

Discipline: <b>CIVIL</b>	Semester: <b>3RD</b>	Name of Teaching Faculty:- <b>Shri Tapas Kumar Mallick</b>
Subject:- <b>Building Construction</b>	No of Days/Week Class allotted:- <b>03</b>	Semester from date: <b>14.07.2025 to 15.11.2025</b> No of Weeks: <b>15</b>
<b>Week</b>	<b>Class Day</b>	<b>Theory Topics</b>
1st	1st	<b>1.Overview of Building Components:-</b> Classification of Buildings as per National Building Code Group A to I, as per Types of Constructions- Load Bearing Structure, Framed Structure, Composite Structure.?
	2nd	Building Components – Functions of Building Components, substructure – Foundation, Plinth.?
	3rd	Superstructure – Walls, Partition wall, Cavity wall, Sill,
2nd	1st	Doors and Windows, Floor, Mezzanine floor, Roof, Columns, Beams, Parapet
	2nd	<b>2.Construction of Substructure:-</b> Job Layout: Site Clearance, Layout for Load Bearing Structure and Framed Structure by Center Line and Face Line Method, Precautions.
	3rd	Earthwork: Excavation for Foundation, Timbering and Strutting, Earthwork for embankment,
3rd	1st	Material for plinth Filling, Tools and plants used for earthwork.
	2nd	Foundation: Functions of foundation,
	3rd	Types of foundation – Shallow Foundation, Stepped Footing,
4th	1st	Wall Footing, Column Footing, Isolated and Combined Column Footing, Raft Foundation, Grillage Foundation.

	2nd	Deep Foundation – Pile Foundation, Well foundation and Caissons,
	3rd	Pumping Methods of Dewatering, Deep wells, Well points, Cofferdams (Introduction only).
5th	1st	<b>3.Construction of Superstructure:-</b> Stone Masonry: Terms used in stone masonry- facing, backing, hearting, through stone, corner stone, cornice
	2nd	Types of stone masonry: Rubble masonry, Ashlar Masonry and their types
	3rd	Joints in stone masonry and their purpose. Selection of Stone Masonry, Precautions to be taken in Stone Masonry Construction
6th	1st	Brick masonry: Terms used in brick masonry- header, stretcher, closer, quoins, course, face, back, hearting, bat bond, joints, lap, frog line, level and plumb
	2nd	Bonds in brick masonry- header bond, stretcher bond, English bond and Flemish bond.
	3rd	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.
7th	1st	Tools and plants required for construction of stone and brick masonry.
	2nd	Hollow concrete block masonry and composite
	3rd	Scaffolding and Shoring: Purpose, Types of Scaffolding
8th	1st	Process of Erection and Dismantling. Purpose and Types of Shoring,



	2nd	Underpinning. Formwork: Definition of Formwork, Requirements of Formwork
	3rd	Materials used in Formwork, Types of Formwork, Removal of formwork.
9th	1st	<b><u>4. Building Communication and Ventilation:-</u></b> 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. Sizes of Door recommended by BIS.
	2nd	Windows: Component of windows, Types of Windows – Full Paneled, Partly Paneled and Glazed, wooden, Steel, Aluminum windows, Sliding Windows, Louvered Window,
	3rd	Bay win- dow, Corner window, clear storey window, Gable and Dormer window, Skylight. Sizes of Windows recommended by BIS. Ventilators.
10th	1st	Fixtures and fastenings for doors and windows
	2nd	Material used and functions of Window Sill and Lintels, Shed / Chajja.
	3rd	Vertical Communication: Means of Vertical Communication- Stair Case, Ramps, Lift, Elevators and Escalators.
11th	1st	Terms used in staircase steps, tread, riser, nosing, soffit, waist slab, baluster, balustrade, scotia, hand rails, newel post, landing, headroom, winder
	2nd	Types of staircase (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.

	3rd	<b>5. Building Finishes:-</b> Floors and Roofs: Types of Floor Finishes and its suitability-
12th	1st	Kota, Marble, Granite, Ceramic Tiles, Vitrified, Chequered Tiles,
	2nd	Paver Blocks, Concrete Floors, wooden Flooring, Skirting and Dado
	3rd	Process of Laying and Construction, Finishing and Polishing of Floors,
13th	1st	Roofing Ma terials- RCC, Mangalore Tiles, AC Sheets, G.I. sheets, Corrugated G.I. Sheets, Plastic and Fibre
	2nd	Types of Roof: Flat roof, Pitched Roof- King Post truss, Queen Post Truss, terms used in roofs
	3rd	Wall Finishes: Plastering
14th	1st	Necessity of Plastering, Procedure of Plastering, Single Coat Plaster, Double Coat Plaster
	2nd	Rough finish, Neeru Finishing and Plaster of Paris (POP)
	3rd	Special Plasters- Stucco plaster, sponge finish, pebble
15th	1st	Plaster Board and Wall Claddings
	2nd	Precautions to be taken in plastering, defects in plastering. Painting – Necessity, Types of painting and procedure of Paintin
	3rd	Painting –Necessity, Surface Preparation for painting, Methods of Application

*P*  
11/12/24