

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

SUBJECT: BUILDING MATERIALS & CONSTRUCTION TECHNOLOGY

ACADEMIC SESSION: 2024-25

(TH- 3)

FACULTY: MRS. JASHASWINI BEHERA

SEMESTER: 3RD

SEC: B

Sd/-

H O D (Civil Engg.)

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

Discipline: Civil Engineering	Semester: 3rd		Name of teaching faculty: JASHASWINI BEHERA
Subject: Building materials & Construction Technology	No of days /per week class allotted: 05 periods per week. (Tue-2,Thu-1,Fri-1,Sat -1 period)		Semester From Date: 01-07-2024 To Date: 08-11-2024 No of weeks: 18 weeks
Week	Date	No of period available	Topics to be covered
1ST	02/07/2024	2	1 Stone 1.1 Classification of rock, uses of stone, natural bed of stone,
	04/07/2024	1	1.2 Qualities of good building stone,
	05/07/2024	1	1.3 Dressing of stone 1.4 Characteristics of different types of stone and their uses
	06/07/2024	1	2 Bricks 2.1 Brick earth -its composition
2ND	09/07/2024	2	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process)
	11/07/2024	1	2.3 Classification of bricks, size of traditional and modular bricks
	12/07/2024	1	2.3 Qualities of good building bricks
	13/07/2024	1	3 Cement, Mortar and Concrete

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

			3.1 Cement: Types of cements, Properties of cements, Manufacturing of cement
3RD	16/07/2024	2	3.2 Importance and application of blended cement with fly ash and blast furnace slag. 3.3 Mortar: Definition and types of mortar
	18/07/2024	1	3.4 Sources and classification of sand, Bulking of sand
	19/07/2024	1	3.5 Use of gravel, morrum and fly ash as different building material
	20/07/2024	1	3.6 Concrete: Definition and composition- Water cement ratio, Workability
4TH	23/07/2024	2	3.6 mechanical properties and grading of aggregates, mixing, placing, compacting and curing of concrete.
	25/07/2024	1	Part - B 1 Introduction 1.1 Buildings and classification of buildings based on occupancy 1.2 Different components of a building.
	26/07/2024	1	1.3 Site investigation – objectives, site reconnaissance and explorations.
	27/07/2024	1	2 Foundations 2.1 Concept of foundation and its purpose
5TH	30/07/2024	2	2.2 Types of foundations – shallow and deep 2.3 Shallow foundation-constructural details of : Spread foundations for walls, thumb

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

			rules for depth and width of foundation and thickness of concrete block
	01/08/2024	1	2.4 Deep foundations: Pile foundations-their suitability,
	02/08/2024	1	Classification of piles based on materials, function and method of installation.
	03/08/2024	1	Classification of piles based on materials, function and method of installation.
6TH	06/08/2024	2	4 Other Construction Materials 4.1 Timber: Classification and Structure of timber
	08/08/2024	1	4.2 Seasoning of timber – Importance
	09/08/2024	1	4.3 Characteristics of good timber
	10/08/2024	1	4.4 Clay products and refractory materials – Definition and Classification
7TH	13/08/2024	2	4.5 Properties and uses of refractory materials- tiles, terracotta, porcelain glazing
	16/08/2024	1	4.5 Properties and uses of refractory materials- tiles, terracotta, porcelain glazing
	17/08/2024	1	4.6 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel
8TH	20/08/2024	2	5 Surface Protective Materials 5.1Composition of Paints, enamels, varnishes
	22/08/2024	1	5.2 Types and uses of surface protective materials like Paints, Enamels,
	23/08/2024	1	Types and uses of surface protective materials
	24/08/2024	1	Varnishes, Distempers, Emulsion, French polish and Wax Polish
9TH	27/08/2024	2	3 Walls & Masonry Works :

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

			3.1 Purpose of walls
	29/07/2024	1	3.2 Classification of walls – load bearing, non-load bearing walls, retaining walls.
	30/08/2024	1	3.3 Classification of walls as per materials of construction: brick, stone, reinforced brick, reinforced concrete, precast, hollow and solid concrete block and composite masonry walls (Concept Only).
	31/08/2024	1	Monthly class Test-1
10TH	03/09/2024	2	3.3 Classification of walls as per materials of construction: brick, stone, reinforced brick, reinforced concrete, precast, hollow and solid concrete block and composite masonry walls (Concept Only).
	05/09/2024	1	3.4 Partition Walls : Suitability and uses of brick and wooden partition walls
	06/09/2024	1	3.4 Partition Walls : Suitability and uses of brick and wooden partition walls
11TH	10/09/2024	2	3.5 Brick masonry : Definition of different terms. 3.6 Bond – meaning and necessity: English bond for 1 and 1-1/2 Brick thick walls. T, X and right angled corner junctions. Thickness for 1 and 1-1/2 brick square pillars in English bond
	12/09/2024	1	Internal Assessment.
	13/09/2024	1	Internal Assessment.
	14/09/2024	1	3.7 Stone Masonry
12TH	17/09/2024	2	3.8 Glossary of terms –String course, corbel, cornice, block-in-course, grouting, mouldings, templates,throating, through stones, parapet, coping, pilaster and buttress.
	19/09/2024	1	4 Doors, Windows And Lintels 4.1 Glossary of terms used in doors and windows

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

	20/09/2024	1	4.2 Doors – different types of doors 4.3 Windows – different types of windows
	21/09/2024	1	4.4 Purpose of use of arches and lintels .
13TH	24/09/2024	2	5 Floors, Roofs and Stairs 5.1 Floors: Glossary of terms ,Types of floor finishes – cast-in-situ, concrete flooring(monolithic, bonded), terrazzo tile flooring, cast in situ Terrazzo flooring, timber flooring (Concept only)
	26/09/2024	1	5 Floors, Roofs and Stairs 5.1 Floors: Glossary of terms ,Types of floor finishes – cast-in-situ, concrete flooring(monolithic, bonded), terrazzo tile flooring, cast in situ Terrazzo flooring, timber flooring (Concept only)
	27/09/2024	1	5.2 Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roofs
	28/09/2024	1	5.2 Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roofs
14TH	01/10/2024	2	5.3 Stairs: Glossary of terms; Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mumty room
	03/10/2024	1	5.3 Stairs: Glossary of terms; Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mumty room
	04/10/2024	1	6 Protective, Decorative Finishes, Damp and Termite Proofing 6.1 Plastering – purpose – Types of plastering, Types of plaster finishes – Grit finish, rough cast, smooth cast, sand faced, pebble dash, acoustic plastering and plain plaster etc.

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

	05/10/2024	1	6 Protective, Decorative Finishes, Damp and Termite Proofing 6.1 Plastering – purpose – Types of plastering, Types of plaster finishes – Grit finish, rough cast, smooth cast, sand faced, pebble dash, acoustic plastering and plain plaster etc.
15TH	15/10/2024	2	6.2 Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing.
	17/10/2024	1	6.2 Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing.
	18/10/2024	1	6.3 Pointing – purpose –Types of pointing
	19/10/2024	1	6.3 Pointing – purpose –Types of pointing
16TH	22/10/2024	2	6.4 Painting – objectives – method of painting new and old wall surfaces, wood surface and metal surfaces – powder coating and spray painting on metal surfaces
	24/10/2024	1	6.4 Painting – objectives – method of painting new and old wall surfaces, wood surface and metal surfaces – powder coating and spray painting on metal surfaces
	25/10/2024	1	6.5 White washing – Colour washing – Distempering – internal and external wall
	26/10/2024	1	6.6 Damp and Termite proofing – Materials and Methods.
17TH	29/10/2024	2	7 Green Buildings, Energy Management and Energy Audit Of Buildings & Project 7.1 Concept of green building 7.2 Introduction to Energy Management and Energy Audit of Buildings Monthly class test -2
	01/11/2024	1	7.3 Aims of energy management of buildings

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

	02/11/2024	1	7.4 Types of energy audit
18TH	05/11/2024	2	7.4 Response energy audit questionnaire 7.5 Energy surveying and audit Revision
	07/11/2024	1	Revision
	08/11/2024	1	Previous year questions discussion