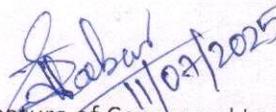


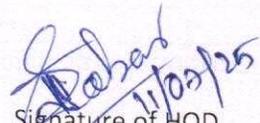
LESSON PLAN OF 3RD SEMESTER CIVIL ENGINEERING

DISCIPLINE :- CIVIL ENGG.	SEMESTER: -3 RD	NAME OF THE TEACHING FACULTY:- MISS JYOTIRMAYEE SABAR, SENIOR LECTURER
SUBJECT:- BUILDING MATERIAL AND CONCRETE TECHNOLOGY CEPC209 TH:5	No of Days/per Week Class Allotted :- 03	SEMESTER FROM:- 14.07.2025 TO 15.11.2025 . WINTER 2025 NUMBER OF WEEKS:- 15
Week	Class Day	Theory Topics
1 st	1 st	UNIT-I Overview of Construction Materials- Scope of construction materials in Building Construction, Transportation Engineering, Environmental Engineering, and Irrigation Engineering (applications only).
	2 nd	Selection of materials for different civil engineering structures on the basis of strength, durability, Eco friendly and economy. Broad classification of materials –, Natural, Artificial, special, finishing and recycled.
	3 rd	UNIT-II Natural Construction Materials- Requirements of good building stone; general characteristics of stone; quarrying addressing methods and tools for stone.
2 nd	1 st	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 nd	Asphalt, bitumen and tar used in construction, properties and uses.
	3 rd	Properties of lime, its types and uses. Types of soil and its suitability in construction.
3 rd	1 st	Properties of sand and uses Classification of coarse aggregate according to size
	2 nd	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.
	3 rd	Flooring tiles – Types, uses
4 th	1 st	Pre-cast concrete blocks- hollow, solid, pavement blocks, and their uses.
	2 nd	Plywood, particle board, Veneers, laminated board and their uses.
	3 rd	Types of glass: soda lime glass, lead glass and borosilicate glass and their uses. Ferrous and non-ferrous metals and their uses.
5 th	1 st	UNIT-IV Cement, Aggregates , Water and Admixture- Composition of Cement Manufacturing process of Cement – dry and wet (only flow chart), types of cement and its uses. Field tests on cement.
	2 nd	Physical properties of OPC and PPC: fineness, standard consistency, setting time, soundness, compressive strength. Different grades of OPC and relevant BIS codes.
	3 rd	Testing of cement: Laboratory tests-fineness, standard consistency, setting time, soundness, compressive strength. Storage of cement and effect of storage on properties of cement.
6 th	1 st	BIS Specifications and field applications of different types of cements: Rapid hardening, Lowheat, Portland pozzolana, Sulphate resisting, Blast furnace slag, High Alumina and White cement.
	2 nd	Aggregates: Requirements of good aggregate, Classification according to size and shape.
	3 rd	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.
7 th	1 st	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.
	2 nd	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.
	3 rd	Water: Quality of water, impurities in mixing water and permissible limits for solids as per IS: 456.
8 th	1 st	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. (concepts only)
	2 nd	UNIT-V Concrete- Concrete: Different grades of concrete, provisions of IS 456 (Latest).
	3 rd	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.
9 th	1 st	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.
	2 nd	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.
	3 rd	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.
10 th	1 st	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.
	2 nd	Properties of Hardened concrete: Strength, Durability, Impermeability.
	3 rd	Properties of Hardened concrete: Strength, Durability, Impermeability.
11 th	1 st	UNIT-VI 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).
	2 nd	Concrete mix design: Objectives, methods of mix design, study of mix design as per IS 10262 (only procedural steps).
	3 rd	Non-destructive testing of concrete: Rebound hammer test, working principle of rebound hammer and factor affecting the rebound index, Ultrasonic pulse velocity test as per IS13311 (part 1 and 2), Importance of NDT tests.
12 th	1 st	Non-destructive testing of concrete: Rebound hammer test, working principle of rebound hammer and factor affecting the rebound index, Ultrasonic pulse velocity test as per IS13311 (part 1 and 2), Importance of NDT tests.
	2 nd	Non-destructive testing of concrete: Rebound hammer test, working principle of rebound hammer and factor affecting the rebound index, Ultrasonic pulse velocity test as per IS13311 (part 1 and 2), Importance of NDT tests.
	3 rd	UNIT-VII Quality Control of Concrete- Concreting Operations: Batching, Mixing, Transportation, Placing, Compaction, Curing and Finishing of concrete.
13 th	1 st	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 of form works per IS 456.
	2 nd	Waterproofing: Importance and need of waterproofing, methods of waterproofing and materials used for waterproofing.

	3 rd	Joints in concrete construction: Types of joints, methods for joining old and new concrete, materials used for filling joints.
14 th	1 st	Joints in concrete construction: Types of joints, methods for joining old and new concrete, materials used for filling joints.
	2 nd	UNIT-VIII Special Concrete and Extreme Weather concreting -Special Concrete: Properties, advantages and limitation of following types of Special concrete: Ready mix Concrete, Fiber Reinforced Concrete, High performance Concrete, Self- com packing concrete and light weight concrete.
	3 rd	Special Concrete: Properties, advantages and limitation of following types of Special concrete: Ready mix Concrete, Fiber Reinforced Concrete, High performance Concrete, Self- com packing concrete and light weight concrete.
15 th	1 st	Cold weather concreting: effect of cold weather on concrete, precautions to be taken while concreting in cold weather condition. (only concepts)
	2 nd	Hot weather concreting: effect of hot weather on concrete, precautions to be taken while concreting in hot weather condition. (only concepts)
	3 rd	REVISION, PREVIOUS YEAR QUESTION ANSWER DISCUSSION


Signature of Concerned Lecturer

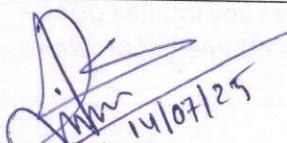

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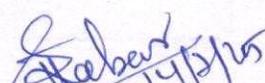

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LESSON PLAN OF 3rd SEMESTER CIVIL ENGINEERING

Discipline :- CIVIL	Semester :-3 rd	Name of the Teaching Faculty:- SWAYAN RANJAN MISRA, LECT. STAGE-II
Subject: Mechanics of Material CEPC205 TH:3	No of Days/per Week Class Allotted :- 03	Semester From:- 14 th July, 2025 To:- 15 th Nov, 2025 (WINTER 2025) No of Weeks:- 15
Week	Class Day	<u>Theory Topics</u>
1 st	1 st	Centre of Gravity and Moment of Inertia Definition of centre of gravity -Centre of gravity of Symmetrical shapes (solid / hollow square, rectangular section
	2 nd	Centre of gravity of circular, I Sections. Numerical problem solving
	3 rd	Moment of inertia (M.I.): Definition, M.I. of plane lamina, Radius of gyration, section modulus, Parallel and Perpendicular axes theorems
2 nd	1 st	M.I. of rectangle, square, circle, semicircle, quarter circle and triangle section
	2 nd	M.I. of symmetrical and unsymmetrical I-section, Channel section,
	3 rd	M.I. of T-section, Angle section, Hollow sections
3 rd	1 st	M.I. of built up sections about centroidal axes and any other reference axis.
	2 nd	Polar Moment of Inertia of solid circular sections
	3 rd	Simple Stresses and Strains Definition of rigid, elastic and plastic bodies, deformation of elastic body under various forces.
4 th	1 st	Definition of stress, strain, elasticity, Hook's law, Elastic limit, Modulus of elasticity
	2 nd	Type of Stresses Normal, Direct, Bending and Shear and nature of stresses i.e. Tensile and Compressive stresses.
	3 rd	Standard stress strain curve for tor steel bar under tension, Yield stress, Proof stress, Ultimate stress, Strain at various critical points, Percentage elongation and Factor of safety.
5 th	1 st	Deformation of body due to axial force, forces applied at intermediate sections
	2 nd	Maximum and minimum stress induced Composite section under axial loading.
	3 rd	Concept of temperature stresses and strain
6 th	1 st	Stress and strain developed due to temperature variation in homogeneous simple bar
	2 nd	Longitudinal and lateral strain, Modulus of Rigidity, Poisson's ratio, Bulk modulus
	3 rd	Biaxial and tri-axial stresses, volumetric strain, change in volume, Relation between modulus of elasticity, modulus of rigidity and bulk modulus
7 th	1 st	Principal stresses and strains: Occurrence of normal and tangential stresses, Concept of Principal stress and Principal Planes, major and minor principal stresses and their orientations.
	2 nd	stresses on a given plane –shear and normal stress components on any inclined plane – Mohr's circle and its use in solving problems on complex stresses - Numerical problems

	3 rd	Shear Force and Bending Moment Types of supports, beams and loads
8 th	1 st	Concept and definition of shear force and bending moment, Relation between load, shear force and bending moment
	2 nd	Shear force diagram for cantilever beams subjected to point loads
	3 rd	bending moment diagram for cantilever beams subjected to point loads
9 th	1 st	Shear force diagram for cantilever beams subjected to Uniformly distributed load.
	2 nd	Bending moment diagram for cantilever beams subjected to Uniformly distributed load.
	3 rd	Shear force diagram for simply supported beams subjected to point loads
10 th	1 st	Bending moment diagram for simply supported beams subjected to point loads
	2 nd	Shear force diagram for simply supported beams subjected Uniformly distributed load
	3 rd	Bending moment diagram for simply supported beams subjected to Uniformly distributed load
11 th	1 st	Shear force and bending moment diagram for cantilever and simply supported beams subjected to couple and combination of any two types of loading, point of contra flexure.
	2 nd	Bending and Shear Stresses in beams Concept and theory of pure bending, assumptions, flexural equation
	3 rd	bending stresses and their nature, bending stress distribution diagram
12 th	1 st	Concept of moment of resistance and simple numerical problems using flexural equation.
	2 nd	Concept of moment of resistance and simple numerical problems using flexural equation
	3 rd	Shear stress equation
13 th	1 st	Relation between maximum and average shear stress for rectangular and circular section, shear stress distribution diagram.
	2 nd	Shear stress distribution for square, rectangular, circle,
	3 rd	Shear stress distribution for angle sections, channel section, I-section, T section
14 th	1 st	Simple numerical problems based on shear equation.
	2 nd	Columns Concept of compression member, short and long column, Effective length, Radius of gyration
	3 rd	Slenderness ratio, Types of end condition for columns, Buckling of axially loaded columns
15 th	1 st	Euler's theory, assumptions made in Euler's theory and its limitations
	2 nd	Application of Euler's equation to calculate buckling load.
	3 rd	Rankine's formula and its application to calculate crippling load, Concept of working load/safe load, design load and factor of safety
		DOUBT CLEARING CLASS AND REVISION & PREVIOUS FIVE YEARS QUESTION ANSWER DISCUSSION

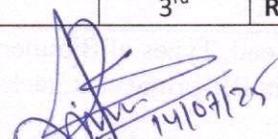

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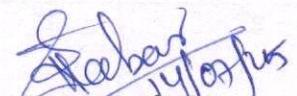

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LESSON PLAN OF 3RD SEMESTER CIVIL ENGINEERING

DISCIPLINE :- CIVIL ENGG.	SEMESTER :- 3 RD	NAME OF THE TEACHING FACULTY:- SWAYAN RANJAN MISRA, LECT. STAGE-II
SUBJECT:- TRANSPORTATION ENGINEERING TH-2 (CEPC 203)	No of Days/per Week Class Allotted :- 03	SEMESTER FROM:- <u>14.07.2025 TO 15.11.2025</u> WINTER 2025 NO OF WEEKS:- 15
Week	Class Day	Theory Topics
1 st	1 st	Overview of Highway Engineering Role of transportation in the development of nation, Scope and Importance of roads in India and its' Characteristics.
	2 nd	Different modes of transportation – land way, waterway, airway. Merits and demerits of roadway and railway;
	3 rd	General classification of roads.
2 nd	1 st	Selection and factors affecting road alignment.
	2 nd	Selection and factors affecting road alignment.
	3 rd	Geometric Design of Highway Camber: Definition, purpose, types as per IRC – recommendations.
3 rd	1 st	Kerbs: Road margin, road formation, right of way.
	2 nd	Design speed and various factors affecting design speed as per IRC – recommendations.
	3 rd	Gradient: Definition, types as per IRC – Recommendations.
4 th	1 st	Sight distance (SSD): Definition, types IRC – recommendations, simple numerical.
	2 nd	Curves: Necessity, types: Horizontal, vertical curves.
	3 rd	Extra widening of roads: numerical examples.
5 th	1 st	Super elevation: Definition, formula for calculating minimum and maximum Super elevation and method of providing super-elevation.
	2 nd	Super elevation: Definition, formula for calculating minimum and maximum Super elevation and method of providing super-elevation.
	3 rd	Standards cross-sections of national highway in embankment and cutting.
6 th	1 st	Construction of Road Pavements • Types of road materials and their Tests – Test on aggregates-Flakiness and Elongation In- dex tests, Angularity Number test, test on Bitumen- penetration, Ductility, Flash and Fire point test and Softening point test.
	2 nd	Types of road materials and their Tests – Test on aggregates-Flakiness and Elongation In- dex tests, Angularity Number test, test on Bitumen- penetration, Ductility, Flash and Fire point test and Softening point test.
	3 rd	Pavement – Definition, Types, Structural Components of pavement and their functions
7 th	1 st	Pavement – Definition, Types, Structural Components of pavement and their functions
	2 nd	Construction of WBM road. Merits and demerits of WBM & WMM road.
	3 rd	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.
8 th	1 st	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.
	2 nd	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.
	3 rd	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.
9 th	1 st	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.
	2 nd	Basics of Railway Engineering Classification of Indian Railways, zones of Indian Railways
	3 rd	Permanent way: Ideal requirement, Components; Rail Gauge, types, factors affecting selection of a gauge.
10 th	1 st	Permanent way: Ideal requirement, Components; Rail Gauge, types, factors affecting selection of a gauge.
	2 nd	Rail, Rail Joints - requirements, types.
	3 rd	Creep of rail: causes and prevention.
11 th	1 st	Sleepers - functions and Requirement, types - concrete sleepers and their density
	2 nd	Sleepers - functions and Requirement, types - concrete sleepers and their density
	3 rd	Ballast - function and types, suitability.
12 th	1 st	Rail fixtures and fastenings – fish plate, spikes, bolts, keys, bearing plates, chairs- types of anchors and anti- creepers.
	2 nd	Rail fixtures and fastenings – fish plate, spikes, bolts, keys, bearing plates, chairs- types of anchors and anti- creepers.
	3 rd	Track geometrics, Construction and Maintenance Alignment- Factors governing rail alignment.
13 th	1 st	Track Cross sections – standard cross section of single and double line in cutting and embankment. Important terms-permanent land, formation width, side drains,
	2 nd	Railway Track Geometrics: Gradient, curves- types and factors affecting, grade compensation, super elevation, limits of Super elevation on curves, cant deficiency, negative cant, con- ing of wheel, tilting of rail.
	3 rd	Branching of Tracks, Points and crossings, Turn out- types, components, functions and inspection. Track junctions: crossovers, scissor cross over, diamond crossing, track triangle.
14 th	1 st	Station -Purpose, requirement of railway station, important technical terms, types of railway station, factors affecting site selection for railway station.
	2 nd	Station yard: Classification- Passenger, goods, locomotive and marshalling yards. Function & drawbacks of marshalling yards.
	3 rd	Station yard: Classification- Passenger, goods, locomotive and marshalling yards. Function & drawbacks of marshalling yards.
15 th	1 st	Track Maintenance- Necessity, Classification, Tools required for track maintenance with their functions, Organisation of track maintenance, Duties of permanent way inspector, gangmate and key man.
	2 nd	Track Maintenance- Necessity, Classification, Tools required for track maintenance with their functions, Organisation of track maintenance, Duties of permanent way inspector, gangmate and key man.
	3 rd	REVISION, PREVIOUS YEAR QUESTION ANSWER DISCUSSION

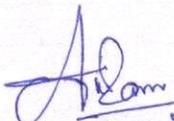

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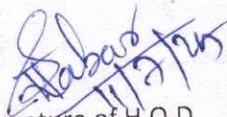

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LESSON PLAN OF 3rd SEMESTER CIVIL ENGINEERING

Discipline :- CIVIL	Semester :-3 rd	Name of the Teaching Faculty:- ASHOK KUMAR RANA
Subject: GEOTECHNICAL ENGINEERING	No of Days/per Week Class Allotted :- 03	Semester From:- 14 th July, 2025 To:- 15 th Nov, 2025 (WINTER 2025) No of Weeks:- 16
Week	Class Day	<u>Theory Topics</u>
1 st	1 st	Overview of Geology and Geotechnical Engineering Introduction of Geology, Branches of Geology, Importance of Geology for civil engineering structure and composition of earth
	2 nd	Definition of a rock: Classification based on their genesis (mode of origin)
	3 rd	Formation, Classification and engineering uses of igneous, sedimentary and metamorphic rocks
2 nd	1 st	Importance of soil as construction material in Civil engineering structures and as foundation bed for structures. (Concepts only)
	2 nd	Field application of geotechnical engineering for foundation design, pavement design, design of earth retaining structures, design of earthen dam
	3 rd	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,
3 rd	1 st	degree of saturation, density index.,air Content,Percentage of air voids, Relation between the parameters
	2 nd	Unit weight of soil mass – bulk unit weight, dry unit weight, unit weight of solids, saturated unit weight, submerged unit weight
	3 rd	Determination of bulk unit weight and dry unit weight by core cutter and sand replacement method
4 th	1 st	Determination of specific gravity by pycnometer
	2 nd	Consistency of soil, Atterberg limits of consistency: Liquid limit, plastic limit and shrinkage limit. Plasticity index
	3 rd	Particle size distribution test and plotting of curve, Determination of effective diameter of soil, well graded and uniformly graded soils
5 th	1 st	BIS classification of soil
	2 nd	Permeability and Seepage Definition of permeability, Darcy's law of permeability, coefficient of permeability
	3 rd	factors affecting permeability, determination of coefficient of permeability by constant head and falling head tests
6 th	1 st	simple problems to determine coefficient of permeability
	2 nd	Seepage through earthen structures,
	3 rd	seepage velocity, seepage pressure
7 th	1 st	phreatic line, flow lines, application of flow net
	2 nd	Effective stress

	3 rd	quick Sand
8 th	1 st	Compaction, Consolidation and stabilization of soil Concept of compaction, Standard and Modified proctor test as per IS code
	2 nd	Plotting of Compaction curve for determining: Optimum moisture content (OMC), maximum dry density (MDD), Zero air voids line
	3 rd	Factors affecting compaction, field methods of compaction – rolling, ramming and vibration
9 th	1 st	Consolidation, Difference between compaction and consolidation. Terzaghi's Model analogy of compression/springs showing the process of consolidation, Field implications
	2 nd	Concept of soil stabilization, necessity of soil stabilization, different methods of soil stabilization
10 th	3 rd	California bearing ratio (CBR) test - Meaning and Utilization in Pavement Construction
	1 st	Necessity of site investigation and soil exploration: Types of exploration, criteria for deciding the location and number of test pits and bores
	2 nd	Field identification of soil – dry strength test, dilatancy test and toughness test
11 th	3 rd	Shear Strength of Soil Shear failure of soil-General, local and punching shear
	1 st	concept of shear strength of soil
	2 nd	Components of shearing resistance of soil – cohesion, internal friction
12 th	3 rd	Mohr-Coulomb failure theory
	1 st	Strength envelope
	2 nd	strength equation for purely cohesive and cohesion less soils
13 th	3 rd	Direct shear
	1 st	triaxial and vane shear test laboratory methods
	2 nd	Bearing Capacity of Soil and Foundation Bearing capacity and theory of earth pressure
14 th	3 rd	Concept of bearing capacity, ultimate bearing capacity, safe bearing capacity and allowable bearing pressure
	1 st	Introduction to Terzaghi's analysis and assumptions
	2 nd	effect of water table on bearing capacity
15 th	3 rd	Field methods for determination of bearing capacity – Plate load Test., Standard Penetration Test.
	1 st	Definition of earth pressure, Active and Passive earth pressure for no surcharge condition, coefficient of earth pressure
	2 nd	Rankine's theory and assumptions made for non- cohesive Soils
16 th	3 rd	Type of foundations-shallow, deep foundation
		DOUBT CLEARING CLASS AND REVISION & PREVIOUS FIVE YEARS QUESTION ANSWER DISCUSSION


Signature of Lecturer


Signature of H.O.D

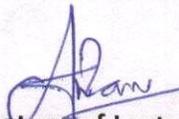

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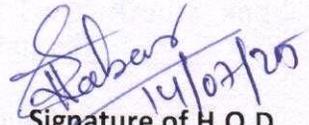
LESSON PLAN OF 3rd SEMESTER CIVIL ENGINEERING

Discipline :- CIVIL	Semester :-3 rd	Name of the Teaching Faculty:- ASHOK KUMAR RANA, LECT. STAGE-I
Subject: Building Construction CEPC201 TH:1	No of Days/per Week Class Allotted :- 03	Semester From:- <u>14th July, 2025</u> To:- <u>15th Nov, 2025 (WINTER 2025)</u> No of Weeks:- 15
Week	Class Day	<u>Theory Topics</u>
1 st	1 st	Overview of Building Components Classification of Buildings as per National Building Code Group A to I
	2 nd	Classification of Buildings as per Types of Constructions- Load Bearing Structure, Framed Structure, Composite Structure
	3 rd	Building Components – Functions of Building Components, substructure – Foundation, Plinth
2 nd	1 st	Superstructure – Walls, Partition wall, Cavity wall, Sill, Lintel, Doors and Windows, Floor, Mezzanine floor, Roof, Columns, Beams, Parapet
	2 nd	Construction of Substructure Job Layout: Site Clearance, Layout for Load Bearing Structure and Framed Structure by Center Line and Face Line Method, Precautions
	3 rd	Earthwork: Excavation for Foundation, Timbering and Strutting,
3 rd	1 st	Earthwork for embankment, Material for plinth Filling, Tools and plants used for earthwork
	2 nd	Foundation: Functions of foundation
	3 rd	Types of foundation – Shallow Foundation, Stepped Footing, Wall Footing, Column Footing
4 th	1 st	Isolated and Combined Column Footing, Raft Foundation, Grillage Foundation
	2 nd	Deep Foundation – Pile Foundation, Well foundation and Caissons
	3 rd	Pumping Methods of Dewatering, Deep wells, Well points, Cofferdam
5 th	1 st	Construction of Superstructure- Stone Masonry: Terms used in stone masonry- facing, backing, hearting, through stone, corner stone, cornice
	2 nd	Types of stone masonry: Rubble masonry, Ashlar Masonry and their types
	3 rd	Joints in stone masonry and their purpose. Selection of Stone Masonry
6 th	1 st	Precautions to be taken in Stone Masonry Construction
	2 nd	Brick masonry: Terms used in brick masonry- header, stretcher, closer, quoins, course, face, back, hearting, bat bond, joints, lap, frog line, level and plumb
	3 rd	Bonds in brick masonry- header bond, stretcher bond, English bond and Flemish bond.

7 th	1 st	Requirements of good brick masonry. Junctions in brick masonry and their purpose and procedure. Precautions to be observed in Brick Masonry Construction
	2 nd	Comparison between stone and Brick Masonry. Tools and plants required for construction of stone and brick masonry. Hollow concrete block masonry and composite masonry
	3 rd	Scaffolding and Shoring: Purpose, Types of Scaffolding, Process of Erection and Dismantling.
8 th	1 st	Purpose and Types of Shoring, Underpinning. Formwork: Definition of Formwork, Requirements of Formwork,
	2 nd	Materials used in Formwork, Types of Formwork,
	3 rd	Removal of formwork
9 th	1 st	Building Communication and Ventilation Horizontal Communication: Doors –Components of Doors, Full Paneled Doors, Part ly Paneled and Glazed Doors Flush Doors, Collapsible Doors, Rolling Shutters, Revolving Doors, Glazed Doors.
	2 nd	Sizes of Door recommended by BIS Windows: Component of windows, Types of Windows – Full Paneled, Partly Paneled and Glazed, wooden, Steel, Aluminum windows, Sliding Windows
	3 rd	Louvered Window, Bay win- dow, Corner window, clear storey window, Gable and Dormer window Skylight. Sizes of Windows recommended by BIS. Ventilators
10 th	1 st	Fixtures and fastenings for doors and windows Material used and functions of Window Sill and Lintels, Shed / Chajja.
	2 nd	Vertical Communication: Means of Vertical Communication- Stair Case,Ramps,Lift, Elevators and Escalators.
	3 rd	Terms used in staircase steps, tread, riser, nosing, soffit, waist slab, baluster, balustrade, scotia, hand rails,newel post, landing, headroom, winder
11 th	1 st	Types of staircase (On the basis of shape): Straight, dog-legged, open well, Spiral, quarter turn, bifurcated, Three quarter turn and Half turn
	2 nd	Types of staircase (On the basis of Material): Stone, Brick, R.C.C., wooden and Metal
	3 rd	Building Finishes -Floors and Roofs: Types of Floor Finishes and its suitability- Kota, Marble, Granite
12 th	1 st	Ceramic Tiles, Vitrified, Chequered Tiles, Paver Blocks
	2 nd	Concrete Floors, wooden Flooring, Skirting and Dado
	3 rd	Process of Laying and Construction, Finishing and Polishing of Floors
13 th	1 st	Roofing Ma terials- RCC, Mangalore Tiles, AC Sheets, G.I. sheets, Corrugated G.I. Sheets
	2 nd	Plastic and Fibre Sheets
	3 rd	Types of Roof: Flat roof, Pitched Roof
14 th	1 st	King Post truss, Queen Post Truss, terms used in roofs
	2 nd	Wall Finishes: Plastering – Necessity of Plastering, Procedure of Plastering, Single Coat Plaster, Double Coat Plaster
	3 rd	Rough finish, Neeru Finishing and Plaster of Paris (POP)

15 th	1 st	Special Plasters- Stucco plaster, sponge finish, pebble finish
	2 nd	Plaster Board and Wall Claddings. Precautions to be taken in plastering, defects in plastering. Painting – Necessity
	3 rd	Types of painting and procedure of Painting. Painting –Necessity, Surface Preparation for painting, Methods of Application
		DOUBT CLEARING CLASS AND REVISION & PREVIOUS FIVE YEARS QUESTION ANSWER DISCUSSION


 Signature of Lecturer
 14.07.20


 Signature of H.O.D