

Department of Civil Engineering**Lesson Plan**

Name of Faculty	Er. SUSHIL KUMAR
Discipline	Civil Engineering
Semester	5 TH
Subject	Design of RCC Structure (L-4 Hrs./Week)
Lesson Plan Duration	August – December 2026

Week	Topic	Theory
1 st (1st Aug. – 7 Aug.)	UNIT-I Introduction to R.C.C Designing using Limit State Method	Design Philosophies: Working Stress Theory, Ultimate Design Theory, Limit State Theory Concept of Reinforced Cement Concrete (RCC) Reinforcement Materials: Suitability of Steel as reinforcing material Properties of mild steel and HYSD steel Loading on structure as per I.S 875.
2 nd (10 Aug. – 14 Aug.)		Study of BIS:456-2000-clause5, clause6, clause9, Clause18, clause19, clause22, clause 23.0, 23.2, 23.3, Clause25, clause26, clause35, clause36, clause37, clause 38, clause 39, clause 40, clause 41, clause42, clause 43, Annexure-B, C, D, E, G.
3 rd (17 Aug. – 22 Aug.)	UNIT-II Shear, Bond, and Development Length (LSM)	Nominal Shear stress in R.C. Section, Design shear strength of concrete, maximum shear stress, Design of shear reinforcement, Minimum shear reinforcement, Forms of shear reinforcement with numerical problems.
4 th (24 Aug. – 29 Aug.)		• Bond and types of bonds, Bond Stress, check for bond stress, Development length in tension and compression, anchorage value for hooks 90° bend and 45° bend. Standard Lapping of bars, check for development length. • Determination of development length required for tension reinforcement of cantilevers beam and slab, check for development length
5 th (31 Aug. – 05 Sept.)	UNIT-III Analysis and Design of Singly Reinforced Sections	Limit State of collapse (Flexure), Assumption stress. Strain relationship for concrete and steel, neutral axis, Stress block diagram and Strain diagram for singly reinforced section. Concept of under- reinforced, over-reinforced and balanced section, neutral axis, limiting value of moment of resistance and limiting percentage of steel required for balanced singly R.C. Section. Simple numerical problems on determining design constants, moment of resistance and area of steel.
Class Test – 1		In Second Week of September 2026.
6 th (14 Sept. – 19 Sept.)		Design of Singly reinforced simply supported beam and cantilever beam. General features, necessity of providing doubly reinforced reinforcement, limitations.

7 th (21 Sept. – 26 Sept.)	UNIT-IV Analysis and Design of Doubly Reinforced Sections (LSM)	Analysis of doubly reinforced section, strain diagram, stress diagram, depth of neutral axis, moment of resistance of the section. Numerical problems on finding moment of resistance.
8 th (28 Sept. – 03 Oct.)	UNIT-V Design of One-Way Slab (LSM)	Analysis & Design of simply supported one-way slab.
Class Test – 2		In Second Week of October 2026.
9 th (12 Oct. – 17 Oct.)	UNIT-VI Two Way Slab (LSM)	Design of two-way simply supported slab with corners free & no provision for torsion reinforcement.
10 th (19 Oct. – 24 Oct.)		
11 th (27 Oct. – 31 Oct.)	UNIT-VII Design of Axially Loaded Column (LSM)	Assumptions in limit state of collapse—compression Definition and classification of columns, effective length of column. Specification for minimum reinforcement; cover, maximum reinforcement, number of bars in rectangular, square, and circular sections, diameter and spacing of lateral ties. (No numerical on helical ties).
House Test		In First Week of November 2026.
12 th & 13 th (11 Nov. – 21 Nov.)	UNIT-VII Design of Axially Loaded Column (LSM)	Analysis and Design of axially loaded: Uniaxial & Biaxial Bending along with axial loading: short, square, rectangular, and circular columns with lateral ties only; check for short column and check for minimum eccentricity may be applied.
14 th (23 Nov. – 28 Nov.)	Revision and Doubt Clearance	Revision and doubt clearance Session.

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher/Prepared by
(Er. SUSHIL KUMAR)

Signature of HOD/OIC
(Er. Sushil Kumar)

Department of Civil Engineering**Lesson Plan**

Name of Faculty	Er. SUSHIL KUMAR
Discipline	Civil Engineering
Semester	5 TH
Subject	Design of RCC Structures Lab (P-4 Hrs./Week)
Lesson Plan Duration	August – December 2026

Week	Practical/Drawing Sheet	Remarks
1 st Week (Aug.)	Rectangular beams – Singly reinforced	SHEET-1
2 nd Week (Aug.)	• Rectangular beams- Doubly reinforced	SHEET-2
3 rd Week (Aug.)	• One-way slabs	SHEET-3 & 4
4 th Week (Aug.)		
1 st Week (Sept.)	Two-way slabs	SHEET-5
Class Test – 1		In Second Week of September 2026.
3 rd Week (Sept.)	Two-way slabs	SHEET-6
4 th Week (Sept.)	Square columns with isolated footing of uniform depth (sloped footings)	SHEET-7
1 st Week (Oct.)	Square columns with isolated footing of uniform depth (sloped footings)	SHEET-8

Class Test – 2		In Second Week of October 2026.
3rd Week (Oct.)	Square columns with isolated footing of varying depth (sloped footings)	SHEET-9
4th Week (Oct.)	Circular column with isolated footing of uniform depth (sloped footings).	SHEET-10
House Test		In First Week of November 2026.
2nd Week (Nov.)	Circular column with isolated footing of varying depth (sloped footings).	SHEET-11
3rd Week (Nov.)	Prepare a detailed report of site visit for reinforcement detailing of structural elements like beams, columns, staircase & footing.	
4th Week (Nov.)	Prepare a checklist for reinforcement provided from actual drawings used on site for various structural elements & Revision and Doubt Clearance	

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Department of Civil Engineering**Lesson Plan**

Name of Faculty	Er. SUSHIL KUMAR
Discipline	Civil Engineering
Semester	5 TH
Subject	Estimating and Costing (L-4 Hrs./Week)
Lesson Plan Duration	August – December 2026

Week	Topic	Theory
1 st (6 Aug. –7 Aug.)	UNIT-I Introduction	Meaning of the terms estimating & costing. o Purpose of estimating and costing • Types of Estimates o Approximate and Detailed
2 nd (10Aug. – 14Aug.)		Approximate estimate Types , Plinth area rate method , Cubic Content method , Approximate Quantity method , Types of detailed estimate , Detailed estimate for new work , Revised estimate , Supplementary estimate , Repair & Maintenance estimate
3 rd (17Aug. – 22 Aug.)	UNIT-II Measurement	Units of measurement for various items of work as per BIS: 1200 • Rules for measurements. • Different methods of taking out quantities–centre line method
4 th (24 Aug. – 29 Aug.)		
5 th (31 Aug. –05 Sept.)		Different methods of taking out quantities– long wall and short wall method.
Class Test – 1		In Second Week of September 2026.
6 th (14 Sept. – 19 Sept.)	UNIT- III: Preparation of Detailed Estimates and Abstract of Cost	One & two room residential building with flat roof.
7 th (21 Sept. – 26 Sept.)		Septic tank for 10 users.
8 th (28 Sept.– 03 Oct.)	UNIT-IV Road Estimation	Preparation of Detailed Estimates and Abstract of Cost for • Plain road with-mid section area method, mean sectional area method, Prismoidal formula.
Class Test – 2		In Second Week of October 2026.
9 th (12 Oct. – 17 Oct.)	UNIT-IV Road Estimation	Preparation of Detailed Estimates and Abstract of Cost for Earth work in hill road.

10 th (19 Oct. – 24 Oct.)	UNIT-V Analysis of Rates	Analysis of Rates Calculation of Quantities of Materials , Cement mortars of different proportion , Cement concrete of different proportion , RCC work in different proportions , Brick/stone masonry in cement mortar Plastering and pointing , Whitewashing, painting.
11 th (27 Oct. – 31 Oct.)		Preparation of Detailed Analysis of Rates for finished items with given labour and rate of material , Earthwork , Cement concrete of different proportion , RCC work in different proportions , Brick/stone masonry in cement mortar , Plastering and pointing , Whitewashing, painting
House Test		In First Week of November 2026.
12 th (10 Nov. – 13 Nov.)	UNIT-VI Contracts and Tendering	Meaning of contract • Qualities of a good contractor and their qualifications. • Essentials of a contract • Types of contracts, their advantages, dis-advantages and suitability, system of payment. • Single and two cover-bids, Tender, tender forms and documents, tender notice.
13 th (16 Nov.- 21 Nov.)		submission of tender and deposit of earnest money, security deposit, retention money, maintenance period • Administrative approval, Technical sanction, Budget provision, Expenditure sanction. • Methods for carrying out works- contract method. • Preparation of Tender Document based on Common Schedule Rates (CSR) • Introduction to CSR and calculation of cost based on premium on CSR.
14 th (23 Nov.- 28 Nov.)		Revision and Doubt Clearance session.

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

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Signature of HOD/OIC
(Er. Sushil Kumar)

R.G.Government Polytechnic Banikhet, Distt. Chamba H.P-176303

Department of Civil Engineering

Lesson Plan

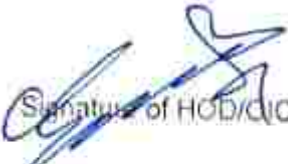
Name of Faculty	Er. Abhishek Patial
Discipline	Civil Engineering
Semester	5 th
Subject	Water Resource Engineering (L-4 Hrs./Week)
Lesson Plan Duration	August – November 2026

Week	Topic	Theory
1 st (06 Aug. – 13 Aug.)	Unit – I Introduction to Hydrology	Hydrology: Definition and Hydrological cycle Rain Gauge: Symons rain gauge, automatic rain gauge.
2 nd (14 Aug. – 21 Aug.)	Unit – I Introduction to Hydrology	Methods of calculating average rainfall: Arithmetic mean, Iso-hyetal, and Thiessen polygon method.
3 rd (22 Aug. – 28 Aug.)	Unit – I Introduction to Hydrology	Runoff: Factors affecting Runoff, Computation of run-off
4 th (29 Aug. – 05 Sept.)	Unit – II Crop water requirement and Reservoir Planning	Irrigation and its classification
5 th (07 Sept. – 14 Sept.)	Unit – II Crop water requirement and Reservoir Planning	Crop Water requirement, Cropping seasons, Crop period, base period, Duty, Delta, CCA, GCA, intensity of irrigation, factors affecting duty, Problems on water requirement.
Class Test – 1		In Second Week of September 2026.
6 th (15 Sept. – 21 Sept.)	Unit – II Crop water requirement and Reservoir Planning	Methods of application of irrigation water and its assessment Siltation of reservoir, Rate of siltation, factors affecting siltation and control measures
7 th (22 Sept. – 28 Sept.)	Unit – III Dams and Spillways	Dams and its classification: Earthen dams and Gravity dams (masonry and concrete) Earthen Dams – Components with function, typical cross-section, seepage through embankment and foundation and its control
8 th (29 Sept. – 06 Oct.)	Unit – III Dams and Spillways	Methods of construction of earthen dam, types of failure of earthen dam and preventive measures Gravity Dams – Forces acting on dam, Theoretical and practical profile, typical cross-section, (only theoretical concept)
9 th (07 Oct. – 14 Oct.)	Unit – III Dams and Spillways	Spillways – Definition, function & location

Class Test – 2		In Second Week of October 2026.
10 th (15 Oct. – 22 Oct.)	Unit– IV Minor and Micro Irrigation	Lift irrigation Scheme-Components and their functions. Layout
11 th (23 Oct. – 30 Oct.)	Unit– IV Minor and Micro Irrigation	Drip and Sprinkler Irrigation-Need, components, and Layout
12 th (31 Oct. – 06 Nov.)	Unit– IV Minor and Micro Irrigation Unit– V Diversion Head Works & Canals	Well irrigation: types and yield of wells, advantages and disadvantages of well irrigation Weirs-components, parts, types of weirs
House Test		In First Week of November 2026.
13 th (07 Nov. – 13 Nov.)	Unit– V Diversion Head Works & Canals	Barrages-components and their functions. Difference between weir and Barrage. Canals- Classification according to alignment and position in the canal network. Cross section of canal in embankment and cutting, partial embankment and cutting.
14 th (16 Nov. – 21 Nov.)	Unit– V Diversion Head Works & Canals	Canal lining-Purpose, material used and its properties, advantages. Cross Drainage Works-Aqueduct, siphon aqueduct, super passage, level crossing
15 th (22 Nov. – 28 Nov.)	Unit– V Diversion Head Works & Canals Unit– VI Water logging Revision and Doubt Clearance Session	Canal Regulators- Head regulator, Cross regulator, Escape, Falls and Outlets Definition, Causes, Preventive & remedial measures, Reclamation of waterlogged areas Revision and Doubt Clearance Session

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Signature of Teacher/Prepared by
(Er. Abhishek Patil)

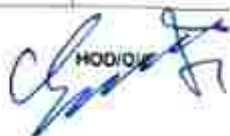

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S.NO	MONTH	WEEK	TOPICS COVERED	REMARKS
1	AUG	WEEK-1 (01AUG- 07AUG)	Unit I: Elements of Engineering Seismology General features of tectonic of seismic regions. Causes of earthquakes Seismic waves, Earth quake size (magnitude and intensity) Epicenter, Seismograph	
2		WEEK-2 (10 AUG- 14 AUG)	Classification of earthquakes, Seismic zoning map of India	
3		WEEK-3 (17AUG- 22AUG)	Unit II: Seismic Behaviour of Traditionally-Built Constructions of India Earth quake effects, Traditionally built construction in India, Performance of building during earthquakes.	
4		WEEK-4 (24AUG- 31AUG)	Mode of failure (Out of plane failure, in plane failure, Diaphragm failure, Connection failure, Non-structural components failure)	
5	SEP	WEEK-5 (01SEP- 08SEP)	Unit III: Introduction to IS1893 (Part-I)-2016 Introduction, Assumptions, Design lateral forces and their calculation methods.	
6		WEEK-6 (14SEP- 19SEP)	Unit IV: Ductile Detailing of Reinforced Concrete Buildings (IS 13920-2016) & IS 4326-2013) Common modes of failure in reinforced concrete buildings, General Principal for earthquake resistant buildings & Special construction features, Types of irregularities, Vertical irregularities, Plan irregularities.	CLASS TEST-1
7		WEEK-7 (21SEP- 28SEP)	Ductile detailing as per code, Seismic strengthening arrangements, Horizontal reinforcement, Vertical reinforcement.	
8		WEEK-8 (28SEP- 05 OCT)	Unit V: Introduction to IS13828-1993 & IS13827-1993 Advantages and disadvantages of masonry construction, Behaviour of masonry construction during earthquakes.	
9	OCT	WEEK-9 (06OCT- 13OCT)	Earthquake resistance features for burnt clay brick in weak mortar, Codal Provisions for earthquake resistant earthen construction, Seismic strengthening features of earthen buildings.	CLASS TEST-2
10		WEEK-10 (14OCT- 21OCT)	Unit VI: Retrofitting Measure for Traditionally Built Construction Introduction, need of retrofitting, Retrofitting materials, Retrofitting measure of traditionally built construction.	
11		WEEK-11 (22OCT- 31OCT)	Retrofitting of masonry buildings, Retrofitting of concrete structure, Retrofitting of low-cost buildings.	
12	NOV	WEEK-12 (02NOV- 07NOV)	HOUSE TEST	HOUSE TEST
13		WEEK-13 (16NOV- 21NOV)	Unit VII: Disaster Management Disaster rescue, Psychology of rescue, rescue workers, rescue plan, rescue by steps, rescue equipment, Safeties in rescue operations.	
14		WEEK-14 (23NOV- 28DEC)	Debris clearance, Causality management.	

SIGNATURE OF TEACHER



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RG Government Polytechnic Banikhet, Distt. Chamba (H.P) 176303

Department of Civil Engineering

Lesson Plan

Name of Faculty	Ankaj Thakur
Discipline	Civil Engineering
Semester	5th
Subject	Green Building and Energy Conservation
Lesson Plan Duration	August – November 2026

Week	Topic	Theory
1 st (6Aug. –13Aug.)	Unit I Introduction to Green Building and Design Features	Definition of Green Building, Benefits of Green building, Components/features of Green Building
2 nd (14Aug. – 21Aug.)		Site selection, Energy Efficiency, Water efficiency, Material Efficiency, Indoor Air Quality
3 rd (22Aug. – 28 Aug.)		Site selection strategies, Landscaping, building form, orientation, advanced passive heating and cooling techniques, waste reduction during construction.
4 th (29 Aug – 05Sep.)	Unit-II Energy Audit and Environmental Impact Assessment (EIA)	Energy Audit: Meaning, Necessity, Procedures, Types, Energy Management Programs
5 th (7Sept. –14Sept.)		Introduction, EIA regulations, Steps in environmental impact assessment process, Benefits of EIA, Limitations of EIA, Environmental clearance for the civil engineering projects.
Class Test – 1		In Second Week of September 2026.
6 th (15Sept. –21Sept)	Unit- III Energy and Energy conservation	Renewable Energy Resources: Solar Energy, Wind Energy, Ocean Energy, Hydro Energy, Biomass Energy.
7 th (22Sept. – 28Sept)		Non-renewable Energy Resources: Coal, Petroleum, Natural Gas, Nuclear Energy, Chemical Sources of Energy, Fuel Cells, Hydrogen, Bio fuels,
8 th (29Sept. – 6 Oct.)		Energy conservation: Introduction, Specific objectives, present scenario, Need of energy conservation, LEED India Rating System and Energy Efficiency.
Class Test – 2		In Second Week of October 2026.
9 th (7 Oct. – 14 Oct.)	Unit- IV Green Building	Principles: Principles and planning of Green building. Features: Salient features of Green Building, Environmental design (ED) strategies for 27 building construction, Improvement in environmental quality in civil structure Civil Engineering Curriculum Structure 118
10 th (15Oct. – 22 Oct.)		Materials: Green building materials and products- Bamboo, Rice husk ash concrete, plastic bricks, Bagasse (Sugar cane) particle board, Insulated concrete forms.
11 th (23 Oct. – 30 Oct.)		Reuse of waste materials –Plastic, rubber, Newspaper wood, Nontoxic paint, Green roofing.
House Test		House Test In First Week of November 2026.
12 th (31 Oct. – 10 Nov.)	Unit V Rating System	Introduction to (LEED) criteria, Indian Green Building council (IGBC) Green rating•
13 th (11 Nov. – 18 Nov.)		Green Rating for Integrated Habitat Assessment. (GRIHA) criteria Heating Ventilation Air Conditioning (HVAC) unit in green Building Functions of Government organization working for Energy conservation and Audit(ECA)•

14th
(19 Nov. – 28 Nov.)

Unit V
Rating System

National Productivity council(NPC)• Ministry of New and Renewable Energy
(MNRE)• Bureau of Energy efficiency (BEE)


Signature of Teacher


Signature of HOD

Lesson Plan

Name of Faculty	Deepa Kapoor	
Discipline	Civil Engineering	
Semester	5 th	
Subject	Life Skills for Professional and Personal Life [L-4Hrs./Week]	
Lesson Plan Duration	August – December 2026	
Week	Topic	Theory
1st (6Aug-13 Aug.)	1. Life Skills, Soft Skills & Interpersonal Skills.	1. Definition of life Skills and Soft Skills. 2. Significance of Life Skills and Soft Skills in personal and professional Life. 3. Types of Life Skills and Soft Skills, ways to develop soft skills and life skills. 4. Concept of interpersonal skills and tips to improve interpersonal skills. 5. Meaning of team dynamics and tips for improving team dynamics.
2nd (14Aug.-21Aug.)	1. Communication Skills.	1. Meaning of communication skills. 2. Significance and characteristics of assertive communication. 3. Techniques of assertive communication. 4. Tips to develop assertive communication.
3rd (22Aug.-28Aug.)	Life Skills	(A) Self Awareness: 1. Self introspection: (a) Meaning of self awareness; introspection, self reflection and insight. (b) Strategies to improve self awareness. (c) Importance of counselling and coaching.
4th (29 Aug. – 05 Sept.)	Life Skills	2. Stress Management: (a) Meaning of stress. (b) Factors causing positive and negative type of stress. (c) Effects of stress on mind and body. (d) Stress management techniques.
5th (7Sep.-14Sep.)	Life Skills	Emotional Intelligence: (a) Meaning and significance of EI. (b) Strategies to develop and enhance emotional intelligence.
6th (15Sep. – 21Sep.)	Life Skills	Self Esteem: (a) Concept meaning and significance of self esteem. (b) Type of self esteem. (c) Characteristics of people with high and low self esteem. (d) Steps and tips for improving self esteem.
7th (22 Sep. – 28 Sep.)	Life Skills	(B) Social Awareness 1. Meaning and techniques of social awareness and social skills. 2. Empathy (a) Meaning and types of empathy. (b) Benefits of empathy. (c) Steps for developing empathy.

8th(28Sep.- 06 Oct.)	Life Skills	3.Compassion: (a) Meaning and benefits of compassion. (b) Steps to practice compassion.
9th(07Oct. - 14Oct.)	Life Skills	4.Boddy Language: (a)Elements of boddy language. (b)Develop positive boddy language that helps in building positive relationship. (c) Avoiding negative boddy language.
10th(05 Oct - 22Oct.)	Life Skills	(C)Thinking Skills: 1.Positive Thinking. (a)Meaning and benefits of positive thinking. (b) Tips to develop positive attitude and practice positive thinking. 2. Listening Skills: (a)Concept, significance and process of listening skills. (b) Kinds of listening Skills. (c) Factors hindering effective listening. (d)Tips for active and empathetic listening.
11th(23 Oct.-30 Oct.)	Life Skills	3. Resilience: (a) Meaning and types of resilience. (b) Case study of resilience.
12th(31 Oct. - 10 Nov.)	Time Management	1. Concept and significance of time management. 2. Benefits of time management. 3. Tools and techniques of time management. 4. How to overcome procrastination and avoid time-wasters.
13th(11Nov. - 18 Nov.)	Human Values and Ethics	1. Meaning of human values, morals and ethics. 2. What is values and types of values. 3.Human Dignity: Meaning of human dignity and fundamental rights of person, meaning of humility, significance of humility, developing and cultivating humility.
14th(19Nov. - 28 Nov.)	Revision	Revision

Signature of Subject Teacher

Signature of HOD/FOIC

R.G.Government Polytechnic Banikhet, Distt. Chamba H.P-176303

Department of Civil Engineering

Lesson Plan

Name of Faculty	Er. Abhishek Patial
Discipline	Civil Engineering
Semester	3 rd
Subject	Construction Materials (L-3Hrs./Week)
Lesson Plan Duration	August – November 2026

Week	Topic	Theory
1 st (01 Aug. – 10 Aug.)	Unit – I Overview of Construction Materials	Scope of construction materials in Building Construction Transportation Engineering, Environmental Engineering, Irrigation Engineering (applications only)
2 nd (11 Aug. – 18 Aug.)	Unit – I Overview of Construction Materials	Selection of materials for different civil engineering structures based on strength, durability, Eco friendly and economy. Broad classification of materials – Natural, Artificial, special, finishing and recycled
3 rd (19 Aug. – 25 Aug.)	Unit– II Natural Construction Materials	Requirements of good building stone, general characteristics of stone: quarrying and dressing methods and tools for stone 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
4 th (26 Aug. – 01 Sept.)	Unit– II Natural Construction Materials	Asphalt, bitumen, and tar used in construction, properties and uses Properties of lime: its types and uses
5 th (02 Sept. – 09 Sept.)	Unit– II Natural Construction Materials	Types of soil and its suitability in construction Properties of sand and uses Classification of coarse aggregate according to size
6 th (10 Sept. – 17 Sept.)	Unit– III Artificial Construction Materials	Constituents of brick earth, Conventional / Traditional bricks, Modular and Standard bricks, Special bricks –fly ash bricks, Characteristics of good brick, Field tests on Bricks, Classification of burnt clay bricks and their suitability, Manufacturing process of burnt clay brick - fly ash bricks, Aerated concrete blocks
Class Test – 1		In Second Week of September 2026
7 th (18 Sept. – 24 Sept.)	Unit– III Artificial Construction Materials	Flooring tiles – Types, uses Manufacturing process of Cement - dry and wet (only flow chart) types of cement and its uses, Field tests on cement

8 th (25 Sept - 01 Oct.)	Unit- III Artificial Construction Materials	Pre-cast concrete blocks, hollow, solid, pavement blocks, and their uses. Plywood, particle board, Veneers, laminated board and their uses.
9 th (03 Oct - 09 Oct.)	Unit- III Artificial Construction Materials	Types of glass, soda lime glass, lead glass and borosilicate glass and their uses. Ferrous and non-ferrous metals and their uses.
10 th (12 Oct - 17 Oct.)	Unit- IV Special Construction Materials	Types of material and suitability in construction works of following materials: Water proofing, Termite proofing, Thermal and sound insulating materials.

Class Test - 2

In Second Week of October 2026.

11 th (19 Oct - 27 Oct.)	Unit- IV Special Construction Materials	Fibers - Types - Jute, Glass, Plastic Asbestos Fibers, (only uses). Geo polymer cement, Geo-cement: properties, uses.
12 th (28 Oct - 03 Nov.)	Unit- V Processed Construction Materials	Constituents and uses of POP (Plaster of Paris), POP finishing boards, sizes, and uses. Paints- whitewash, cement paint, Distempers, Oil Paints and Varnishes with their uses (Situations where used).
13 th (04 Nov - 10 Nov.)	Unit- V Processed Construction Materials	Constituents and uses of POP (Plaster of Paris), POP finishing boards, sizes, and uses. Paints- whitewash, cement paint, Distempers, Oil Paints and Varnishes with their uses (Situations where used).

House Test

In First Week of November 2026.

14 th (11 Nov - 18 Nov.)	Unit- V Processed Construction Materials	Paints- whitewash, cement paint, Distempers, Oil Paints and Varnishes with their uses. (Situations where used). Industrial waste materials- Fly ash, Blast furnace slag, Granite and marble polishing waste and their uses.
15 th (19 Nov - 26 Nov.)	Unit- V Processed Construction Materials	Agro waste materials - Rice husk, Bagasse, coir fibers and their uses. Special processed construction materials: Geo synthetic, Ferrocrete, Artificial timber, Artificial sand, and their uses.
16 th (27 Nov - 28 Nov.)	Revision and Doubt Clearance Session	Revision and Doubt Clearance Session

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.

Signature of Teacher/Prepared by
(E) Apbistuck Parni

Signature of HOD/Principal

RAJEEV GANDHI GOVT. POLYTECHNIC BANIKHET

RECORD OF LECTURE OF LECTURE DELIVERED (THEORY/PRACTICAL)

BRANCH:- CIVIL ENGINEERING

SEMESTER:- 3RD

SUBJECT:- Basic Surveying-I

S.NO.	MONTH	WEEK	TOPICS COVERED	REMARKS
1	AUG	WEEK-1 (01AUG- 07AUG)	Unit -1 Overview and Classification of Survey Survey- Purpose and Use.Types of surveying- Primary and Secondary. Classification: Plane, Geodetic, Cadastral, Hydrographic,Photogrammetry and Aerial.	
2		WEEK-2 (10 AUG- 14 AUG)	Principles of Surveying .Scales: Engineer's scale, Representative Fraction (RF) and diagonal scale Unit- 2 Chain Surveying- Instruments used in chain survey: Metric Chain, Tapes, Arrow, ranging rod, Line ranger, Offset rod, Open cross staff, Optical square.	
3		WEEK-3 (17AUG- 22AUG)	Chain survey Station, Base line, Check line, Tie line, Offset, Tie station. Ranging: Direct and Indirect Ranging.Methods of Chaining, obstacles in chaining.	
4		WEEK-4 (24AUG- 31AUG)	Errors in length: Instrumental error, personal error, error due to natural cause, random error Principles of triangulation. Types of offsets: Perpendicular and Oblique. Conventional Signs, Recording of measurements in a field book.	
5	SEP	WEEK-5 (01SEP- 08SEP)	Unit- 3 Compass Traverse Survey- Compass Traversing- open, closed.Technical Terms: Geographic/ True Magnetic Meridians and Bearings, 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.	
6		WEEK-6 (14SEP- 19SEP)	Calculation of internal and external angles from bearings at a station, Dip of Magnetic needle, Magnetic Declination Components of Prismatic Compass and their Functions, Methods of using Prismatic Compass- Temporary adjustments and observing bearings.	CLASS TEST-1
7		WEEK-7 (21SEP- 26SEP)	Local attraction, Methods of correction of observed bearings - Correction at station and correction to included angles.	
8		WEEK-8 (28SEP- 05 OCT)	Unit- 4 Levelling and Contouring- Basic terminologies: Level surfaces, Horizontal and vertical surfaces, Datum, Benchmarks- GTS,Permanent, Arbitrary and Temporary.	
9	OCT	WEEK-9 (08OCT- 13OCT)	Reduced Level, Rise, Fall, Line of collimation, Station, Back sight, Fore sight, Intermediate sight, Change point, Height of Instruments.	CLASS TEST-2
10		WEEK-10 (14OCT- 21OCT)	Types of levels: Dumpy, Tilting, Auto level, Digital level, Components of Dumpy Level and its fundamental axes, Temporary adjustments of Level.Types of Levelling Staff: Self-reading staff and Target staff.	
11		WEEK-11 (22OCT- 31OCT)	HOUSE TEST	HOUSE TEST
12	NOV	WEEK-12 (02NOV-07NOV)	Reduction of level by Line of collimation and Rise and Fall Method. Levelling Types: Simple, Differential, Fly, Profile and Reciprocal Levelling	
13		WEEK-13 (16NOV-21NOV)	Contour, contour intervals, horizontal equivalent Uses of contour maps, Characteristics of contours, Methods of Contouring: Direct and Indirect.	
14		WEEK-14 (23NOV-28DEC)	Unit- 5 Measurement of Area and Volume-Components and use of Digital planimeter.Measurement of area using digital planimeter.Measurement of volume of reservoir from contour map.	



SIGNATURE OF TEACHER


HOD/C

RECORD OF LECTURE OF LECTURE DELIVERED (THEORY/PRACTICAL)

BRANCH - CIVIL ENGINEERING

SEMESTER - 3RD

SUBJECT - BUILDING CONSTRUCTION

S. NO.	MONTH	WEEK	TOPICS COVERED	REMARKS
1	AUG	WEEK-1 (01AUG- 07AUG)	Unit - I: Overview of Building Components-Classification of Buildings as per National Building Code Group A to I, as per Types of Construction Load Bearing Structure, Framed Structure, Composite Structure, Building Components - Functions of Building Components, Substructure - Foundation, Plinth	
2		WEEK-2 (10 AUG- 14 AUG)	Superstructure - Walls, Partition wall, Cavity wall, Sill, Lintel, Doors and Windows, Floor, Roof, Columns, Beams, Parapet	
3		WEEK-3 (17AUG- 22AUG)	Unit - 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	
4		WEEK-4 (24AUG- 31AUG)	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	
5	SEP	WEEK-5 (01SEP- 08SEP)	Unit- III: Construction of Superstructure Stone Masonry: Terms used in stone masonry- facing, backing, hearting, through stone, corner stone, cornice. Types of stone masonry 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.	
6		WEEK-6 (14SEP- 19SEP)	Brick masonry: Terms used in brick masonry- header, stretcher, closer, quoin, 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	CLASS TEST-1
7		WEEK-7 (21SEP- 26SEP)	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.	
8		WEEK-8 (28SEP- 05 OCT)	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	
9	OCT	WEEK-9 (08OCT- 13OCT)	Unit- IV: Building Communication and Ventilation Horizontal Communication: Doors - Horizontal Communication: Doors - Components of Doors, Full Panelled Doors, Party Panelled and Glazed Doors, Flush Doors, Collapsible Doors, Rolling Shutters, Revolving Doors, Glazed Doors, Sizes of Door recommended by BIS	CLASS TEST-2
10		WEEK-10 (14OCT- 21OCT)	Windows: Component of windows, Types of Windows - Full Panelled, Party 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: Vertical Communication: Means of Vertical Communication- Stair Case. Terms used in staircase-steps, tread, riser, nosing, soffit, waist slab.	
11		WEEK-11 (22OCT- 31OCT)	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	
12		WEEK-12 (02NOV-07NOV)	Unit- 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, 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.	
13	NOV	WEEK-13 (18NOV-21NOV)	HOUSE TEST	HOUSE TEST
14		WEEK-14 (23NOV-30DEC)	Wall Finishes: Plastering - Necessity of Plastering, Procedure of Plastering, Single Coat Plaster, Double Coat Plaster, Rough finish, Heavy Finishing and Plaster of Paris (POP), Special Plasters- Stucco, plaster, sponge finish, pebble finish Plaster. 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	

SIGNATURE OF TEACHER

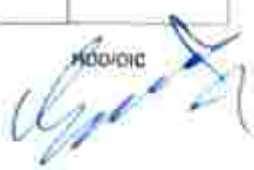
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S.NO.	MONTH	WEEK	TOPICS COVERED	REMARKS
1	AUG	WEEK-1 (01AUG- 07AUG)	Unit- 1 Simple Stresses and Strains Definition of rigid, elastic and plastic bodies. Definition of stress, strain, elasticity, Hooke's law, Elastic limit, Modulus of elasticity. Type of Stresses-Normal, Direct, Bending and Shear and nature of stresses i.e., Tensile and Compressive stresses. Standard stress strain curve for for steel bar under tension, Yield stress, Proof stress, Ultimate stress, Strain at various critical points, Percentage elongation and Factor of safety.	
2		WEEK-2 (10 AUG- 14 AUG)	Deformation of body due to axial force, forces applied at intermediate sections, Maximum and minimum stress induced, Composite section under axial loading.	
3		WEEK-3 (17AUG- 22AUG)	Concept of temperature stresses and strain, Stress and strain developed due to temperature variation in homogeneous simple bar (no composite section) Longitudinal and lateral strain, Modulus of Rigidity, Poisson's ratio, volumetric strain, change in volume. Bulk modulus (Introduction only). Relation between	
4		WEEK-4 (24AUG- 31AUG)	Unit- 2 Shear Force and Bending Moment Types of supports, beams, and loads. Concept and definition of shear force and bending moment, Relation between load, shear force and bending moment (without derivation).	
5	SEP	WEEK-5 (01SEP- 06SEP)	Shear force and bending moment diagram for cantilever and simply supported beams subjected to point loads uniformly distributed loads (combination of any two types of loading), point of contra flexure.	
6		WEEK-6 (14SEP- 19SEP)	Unit -3 Moment of Inertia Moment of inertia (M.I.) Definition, M.I. of plane lamina, Radius of gyration, section modulus, Parallel and Perpendicular axes theorems (without derivations),	CLASS TEST-1
7		WEEK-7 (21SEP- 26SEP)	M.I. of rectangle, square, circle, semi-circle, quarter circle and triangle section (without derivations).	
8		WEEK-8 (28SEP- 05 OCT)	M.I. of symmetrical and unsymmetrical I-section, Channel section, T-section, Angle section.	
9	OCT	WEEK-9 (06OCT- 13OCT)	Hollow sections about centroidal axes, Polar Moment of inertia of solid circular sections.	CLASS TEST-2
10		WEEK-10 (14OCT- 21OCT)	Unit- 4 Bending and Shear Stresses in beams Concept and theory of pure bending, assumptions, flexural equation (without derivation), bending stresses and their nature, bending stress distribution diagram, Concept of moment of resistance and simple numerical problems using flexural equation.	
11		WEEK-11 (22OCT- 31OCT)	Shear stress equation (without derivation), relation between maximum and average shear stress for rectangular and circular section, shear stress distribution diagram, Shear stress distribution for square, rectangular, circle, hollow, angle sections, channel section, I-section, T section. Simple numerical problems based on shear equation.	
12	NOV	WEEK-12 (02NOV-07NOV)	HOUSE TEST	HOUSE TEST
13		WEEK-13 (15NOV-21NOV)	Unit- 5 Columns Concept of compression member, short and long column, Effective length, Radius of gyration, Slenderness ratio, Types of end condition for columns, Buckling of axially loaded columns.	
14		WEEK-14 (23NOV-28DEC)	Euler's theory, assumptions made in Euler's theory and its limitations, Application of Euler's equation to calculate buckling load, Rankine's formula and its application to calculate crippling load, Concept of working load/safe load, design load and factor of safety.	

SIGNATURE OF TEACHER



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Department of Civil Engineering**Lesson Plan**

Name of Faculty	Er. Abhishek Patial
Discipline	Civil Engineering
Semester	3 rd
Subject	Concrete Technology (L-3 Hrs./Week)
Lesson Plan Duration	August – November 2026

Week	Topic	Theory
1 st (01 Aug. – 10 Aug.)	Unit – I Cement, Aggregates and Water	Physical properties of OPC and PPC: fineness, standard consistency, setting time, soundness, compressive strength. Different grades of OPC and relevant BIS codes. Storage of cement and effect of storage on properties of cement.
2 nd (11 Aug. – 18 Aug.)	Unit – I Cement, Aggregates and Water	BIS Specifications and field applications of different types of cements: Rapid hardening, Low heat, Portland pozzolana, Sulphate-resisting, Blast furnace slag, High Alumina and Vitrified cement. Aggregates: Requirements of good aggregate, Classification according to size and shape.
3 rd (19 Aug. – 25 Aug.)	Unit – I Cement, Aggregates and Water	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. 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.
4 th (26 Aug. – 01 Sept.)	Unit – I Cement, Aggregates and Water Unit– II Concrete	Water: Quality of water, impurities in mixing water and permissible limits for solids as per IS: 456. Concrete: Different grades of concrete, provisions of IS 456.
5 th (02 Sept. – 09 Sept.)	Unit– II Concrete	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.

6 th (10 Sept. – 17 Sept.)	Unit – II Concrete	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: Impermability.
Class Test – 1		In Second Week of September 2026.
7 th (18 Sept. – 24 Sept.)	Unit – III Concrete Mix Design and Testing of Concrete	Concrete mix design: Objectives, methods of mix design study of mix design as per IS 10262 (only procedural steps). Testing of concrete: determination of compressive strength of concrete cubes at different ages, interpretation, and co-relation of test results.
8 th (25 Sept. – 01 Oct.)	Unit – III Concrete Mix Design and Testing of Concrete	Non-destructive testing of concrete: Rebound hammer test, working principle of rebound hammer and factors affecting the rebound index, Ultrasonic pulse velocity test as per IS 13311 (part 1 and 2), Importance of NDT tests
9 th (03 Oct. – 09 Oct.)	Unit – IV Quality Control of Concrete	Concreting Operations: Batching, Mixing, Transportation, Placing, Compaction, Curing and Finishing of concrete.
10 th (12 Oct. – 17 Oct.)	Unit – IV Quality Control of Concrete	Forms for concreting: Different types of form works for beams, slabs, columns, materials used for formwork, requirement of good form work, Stripping time for removal of form works per IS 456
Class Test – 2		In Second Week of October 2026.
11 th (19 Oct. – 27 Oct.)	Unit – IV Quality Control of Concrete	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
12 th (28 Oct. – 03 Nov.)	Unit – V Chemical Admixture, Special Concrete and Extreme Weather concreting	Admixtures in concrete: Purpose, properties and application for different types of admixtures such as accelerating admixtures, retarding admixtures, water reducing admixtures, air entraining admixtures and super plasticizers.
13 th (04 Nov. – 10 Nov.)	Unit – V Chemical Admixture, Special Concrete and Extreme Weather concreting	Special Concrete: Properties, advantages and limitation of following types of Special concrete: Ready mix Concrete, Fibre Reinforced Concrete, High performance Concrete, Self-compacting concrete and light weight concrete
House Test		In First Week of November 2026.

14 th (11 Nov. – 18 Nov.)	Unit– V Chemical Admixture, Special Concrete and Extreme Weather concreting	Cold weather concreting: effect of cold weather on concrete, precautions to be taken while concreting in cold weather condition. Hot weather concreting: effect of hot weather on concrete, precautions to be taken while concreting in hot weather condition.
15 th (19 Nov. – 26 Nov.)	Unit– V Chemical Admixture, Special Concrete and Extreme Weather concreting	Cold weather concreting: effect of cold weather on concrete, precautions to be taken while concreting in cold weather condition. Hot weather concreting: effect of hot weather on concrete, precautions to be taken while concreting in hot weather condition.
16 th (27 Nov. – 28 Nov.)	Revision and Doubt Clearance Session	Revision and Doubt Clearance Session

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.


Signature of Teacher/Prepared by
(Er. Abhishek Patil)


Signature of HOD/C

R.G.Government Polytechnic Banikhet Distt. Chamba H.P-176303

Department of Civil Engineering

Lesson Plan

Name of Faculty	Er. Abhishek Patil
Discipline	Civil Engineering
Semester	3 rd
Subject	Geotechnical Engineering (L-4Hrs./Week)
Lesson Plan Duration	August – November 2026

Week	Topic	Theory
1 st (01 Aug. – 10 Aug.)	Unit – I Overview of Geology and Geotechnical Engineering	Introduction of Geology, Branches of Geology, Importance of Geology for civil engineering structure and 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.
2 nd (11 Aug. – 18 Aug.)	Unit – I Overview of Geology and Geotechnical Engineering	Importance of soil as construction material in Civil engineering structures and as foundation bed for structures. Field application of geotechnical engineering for foundation design, pavement design, design of earth retaining structures, design of earthen dam.
3 rd (19 Aug. – 25 Aug.)	Unit– II Physical and Index Properties of Soil	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, 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.
4 th (26 Aug. – 01 Sept.)	Unit– II Physical and Index Properties of Soil	Consistency of soil, Atterberg limits of consistency, Liquid limit, plastic limit and shrinkage limit, Plasticity index.
5 th (02 Sept. – 09 Sept.)	Unit– II Physical and Index Properties of Soil	Particle size distribution test and plotting of curve, Determination of effective diameter of soil, well graded and uniformly graded soils, BIS classification of soil.
6 th (10 Sept. – 17 Sept.)	Unit– III Permeability and Shear Strength of Soil	Definition of permeability, Darcy's law of permeability, coefficient of permeability, factors affecting permeability, determination of coefficient of permeability by constant head and falling head tests, simple 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

In Second Week of September 2026.

2 nd (18 Sept. – 24 Sept.)	Unit- III Permeability and Shear Strength of Soil	Definition of permeability, Darcy's law of permeability, coefficient of permeability, factors affecting permeability, determination of coefficient of permeability by constant head and falling head tests, simple 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)
3 rd (25 Sept. – 01 Oct.)	Unit- III Permeability and Shear Strength of Soil	Shear failure of soil, concept of shear strength of soil, Components of shearing resistance of soil – cohesion, 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
9 th (03 Oct. – 09 Oct.)	Unit- III Permeability and Shear Strength of Soil	Shear failure of soil, concept of shear strength of soil, Components of shearing resistance of soil – cohesion, 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
10 th (12 Oct. – 17 Oct.)	Unit- IV Bearing Capacity of Soil	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
Class Test – 2		In Second Week of October 2026.
11 th (19 Oct. – 27 Oct.)	Unit- IV Bearing Capacity of Soil	Field methods for determination of bearing capacity – Plate load and Standard Penetration Test, Test procedures as per IS:1889 & IS:2131, Definition of earth pressure, Active and Passive earth pressure for no surcharge condition, coefficient of earth pressure
12 th (28 Oct. – 03 Nov.)	Unit- V Compaction and stabilization of soil	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, Suitability of various compaction equipment -smooth wheel roller, sheep foot roller, pneumatic tyre roller, Rammer and Vibrator, Difference between compaction and consolidation

13 th (04 Nov. – 10 Nov.)	Unit- V Compaction and stabilization of soil	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. Suitability of various compaction equipment – smooth wheel roller, sheep foot roller, pneumatic tyre roller, Rammer and Vibrator. Difference between compaction and consolidation.
House Test		In First Week of November 2026.
14 th (11 Nov. – 18 Nov.)	Unit- V Compaction and stabilization of soil	Concept of soil stabilization, necessity of soil stabilization, different methods of soil stabilization. California bearing ratio (CBR) test - Meaning and Utilization in Pavement Construction. Necessity of site investigation and soil exploration. Types of exploration, criteria for deciding the location and number of test pits and bores. Field identification of soil – dry strength test, dilatancy test and toughness test.
15 th (19 Nov. – 26 Nov.)	Unit- V Compaction and stabilization of soil	Concept of soil stabilization, necessity of soil stabilization, different methods of soil stabilization. California bearing ratio (CBR) test - Meaning and Utilization in Pavement Construction. Necessity of site investigation and soil exploration. Types of exploration, criteria for deciding the location and number of test pits and bores. Field identification of soil – dry strength test, dilatancy test and toughness test.
16 th (27 Nov. – 28 Nov.)	Revision and Doubt Clearance Session	Revision and Doubt Clearance Session

NOTE: Lesson Plan is Tentative, subject to availability of Time, Students & Faculty.


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