

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

Lesson Plan for Basic Surveying (Semester-3rd) Session: (August-December 2023)

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	August	Week 2	10,11	Survey- Purpose and Use. Types of surveying- Primary and Secondary. Classification: Plane, Geodetic, Cadastral,	
		Week 3	17,18,19	Hydrographic, Photogrammetry and Aerial. Principles of Surveying. Scales: Engineer's scale, Representative Fraction (RF) and diagonal scale.	
		Week 4	24,25,26	Chain Surveying: Instruments used in chain survey: Metric Chain, Tapes, Arrow, ranging rod, Line ranger, Offset rod, Open cross staff, Optical square.	
		Week 5	31	Chain survey Station, Base line, Check line, Tie line, Offset, Tie station. Ranging: Direct and Indirect Ranging. Methods of Chaining, obstacles in chaining.	
2	September	Week 1	1,2	Errors in length: Instrumental error, personal error, error due to natural cause, random error.	
		Week 2	8	Principles of triangulation. Types of offsets: Perpendicular and Oblique. Conventional Signs, Recording of measurements in a field book	
		Week 3	14,14,16	Compass Traversing- open, closed. Technical Terms: Geographic/ True Magnetic Meridians and Bearings,	
		Week 4	21,22,23	Whole Circle Bearing system and Reduced Bearing system and examples on conversion of given bearing to another bearing (from one form to another), Fore Bearing and Back Bearing,	
		Week 5	25,26,27	CLASS TEST-I	
		28,29,30	Calculation of internal and external angles from bearings at a station, Dip of Magnetic needle, Magnetic Declination. Components of Prismatic Compass and their Functions,		
3	October	Week 1	5,6,7	Methods of using Prismatic Compass-Temporary adjustments and observing bearings. Local attraction, Methods of correction of observed bearings - Correction at station and correction to included angles.	
		Week 2	12,13	Basic terminologies: Level surfaces, Horizontal and vertical surfaces, Datum, Benchmarks- GTS, Permanent, Arbitrary and Temporary, Reduced Leve	

[Handwritten signature]

3	October	Week 3	19,20,21	Rise, Fall, Line of collimation, Station, Back sight, Fore sight, Intermediate sight, Change point, Height of instruments. Types of levels: Dumpy, Tilting, Auto level, Digital level, Components of Dumpy Level and its fundamental axes, Temporary adjustments of Level.
		Week 4	26,27	CLASS TEST-II
4	November	Week 1	2,3,4	Types of Levelling Staff: Self-reading staff and Target staff. Reduction of level by Line of collimation and Rise and Fall Method. Levelling Types: Simple, Differential, Fly, Profile and Reciprocal Levelling.
		Week 2	9,10	HOUSE TEST
		Week 3	16,17,18	Contour, contour intervals, horizontal equivalent., Uses of contour maps, Characteristics of contours, Methods of Contouring: Direct and indirect, Components and use of Digital planimeter.
		Week 4	23,24,25	Measurement of area using digital planimeter.
		Week 5	30	Measurement of volume of reservoir from contour map
5	December	Week 1	1,2	Revision



Signature of Teacher
(Er Nawang Negi)



Signature of O.I.C.
(Er Adit Rana)

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

Department of Civil Engineering

Lesson Plan for Basic Surveying Lab (Semester-3rd) Session: (August-December 2023)

MONTH	WEEK	Date	CONTENTS	REMARKS
August	Week 2	10	1. Measure distance between two survey stations using chain, tape and ranging rods when two stations are inter-visible.	
	Week 3	16,17	2. Undertake reciprocal ranging and measure the distance between two stations.	
	Week 4	23,24	3. Determine area of open field using chain and cross staff survey.	
	Week 5	30,31	4. Measure Fore Bearing and Back Bearing of survey lines of open traverse using Prismatic Compass.	
September	Week 2	6	5. Measure Fore Bearing and back bearing of a closed traverse of 5 or 6 sides and correct the bearings and included angles for the local attraction.	
	Week 3	13,14	6. Undertake Survey Project with chain and compass for closed traverse for minimum 5 sides around a building.	
	Week 4	20,21	7. Plot the traverse on A1 size imperial drawing sheet for data collected in Survey Project mentioned at practical No.6.	
	Week 5	27,28	8. Undertake simple levelling using dumpy level/ Auto level and levelling staff.	
October	Week 1	4,5	9. Undertake differential levelling and determine Reduced Levels by Height of instrument method and Rise and fall method using dumpy level/Auto Level and levelling staff.	
	Week 2	11,12	10. Undertake fly levelling with double check using dumpy level/ Auto level and levelling staff.	
	Week 3	18,19	11. Undertake Survey Project with Leveling instrument for Profile levelling and cross-sectioning for a road with cross-section.	
	Week 4	25,26	12. Plot the L-section with minimum 3 cross-sections on A1 size imperial sheet for data collected in Survey Project mentioned at practical No.11	
November	Week 1	1,2	13. Undertake Survey Project for plotting contour map using block contouring method for a block of 150m x 150m with grid of 10m x 10m.	
	Week 2	8,9	HOUSE TEST	
	Week 3	16	14. Plot the contours on A1 size imperial drawing sheet for data collected in Survey Project mentioned at practical No.13.	
	Week 4	22,23	15. Measure area of irregular figure using Digital planimeter.	
	Week 5	29,30	Revision	

Signature of Teacher

(Er. Navang Negi)

(Er. Wano Kumar)



Signature of D.I.C.

(Er. Adit Rana)

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

Department of Civil Engineering

Lesson Plan for Concrete Technology (Semester-3rd) Session: (August-December 2023)

No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	August	Week 3	14,16	Physical properties of OPC and PPC: fineness, standard consistency, setting time	
		Week 4	21,22,23	soundness, compressive strength. Different grades of OPC and relevant BIS codes, Storage of cement and effect of storage on properties of cement.	
		Week 5	28,29,30	BIS Specifications and field applications of different types of cements: Rapid hardening, Low heat, Portland pozzolana, Sulphate resisting, Blast furnace slag, High Alumina and White cement.	
2	September	Week 2	4,5,6	Aggregates: Requirements of good aggregate, Classification according to size and shape. Fine aggregates: Properties, size, specific gravity, bulk density, water absorption and bulking, fineness modulus and grading zone of sand, silt content and their specification as per IS 383. Concept of crushed Sand.	
		Week 3	11,12,13	Coarse aggregates: Properties, size, shape, surface texture, water absorption, soundness, specific gravity and bulk density, fineness modulus of coarse aggregate, grading of coarse aggregates, crushing value, impact value and abrasion value of coarse aggregates with specifications. Water: Quality of water, impurities in mixing water and permissible limits for solids as per IS: 456.	
		Week 4	18,19,20	Concrete: Different grades of concrete, provisions of IS 456. Duff Abraham water cement (w/c) ratio law, significance of w/c ratio, selection of w/c ratio for different grades, maximum w/c ratio for different grades of concrete for different exposure conditions as per IS 456.	
		Week 5	25,26,27	CLASS TEST - I	
3	October	Week 1	3,4	Properties of fresh concrete: Workability: Factors affecting workability of concrete. Determination of workability of concrete by slump cone, compaction factor, Vee-Bee Consistometer. , Value of workability requirement for different types of concrete works. Segregation, bleeding, and preventive measures. Properties of Hardened concrete: Strength, Durability, Impermeability.,	

[Handwritten signature]

3	October	Week 2	9,10,11	Concrete mix design: Objectives, methods of mix design, study of mix design as per IS 10262 (only procedural steps). Testing of concrete,
		Week 3	16,17,18	Concreting Operations: Batching, Mixing, Transportation, Placing, Compaction, Curing and Finishing of concrete. Forms for concreting: Different types of form works for beams, slabs, columns, materials used for form work, requirement of good form work. Stripping time for removal
		Week 4	23,25	CLASS TEST - II
		Week 5	30,31	Waterproofing: Importance and need of waterproofing, methods of waterproofing and materials used for waterproofing. , Joints in concrete construction: Types of joints, methods for joining old and new concrete, materials used for filling joints. Admixtures in concrete: Purpose, properties and application for different types of admixtures such as accelerating admixtures, retarding admixtures, water reducing admixtures,
4	November	Week 1	1	air entraining admixtures and super plasticizers. Special Concrete: Properties, advantages and limitation of following types of Special concrete: Ready mix Concrete, Fibre Reinforced Concrete,
		Week 2	5,7,8	HOUSE TEST
		Week 3	13,14,15	DIWALI BREAK
		Week 4	20,21,22	High performance Concrete Self-compacting concrete and light weight concrete. Cold weather concreting: effect of cold weather on concrete, precautions to be taken while concreting in cold weather condition.
		Week 5	28,29	Hot weather concreting: effect of hot weather on concrete, precautions to be taken while concreting in hot weather condition.
5	December	Week 1		Revision



Signature of Teacher
(Er Nawang Negi)

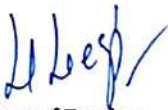


Signature of O.I.C.
(Er Adit Rana)

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

Lesson Plan for Concrete Technology lab- G1 (Semester-3rd) Session: (August-December 2023)

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	August	Week 3	19	Determine fineness of cement by Blaine's air permeability apparatus or by sieving.	
		Week 4	26	Determine specific gravity, standard consistency, initial and final setting times of cement.	
2	September	Week 1	2	Determine compressive strength of cement.	
		Week 3	16	Determine silt content in sand and bulking of sand.	
		Week 4	23	Determine bulk density of fine and coarse aggregates.	
		Week 5	30	Determine water absorption of fine and coarse aggregates.	
3	October	Week 1	7	Determine Fineness modulus of fine aggregate by sieve analysis.	
		Week 3	21	Determine elongation and flakiness index of coarse aggregates	
4	November	Week 1	4	Determine workability of concrete by slump cone test.	
		Week 2	7,8,9	HOUSE TEST	
		Week 3	18	Determine workability of concrete by compaction factor test.	
		Week 4	25	To prepare concrete mix of a particular grade and determine compressive strength of concrete for 7 and 28 days.	
5	December	Week 1	2	Demonstration of NDT equipment.	



Signature of Teacher
(Er Nawang Negi)



Signature of O.I.C.
(Er Adit Rana)

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

Department of Civil Engineering

Lesson Plan for Concrete Technology Lab- G2 (Semester-3rd) Session: (August-December 2023)

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	August	Week 2	11	Determine fineness of cement by Blaine's air permeability apparatus or by sieving.	
		Week 3	18	Determine specific gravity, standard consistency, initial and final setting times of cement.	
		Week 4	25	Determine compressive strength of cement.	
2	September	Week 1	1	Determine silt content in sand	
		Week 2	8	Determine bulking of sand.	
		Week 3	15	Determine bulk density of fine aggregates.	
		Week 4	22	Determine bulk density of coarse aggregates.	
		Week 5	29	Determine water absorption of fine and coarse aggregates.	
3	October	Week 1	6	Determine Fineness modulus of fine aggregate by sieve analysis.	
		Week 2	13	Determine elongation and flakiness index of coarse aggregates	
		Week 3	20	Determine workability of concrete by slump cone test.	
		Week 4	27	CLASS TEST - II	
4	November	Week 1	3	Determine workability of concrete by compaction factor test.	
		Week 2	10	HOUSE TEST	
		Week 3	17	To prepare concrete mix of a particular grade and determine compressive strength of concrete for 7 and 28 days.	
		Week 4	24	Demonstration of NDT equipment.	
5	December	Week 1	1	Revision	



Signature of Teacher
(Er Nawang Negi)



Signature of O.I.C.
(Er Adit Rana)

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

Lesson Plan for Construction Materials (Semester-3rd) Session: (August- December 2023)

S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	Aug	Week 2	11	1. Overview of Construction Materials construction materials in Building Construction, Transportation Engineering, Environmental Engineering, Irrigation Engineering (applications only). Selection of materials for different civil engineering structures based on strength, durability.	
		Week 3	14,18	Eco friendly and economy. □ Broad classification of materials – Natural, Artificial, special, finishing and recycled.	
		Week 4	21,22,25	2. Natural Construction Materials Requirements of good building stone; general characteristics of stone; quarrying addressing methods and tools for stone.	
		Week 5	28,29	□ Structure of timber, general properties and uses of good timber, different methods of seasoning for preservation of timber, defects in timber, use of bamboo in construction.	
2	Sep	Week 1	1	□ Asphalt, bitumen, and tar used in construction, properties and uses. □ Properties of lime, its types and uses.	CT1
		Week 2	4,5,8	□ Types of soil and its suitability in construction. □ Properties of sand and uses Classification of coarse aggregate according to size	
		Week 3	11,12,15	3. Artificial Construction Materials □ Constituents of brick earth, Conventional / Traditional bricks, Modular and Standard bricks, Special bricks	
		Week 4	18,19,22	Manufacturing process of burnt clay brick, fly ash bricks, Aerated concrete blocks. Flooring tiles – Types, uses □ Manufacturing process of Cement - dry and wet (only flow chart), types of cement and its uses. Field tests	
3	Oct	Week 1	3,6	on cement □ Classification of coarse aggregate according to size Artificial Construction Materials	CT2
		Week 2	9,10,13	–fly ash bricks, Characteristics of good brick, Field tests on Bricks, Classification of burnt clay bricks and their suitability.	
		Week 3	16,17,20	4. Special Construction Materials □ Types of material and suitability in construction works of following materials: Water proofing, Termite proofing; Thermal and sound insulating materials. Fibers – Types – Jute, Glass, Plastic Asbestos Fibers, (only uses) Geo polymer cement: Geo-cement: properties, uses	
		Week 4	23,27	5. Processed Construction Materials Processed Construction Material Constituents and uses of POP (Plaster of Paris), POP finishing boards, sizes, and uses.	
4	Nov	Week 5	30,31	House test	
		Week 1	3	□ Paints- whitewash, cement paint, Distempers, Oil Paints and Varnishes with their uses. (Situations where used) □ Agro waste materials - Rice husk, Bagasse, coir fibers and their uses. □ Special processed construction materials; Geo synthetic, Ferro Crete,	
		Week 2	6,7,10	Artificial timber, Artificial sand, and their uses.	
		Week 3	17	Revision	
5	Dec	Week 4	19,20,23	Revision	
		Week 5	28		
		Week 1	1		
		Week 2	4		

Sujaya Sharma
Signature of Teacher
(Er Sujaya Sharma)

Adit Rana
Signature of O.I.C
(Er Adit Rana)

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

Lesson Plan for Construction Materials G-1 (Semester-3rd) Session: (August-December 2023)

S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	August	Week 3	14	1. Identify various sizes of available coarse aggregates from sample of 10 kg in laboratory and prepare report (60,40, 20,10 mm) 2. Identify the available construction materials in the laboratory based on their sources.	
		Week 4	21	3. Identify the grain distribution pattern in given sample of teak wood in the laboratory and draw the various patterns. (Along and perpendicular to the grains)	
		Week 5	28	4. Prepare the lime putty by mixing lime (1 kg) with water in appropriate proportion and pre-prepare report on slaking of lime.	
2	September	Week 2	4	5. Identify various layers and types of soil in foundation pit by visiting at least 3 construction sites in different locations of city and prepare report consisting of photographs and samples. Part I	
		Week 3	11	6. Identify various layers and types of soil in foundation pit by visiting at least 3 construction sites in different locations of city and prepare report consisting of photographs and samples. Part II	
		Week 4	18	7. Select first class, second class and third-class bricks from the stake of bricks and prepare report on the basis of its properties	
		Week 5	25	8. Measure dimensions of 10 bricks and find average dimension and weight. Perform field tests- dropping, striking, and scratching by nail and correlate the results obtained	
3	October	Week 2	9	9. Identify different types of flooring tiles such as vitrified tiles, ceramic tiles, glazed tiles, mosaic tiles, anti skid tiles, checkered tiles, paving blocks and prepare report about the specifications	
		Week 3	16	10. Apply the relevant termite chemical on given damaged sample of timber.	
		Week 4	23	11. Identify the type of glasses from the given samples.	
		Week 5	30	12. Apply two or more coats of selected paint on the prepared base of a given wall surface for the area of 1m x 1m using suitable brush/rollers adopting safe practices. Part I	
4	November	Week 2	6	13. Apply two or more coats of selected paint on the prepared base of a given wall surface for the area of 1m x 1m using suitable brush/rollers adopting safe practices. Part II	
		Week 4	20	14. Prepare the cement mortar of proportion 1:3 or 1:6 using artificial sand as a special processed construction material. 15. Prepare mortar using cement and Fly ash or Granite/marble polishing waste in the proportion 1:6 or 1:3.	
5	December	Week 2	4	Checking of files and viva	

Signature of Teacher
 (Er. Sujaya Sharma)

Signature of O.I.C
 (Er. Adit Rana)

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

Lesson Plan for Construction Materials G-2 (Semester-3rd) Session: (August-December 2023)

Sl. No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	August	Week 4	22	1. Identify various sizes of available coarse aggregates from sample of 10 kg in laboratory and prepare report (60,40, 20,10 mm) 2. <input type="checkbox"/> Identify the available construction materials in the laboratory based on their sources.	
		Week 5	29	3. Identify the grain distribution pattern in given sample of teak wood in the laboratory and draw the various patterns. (Along and perpendicular to the grains) 4. Prepare the lime putty by mixing lime (1 kg) with water in appropriate proportion and pre-prepare report on slaking of lime.	
2	September	Week 2	5	5. Identify various layers and types of soil in foundation pit by visiting at least 3 construction sites in different locations of city and prepare report consisting of photographs and samples. Part I	
		Week 3	12	6. Identify various layers and types of soil in foundation pit by visiting at least 3 construction sites in different locations of city and prepare report consisting of photographs and samples. Part II	
		Week 4	19	7. Select first class, second class and third-class bricks from the stake of bricks and prepare report on the basis of its properties	
		Week 5	26	8. Measure dimensions of 10 bricks and find average dimension and weight. Perform <input type="checkbox"/> field tests- dropping, striking, and scratching by nail and correlate the results obtained	
3	October	Week 1	3	9. Identify different types of flooring tiles such as vitrified tiles, ceramic tiles, glazed tiles, mosaic tiles, anti skid tiles, checkered tiles, paving blocks and prepare report about the specifications	
		Week 2	10	10. Apply the relevant termite chemical on given damaged sample of timber.	
		Week 3	17	11. Identify the type of glasses from the given samples.	
		Week 5	31	12. Apply two or more coats of selected paint on the prepared base of a given wall surface for the area of 1m x 1m using suitable brush/rollers adopting safe practices. Part I	
4	November	Week 2		House Test	
		Week 4	21	13. Apply two or more coats of selected paint on the prepared base of a given wall surface for the area of 1m x 1m using suitable brush/rollers adopting safe practices. Part II	
		Week 5	28	14. Prepare the cement mortar of proportion 1:3 or 1:6 using artificial sand as a special processed construction material. 15. Prepare mortar using cement and Fly ash or Granite/marble polishing waste in the proportion 1:6 or 1:3.	

Sujaya Sharma
 Signature of Teacher
 (Er. Sujaya Sharma)

Adit Rana
 Signature of O.I.C
 (Er. Adit Rana)

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

Lesson Plan for Geotechnical Engineering (Semester-3rd) Session: (Aug-Dec 2023)

S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	August	Week 2	10	Introduction of Geology, Branches of Geology, Importance of Geology for civil engineering structure	
		Week 3	14,16,17	composition of earth, Definition of a rock: Classification based on their genesis (mode of origin), formation, Classification, and engineering uses of igneous, sedimentary, and metamorphic rocks. Importance of soil as construction material in Civil engineering structures and as foundation bed for structures.	
		Week 4	21,22,23,24	Field application of geotechnical engineering for foundation design, pavement design, design of earth retaining structures, design of earthen dam. Soil as a three-phase system, water content, determination of water content by oven drying method as per BIS code, void ratio, porosity and degree of saturation, density index	
		Week 5	28,29,30,31	. Unit weight of soil mass – bulk unit weight, dry unit weight, unit weight of solids, saturated unit weight, submerged unit weight. Determination of bulk unit weight and dry unit weight by core cutter and sand replacement method.	
2	September	Week 2	4,5,6	Consistency of soil, Atterberg limits of consistency: Liquid limit, plastic limit and shrinkage limit. Plasticity index. Particle size distribution test and plotting of curve	
		Week 3	11,12,13,14	Determination of effective diameter of soil, well graded and uniformly graded soils, BIS classification of soil, Definition of permeability, Darcy's law of permeability, coefficient of permeability	
		Week 4	18,19,20,21	factors affecting permeability, determination of coefficient of permeability by constant head and falling head tests, simple	
		Week 5	25,26,27,28	problems to determine coefficient of permeability. Seepage through earthen structures, seepage velocity, seepage pressure, phreatic line, flow lines, application of flow net, (No numerical problems).	
					CLASS TEST -1
3	October	Week 1	3,4,5	Shear failure of soil, concept of shear strength of soil. Components of shearing resistance of soil – cohesion,	
		Week 2	9,10,11,12	internal friction. Mohr-Coulomb failure theory, Strength envelope, strength equation for purely cohesive and cohesion less soils. Direct shear and vane shear test – laboratory methods.	
		Week 3	16,17,18,19	Bearing capacity and theory of earth pressure. Concept of bearing capacity, ultimate bearing capacity, safe bearing capacity and allowable bearing pressure. Introduction to Terzaghi's analysis and assumptions, effect of water table on bearing capacity.	
		Week 4	23,25,26	Field methods for determination of bearing capacity – Plate load and Standard Penetration Test. Test procedures as per IS:1888 & IS:2131. Definition of earth pressure, Active and Passive earth pressure for no surcharge condition, coefficient of earth pressure	
		Week 5	30,31	Concept of compaction, Standard and Modified proctor test as per IS code, Plotting of Compaction curve for determining: Optimum moisture content (OMC), maximum dry density (MDD), Zero air voids line. Factors affecting compaction, field methods of compaction – rolling, ramming and vibration.	
					CLASS TEST -2
4	November	Week 1	1,2	Suitability of various compaction equipment -smooth wheel roller, sheep foot roller, pneumatic tyre roller, Rammer and Vibrator, Difference between compaction and consolidation.	
		Week 2	6,7,8,9	HOUSE TEST	

		Week 3	13,14,15,16	
		Week 4	20,21,22,23	Concept of soil stabilization, necessity of soil stabilization, different methods of soil stabilization. Californiabearing ratio (CBR) test - Meaning and Utilization in Pavement Construction
		Week 5	28,29,30	Necessity of site investigation and soil exploration: Types of exploration, criteria for deciding the locationand number of test pits and bores. Field identification of soil – dry strength test, dilatancy test and toughness test.
5	December	Week 1	1,2	Revision

Signature of Teacher
(Er Manoj Kumar Thakur)


Signature of OIC
(Er. Arit Rana)

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

Department of Civil Engineering

Lesson Plan for Geotechnical Engineering (P) Group-1 (Semester-3rd) Session: (Aug-Dec 2023)

S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	August	Week 4	22	Identification of rocks from the given specimen	
		Week 5	29	Determine water content of given soil sample by oven drying method as per IS: 2720 (PartII)	
2	September	Week 2	5	Determine specific gravity of soil by pycnometer method as per IS 2720 (Part- III).	
		Week 3	12	Determine dry unit weight of soil in field by core cutter method as per IS 2720 (Part- XXIX).	
		Week 4	19	Determine dry unit weight of soil in field by sand replacement method as per IS 2720 (Part XXVIII)	
		Week 5	26	Determine Plastic and Liquid Limit along with Plasticity Index of given soil sample as per IS 2720 (Part-V).	
3	October	Week 1	3	File Checking	
		Week 2	10	Determine Shrinkage limit of given soil sample as per IS 2720 (Part- V).	
		Week 3	17	File Checking	
		Week 4	23	Determine grain size distribution of given soil sample by mechanical sieve analysis as per IS 2720 (Part-	
		Week 5	31	Use different types of soil to identify and classify soil by conducting field tests-through Visual inspection.	
4	November	Week 2	7	HOUSE TEST	
		Week 3	14	Determine coefficient of permeability by falling head test as per IS 2720 (Part- XVII).	
		Week 4	21	Determine MDD and OMC by standard proctor test of given soil sample as per IS 2720 (Part VII).	
		Week 5	28		

Signature of Teacher
(Er Manoj Kumar Thakuri)

Signature of OIC
(Er. Adit Rana)

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

Department of Civil Engineering

Lesson Plan for Geotechnical Engineering (P) G-2 (Semester-3rd) Session: (Aug-Dec 2023)

MONTH	WEEK	DATE	CONTENTS	REMARKS	
August	Week 3	14	Identification of rocks from the given specimen		
	Week 4	21	Determine water content of given soil sample by oven drying method as per IS: 2720 (Part II)		
	Week 5	28	Determine specific gravity of soil by pycnometer method as per IS 2720 (Part- III).		
September	Week 2	4	Determine dry unit weight of soil in field by core cutter method as per IS 2720 (Part- XXX).		
	Week 3	11	Determine dry unit weight of soil in field by sand replacement method as per IS 2720 (Part XXVIII)		
	Week 4	18	Determine Plastic and Liquid Limit along with Plasticity Index of given soil sample as per IS 2720 (Part-V).		
	Week 5	25	File Checking		
October	Week 2	9	Determine Shrinkage limit of given soil sample as per IS 2720 (Part- V).		
	Week 3	16	File Checking		
	Week 4	23	Determine grain size distribution of given soil sample by mechanical sieve analysis as per IS 2720 (Part-		
	Week 5	30	Use different types of soil to identify and classify soil by conducting field tests-through Visual inspection, Dry strength test, Dilatancy test and Toughness test.		
			HOUSE TEST		
November	Week 2	6			
	Week 3	13	Determine coefficient of permeability by falling head test as per IS 2720 (Part- XVII).		
	Week 4	20	Determine MDD and OMC by standard proctor test of given soil sample as per IS 2720 (Part VII).		

Signature of Teacher
(Er Manoj Kumar Triakur)

Signature of OIC
(Er. Adit Rana)

Government Polytechnic Lahual Split at Udaipur Camp At Sundernagar Distt Mandi (H.P) -175018
Department of Civil Engineering

Lesson Plan for Mechanics of materials (P) G-1 (Semester-3rd) Session: (Aug-Dec 2023)

S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	August	Week 2	4	Study and understand the use and components of Universal Testing Machine (UTM).	
		Week 3	11	Perform Tension test on mild steel as per IS:432(1)	
		Week 4	18	Perform tension test on Tor steel as per IS:1608, IS:1139.	
		Week 5	25	File Checking	
2	September	Week 1	1	Determine Water Absorption on bricks per IS:3495 (part II), IS:1077 or tile IS:1237.	
		Week 2	8	File Checking	
		Week 3	15	Determine Compressive strength of dry and wet bricks as per IS:3495(part I), IS:1077.	
		Week 4	22	File Checking	
		Week 5	29	Conduct Abrasion Test on flooring tiles (anyone) e.g., Mosaic tiles, Ceramic Tiles as per IS: 13630 (part7) Cement Tile as per IS: 1237.	
3	October	Week 1	6	File Checking	
		Week 2	13	Perform Single Shear and double shear test on any two metals e.g., Mild steel/brass/aluminium/copper /cast iron etc as per IS:5242.	
		Week 3	20	File Checking	
		Week 4	27	Plot Shear force and Bending Moment diagrams for simply supported beams.	
4	November	Week 1	3	File Checking	
		Week 2	10	HOUSE TEST	
		Week 3	17	Conduct Flexural test on timber beam on rectangular section in both orientations as per IS:1708, IS:2408.	
		Week 4	24	Conduct Flexure test on floor tiles IS:1237, IS:13630 or roofing tiles as per IS:654, IS:2690.	
5	December	Week 1	1	File Checking	

Signature of Teacher
(Er Manoj Kumar Thakur)

Signature of OIC
(Er. Adit Rana)

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

Lesson Plan for Mechanics of materials (P) G-2 (Semester-3rd) Session: (Aug-Dec 2023)

S.No.	MONTH	WEEK	DATE	CONTENTS	REMARKS
1	August	Week 3	19	Study and understand the use and components of Universal Testing Machine (UTM).	
		Week 4	26	Perform Tension test on mild steel as per IS:432(1).	
2	September	Week 1	2	Perform tension test on Tor steel as per IS:1608, IS:1139.	
		Week 3	16	Determine Water Absorption on bricks per IS:3495 (part II), IS:1077 or tile IS:1237.	
		Week 4	23	Determine Compressive strength of dry and wet bricks as per IS:3495(part I), IS:1077.	
		Week 5	30	Cement Tile as per IS: 1237.	
3	October	Week 1	7	File Cheking	
		Week 3	21	Perform Single Shear and double shear test on any two metals e.g., Mild steel/ brass/aluminium/copper /cast iron etc as per IS:5242.	
4	November	Week 1	4	File Cheking	
		Week 3	18	Plot Shear force and Bending Moment diagrams for simply supported beams.	
		Week 4	25	Conduct Flexural test on timber beam on rectangular section in both orientations as per IS:1708, IS:2408.	
5	December	Week 1	2	Conduct Flexure test on floor tiles IS:1237, IS:13630 or roofing tiles as per IS:654, IS:2690.	

Signature of Teacher
(Er Manoj Kumar Thakur)

Signature of OIC
(Er. Adit Rana)

Government Polytechnic Lahaul Spiti at Udalpur Camp at Sundernagar Distt Mandl (H.P) -175018

Department of Civil Engineering

Lesson Plan for Building Construction (Semester-3rd) Session: (August-December 2023)

S.No.	MONTH	WEEK	Date	CONTENTS	REMARKS
1	August	Week 2	10,11	I: Overview of Building Components □ Classification of Buildings as per National Building Code Group A to I, as per Types of Constructions- Load Bearing Structure, Framed Structure, Composite Structure.	
		Week 3	17,18, 19	Building Components - Functions of Building Components, Substructure – Foundation, Plinth. □ Superstructure – Walls, Partition wall, Cavity wall, Sill, Lintel, Doors and Windows, Floor, Roof, Columns, Beams, Parapet	
		Week 4	24,25, 26	II: Construction of Substructure □ Job Layout: Site Clearance, Layout for Load Bearing Structure and Framed Structure by Center Line and Face Line Method, Precautions. □ Earthwork: Excavation for Foundation, Timbering and Strutting, Earthwork for embankment, Material for plinth Filling, Tools and plants used for earthwork	
		Week 5	31	Foundation: Functions of foundation, Types of foundation – Shallow Foundation, Stepped Footing, Wall Footing, Column Footing, Isolated and Combined Column Footing, Raft Foundation, Grillage Foundation. Deep Foundation - Pile Foundation, Well foundation.	
		Week 1	1,2	III: Construction of Superstructure □ Stone Masonry: Terms used in stone masonry- facing, backing, hearting, through stone, corner stone, cornice. <u>Types of stone masonry:</u> Rubble masonry, Ashlar Masonry, and their types. Joints in stone masonry and their purpose. Selection of Stone Masonry, Precautions to be taken in Stone Masonry Construction Brick masonry: Terms used in brick masonry- header, stretcher, closer, quoins, course, face, back, hearting, bat bond, joints, lap, frog line, level and plumb. Bonds in brick masonry- header bond, stretcher bond, English bond and Flemish bond. Requirements of good brick masonry. Junctions in brick masonry and their purpose and procedure. Precautions to be observed in Brick Masonry Construction. Comparison between stone and Brick Masonry. Tools and plants required for construction of stone and brick masonry. Hollow concrete block masonry and composite masonry	
2	September	Week 2	8		CLASS TEST-I
		Week 3	14,14, 16		
		Week 4	21,22, 23		
		Week 5	28,29, 30	Scaffolding and Shoring: Purpose, Types of Scaffolding, Process of Erection and Dismantling. Purpose and Types of Shoring, Underpinning. Formwork: Definition of Formwork, Requirements of Formwork, Materials used in Formwork, Types of Formworks, Removal of formwork.	
		Week 1	5,6,7	IV: Building Communication and Ventilation □ Horizontal Communication: Doors – Horizontal Communication: Doors – Components of Doors, Full Panelled Doors, Partly Panelled and Glazed Doors, Flush Doors, Collapsible Doors, Rolling Shutters, 13 Revolving Doors, Glazed Doors. Sizes of Door recommended by BIS.	
3	October	Week 2	12,13	Windows: Component of windows, Types of Windows - Full Panelled, Partly Panelled and Glazed, wooden, Steel, Aluminium windows, Sliding Windows, Louvered Window, Bay window, Corner window, clear-storey window, Gable and Dormer window, Skylight. Sizes of Windows recommended by BIS. Ventilators	


3	October	Week 3	19,20, 21	Vertical Communication: Means of Vertical Communication- Stair Case, Terms used in staircase-steps, tread, riser, nosing, soffit, waist slab, baluster, balustrade, scolla, handralls, newel post, landing, headroom, winder. Types of staircases (On the basis of shape): Straight, dog-legged, open well, Spiral, quarter turn, bifurcated, three quarter turn and Half turn. (On the basis of Material): Stone, Brick, R.C.C., wooden and Metal	CLASS TEST-II
		Week 4	26,27	V: Building Finishes □ Floors and Roofs: Types of Floor Finishes and Its suitability- Kota, Marble, Granite, Ceramic Tiles, Vitrified, Concrete Floors, wooden Flooring, Skirting and Dado. Process of Laying and Construction, Finishing and Polishing of Floors,	
4	November	Week 1	2,3,4	Roofing Materials- RCC, Mangalore Tiles, AC Sheets, G.I. sheets, Corrugated G.I. Sheets, Plastic and Fibre Sheets. Types of Roofs: Flat roof, Pitched Roof-King Post truss, Queen Post Truss, terms used in roofs.V: Building Finishes	
		Week 2	9,10	HOUSE TEST	
		Week 3	16,17, 18	Wall Finishes: Plastering – Necessity of Plastering, Procedure of Plastering, Single Coat Plaster, Double Coat Plaster, Rough finish, Neeru Finishing and Plaster of Paris (POP). Special Plasters- Stucco plaster, sponge finish, pebble finish. Plaster.	
		Week 4	23,24, 25	Precautions to be taken in plastering, defects in plastering. Pointing – Necessity, Types of pointing and procedure of Pointing. Painting –Necessity, Surface Preparation for painting, Methods of Application.	
		Week 5	30	Revision	
5	December	Week 1	1,2	Revision	

Signature of Teacher
(Er Sujaya Sharma)


Signature of O.I.C.
(Er Adit Rana)

Lesson Plan
3rd Semester CivilEngg.

S.No	Date	Week	Activity	Name of Teacher
AUGUST	10	2	Race 100 Mtrs	
	16:17	3	Race 200 Mtrs	
	23,24	4		
	30,31	5	Jewllin	
SEPTEMBER	6.	2	Declamation	
	13,14	3	Cultural activity (Natti)	
	20,21	4	Do	
	27,28	5	Quiz competition	
OCTOBER	4,5.	1		
	11,12	2	Valley boll	
	18,19	3		
	25,26	4	Kabbadi	
NOVEMBER	1,2.	1		
	8,9.	2	Basket ball	
	15,16	3	Writing comptition	
	22,23	4	Peper reading contest	
DECEMBER	29:30	5	cleannes of collage camps	
	6:7	2		
	13,14	3	Basket ball match	
	20,21.	4	Gust lether	
	28,29	5	Gust lether	


Signature of Teacher


Signature of HOD