

Lesson Planning (Theory)

Branch : Civil Engineering

Semester : 3rd

Subject : Building Construction

Session : August-December 2026

Teacher: Er. Saibal Bharti

Class Room : A-202

S.No.	No. of WEEKS	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1	3 WEEKS	Unit – 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. - 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.	R1,R2	
2	3 WEEKS	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. - 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.	R1,R2	
3	3 WEEKS	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. - 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. - Scaffolding and Shoring: Purpose, Types of Scaffolding, Process of Erection and Dismantling. Purpose and Types of Shoring, Underpinning. Formwork: Definition	R1,R2	

			of Formwork, Requirements of Formwork, Materials used in Formwork, Types of Formworks, Removal of formwork.		
4	3 WEEKS	Unit– 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, Revolving Doors, Glazed Doors. Sizes of Door recommended by BIS. • 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. • Vertical Communication: Means of Vertical Communication- Stair Case, Terms used in staircase-steps, tread, riser, nosing, soffit, waist slab, baluster, balustrade, scotia, handrails, 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	R1,R2	
5	2 WEEKS	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. • 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. 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.	R1,R2	

REFERENCE RESOURCES

- S. P. Arora and Bindra., Building Construction, Dhanpat Rai Publication, Delhi.
- Rangawala, S. C., Building Construction, Charotar Publication, Anand.

Signature of Teacher

Signature of H.O.D/OIC

