

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**  
**DEPARTMENT OF CIVIL ENGINEERING**



**LESSON PLAN**

SUBJECT: BUILDING CONSTRUCTION (TH-1)

ACCADEMIC SESSION: 2026-27

FACULTY: MR TAPAS KUMAR MALLICK, LECTURER(STAGE-II)

SEMESTER: 3<sup>RD</sup>

SEC: A & B

Sd/-

H O D (Civil Engg.)

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**LESSON PLAN**

**COURSE OUTCOMES**

**CO1:** EXPLAIN DIFFERENT COMPONENTS OF BUILDING, TYPES OF FOUNDATION AND THEIR SIGNIFICANCE.

**CO2:-** COMPARE DIFFERENT TYPES OF MASONRY AND THEIR CONSTRUCTION.

**CO3:-** EXPLAIN DIFFERENT CONSTRUCTION TECHNIQUE

**CO4:-** EXPLAIN THE IMPORTANCE OF COMMUNICATIONS IN BUILDING PLANNING.

**CO5:-** SELECT SUITABLE BUILDING FINISHES, FLOORING, ROOFING, PLASTERING, AND PAINTING SYSTEMS.

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**LESSON PLAN**

|                                           |                                                                           |                                                                                                                                                                                                                    |
|-------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Discipline:<br/>Civil Engineering</b>  | <b>Semester: 3<sup>RD</sup> (A &amp;B)</b>                                | <b>Name of the teaching faculty:<br/>Mr Tapas Kumar Mallick</b>                                                                                                                                                    |
| <b>Subject:<br/>Building Construction</b> | <b>No. of Days/ per week<br/>class allotted: 03 periods<br/>per week.</b> | <b>Semester From Date: 01-07-2026<br/>To Date: 05-11-2026<br/>No. of weeks: 19 weeks</b>                                                                                                                           |
| <b>Week</b>                               | <b>Class Day</b>                                                          | <b>Theory Topics</b>                                                                                                                                                                                               |
| 1 <sup>st</sup>                           | 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, Lintel                                                                                                                                                  |
| 2 <sup>nd</sup>                           | 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,                                                                                                                           |
| 3 <sup>rd</sup>                           | 1st                                                                       | Material for plinth Filling, Tools and plants used for earthwork.                                                                                                                                                  |
|                                           | 2nd                                                                       | Foundation: Functions of foundation,                                                                                                                                                                               |
|                                           | 3rd                                                                       | Types of foundation – Shallow Foundation, Stepped Footing,                                                                                                                                                         |
| 4 <sup>th</sup>                           | 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).                                                                                                                            |

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**LESSON PLAN**

|                  |     |                                                                                                                                                                                                                                                                                   |
|------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 <sup>th</sup>  | 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                                                                                                                                                      |
| 6 <sup>th</sup>  | 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 | Tools and plants required for construction of stone and brick masonry.                                                                                                                                                                                                            |
| 7 <sup>th</sup>  | 1st | Hollow concrete block masonry and composite masonry. Scaffolding and Shoring: Purpose, Types of Scaffolding                                                                                                                                                                       |
|                  | 2nd | Process of Erection and Dismantling. Purpose and Types of Shoring,                                                                                                                                                                                                                |
|                  | 3rd | Underpinning. Formwork: Definition of Formwork, Requirements of Formwork                                                                                                                                                                                                          |
| 8 <sup>th</sup>  | 1st | Materials used in Formwork, Types of Formwork, Removal of formwork.                                                                                                                                                                                                               |
|                  | 2nd | <b>Class Test 1</b>                                                                                                                                                                                                                                                               |
|                  | 3rd | <b>4.Building Communication and Ventilation:-</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. |
| 9 <sup>th</sup>  | 1st | Windows: Component of windows, Types of Windows – Full Paneled, Partly Paneled and Glazed, wooden, Steel, Aluminum windows, Sliding Windows, Louvered Window,                                                                                                                     |
|                  | 2nd | Bay win- dow, Corner window, clear storey window, Gable and Dormer window, Skylight. Sizes of Windows recommended by BIS. Ventilators.                                                                                                                                            |
|                  | 3rd | Fixtures and fastenings for doors and windows                                                                                                                                                                                                                                     |
| 10 <sup>th</sup> | 1st | Material used and functions of Window Sill and Lintels, Shed / Chajja.                                                                                                                                                                                                            |

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**LESSON PLAN**

|                  |     |                                                                                                                                                                                                                      |
|------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | 2nd | Internal Assessment-I                                                                                                                                                                                                |
|                  | 3rd |                                                                                                                                                                                                                      |
| 11 <sup>th</sup> | 1st | Vertical Communication: Means of Vertical Communication- Stair Case,Ramps,Lift, Elevators and Escalators.                                                                                                            |
|                  | 2nd | Terms used in staircase steps, tread, riser, nosing, soffit, waist slab, baluster, balustrade, scotia, hand rails,newel post, landing, headroom, winder                                                              |
|                  | 3rd | 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. |
| 12 <sup>th</sup> | 1st | <b>5.Building Finishes:-</b> Floors and Roofs: Types of Floor Finishes and its suitability-                                                                                                                          |
|                  | 2nd | Kota, Marble, Granite, Ceramic Tiles, Vitrified, Chequered Tiles,                                                                                                                                                    |
|                  | 3rd | Paver Blocks, Concrete Floors, wooden Flooring, Skirting and Dado                                                                                                                                                    |
| 13 <sup>th</sup> | 1st | Roofing Materials- RCC, Mangalore Tiles, AC Sheets, G.I. sheets, Corrugated G.I. Sheets, Plastic and Fibre Sheets.                                                                                                   |
|                  | 2nd | Types of Roof: Flat roof, Pitched Roof- King Post truss, Queen Post Truss, terms used in roofs                                                                                                                       |
|                  | 3rd | Wall Finishes: Plastering                                                                                                                                                                                            |
| 14 <sup>th</sup> | 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 finish.                                                                                                                                                      |
| 15 <sup>th</sup> | 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                                                                                       |

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**LESSON PLAN**

|                  |     |                                                                               |
|------------------|-----|-------------------------------------------------------------------------------|
|                  | 3rd | Painting –Necessity, Surface Preparation for painting, Methods of Application |
| 16th             | 1st | Surface Preparation for painting, Methods of Application                      |
|                  | 2nd | Revision of course                                                            |
|                  | 3rd | Class Test-2                                                                  |
| 17 <sup>th</sup> | 1st | Revision of course                                                            |
|                  | 2nd | Revision of course                                                            |
|                  | 3rd | Revision of course                                                            |
| 18 <sup>th</sup> | 1st | Revision of course                                                            |
|                  | 2nd | Internal Assessment-II                                                        |
|                  | 3rd | Internal Assessment-II                                                        |
| 19 <sup>th</sup> | 1st | Previous Year Question discussion                                             |
|                  | 2nd | Previous Year Question discussion                                             |
|                  | 3rd | Previous Year Question discussion                                             |