characteristics, scope and importance	
		Week 4	25	Indigenous knowledge(IK); characteristics	
4	April	Week 1	1,2	Traditional Knowledge vis-à-vis indigenous knowledge ,Traditional Knowledge vs western knowledge ,The Need for protecting traditional knowledge	
		Week 2	8,9	**Unit-4** Yoga and Holistic Health Care Meaning and importance of yoga, Yoga and spiritual health,Yoga and social approach	Class-II
		Week 3	16	Introduction to Ashtanga yoga, Yogic kriyas(Shat karma)	
		Week 4	22,23	Pranayam and it types;Active lifestyle and stress management through yoga, Physical Fitness, health and wellness: meaning and importance of wellness, Components of wellness, health and physical fitness	
		Week 5	29,30	Traditional sports & Regional Games for promoting wellness , Leadership through physical activity and sport; Introduction to First Aid	
5	May	Week 2	6,7	**HOUSE TEST**	
		Week 3	13,14	**Unit-5** Himachal Pradesh : A Basic Information: History, Culture,Heritage/Tradition,customs and manners Regional knowledge,	
		Week 4	20,21	Geographical features, constitutional History , Tourism Places & scope, Festival and Fairs	

Signature of Teacher
Prerna Shama

Signature of HOD
(Dr. Lalit Goel)

Govt. Polytechnic Lahaul And spiti at Udaipur, Camp at Sundernagar, Mandi (H.P)					
LE SSON PLAN 4TH SEMESTER (CIVIL ENGG.)					
	DATE	WEEK	ACTIVITIES	NAME OF TEACHER	REMARKS
January,2026	27&30	5th week	Paper Reading		
February ,26	3&6	1st week	Sports Activities		
	10&13	2nd week	Sports Activities		
	17&20	3rd week	Campus Cleanliness		
	24&27	4th week	Sports Activities		
March,26	3&6	1st week	GK Competition		
	10&13	2nd week	GK Competition		
	17&20	3rd week	Painting Practices		
	24&27	4th week	Sports Activities		
April,26					
	7&10	2nd week	Essay Writing		
	17	3rd week	Sports Activities		
	21&24	4th week	Culture activities		
	28	5th week	Culture activities		
May,26	5&8	1st week	Quiz competition		
	12&15	2nd week	Quiz competition		
	19&22	3rd week	Declamation		
	26	4th week	Debate Competition		

Signature of Teacher

Signature Of H.O.D