

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

SUBJECT: BUILDING MATERIAL & CONSTRUCTION TECHNOLOGY (TH 3)

ACCADEMIC SESSION: 2023-24

FACULTY: SHUBHASHREE MAHARANA

SEMESTER: 3RD

SEC: C

Sd/-

H O D (Civil Engg.)

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Discipline: Civil Engineering	Semester: 3 rd SEC-C		Name of the teaching faculty: SHUBHASHREE MAHARANA
	No. Of days /per week class allotted: 05 periods per week (Mon-1, Tue-1 Wed-2, Thu -1)		Semester from date: 1/08/2023 To Date: 27/11/2023, No. of week- 18 weeks
Week	Class day	No of period available	Theory topics
1ST	01/08/2023	1	1 Stone 1.1 Basic Concepts on bmct and concept on rock formation
	02/08/2023	2	1.2 Classification of rock, uses of stone, natural bed of stone, Qualities of good building stone,
	03/08/2023	1	1.3 Dressing of stones
2ND	07/08/2023	1	1.4 Characteristics of different types of stone and their uses
	08/08/2023	1	2 Bricks 2.1 Brick earth -its composition
	09/08/2023	2	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process)
	10/08/2023	1	2.3 Classification of bricks, size of traditional modular bricks
3RD	14/08/2023	1	3 Cement, Mortar and Concrete 3.1 Cement: Types of cements, Properties of

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			cements, Manufacturing of cement
	16/08/2023	2	Monthly Class Test
	17/08/2023	1	3.2 Importance and application of blended cement with fly ash and blast furnace slag.
4TH	21/08/2023	1	3.3 Mortar: Definition and types of mortar
	22/08/2023	1	3.4 Sources and classification of sand, Bulking of sand
	23/08/2023	2	3.5 Use of gravel, morrum and fly ash as different building material
	24/08/2023	1	3.6 Concrete: Definition and composition- Water cement ratio, Workability
5TH	28/08/2023	1	mechanical properties and grading of aggregates, mixing, placing, compacting and curing of concrete
	29/08/2023	1	Part - B 1 Introduction 1.1 Buildings and classification of buildings based on occupancy 1.2 Different components of a building. 1.3 Site investigation – objectives, site reconnaissance and explorations
	31/08/2023	1	2 Foundations 2.1 Concept of foundation and its purpose 2.2 Types of foundations – shallow and deep

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6TH	4/09/2023	1	2.3 Shallow foundation-constructional details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block
	05/09/2023	1	2.4 Deep foundations: Pile foundations-their suitability,
	07/09/2023	1	Classification of piles based on materials, function and method of installation.
7TH	11/09/2023	1	4 Other Construction Materials 4.1 Timber: Classification and Structure of timber
	12/09/2023	1	4.2 seasoning of timber - Importance
	13/09/2023	2	4.3 Characteristics of good timber
	14/09/2023	1	4.4 Clay products and refractory materials - Definition and classification
8TH	18/09/2023	1	4.5 Properties and uses of refractory materials- tiles, terracotta, porcelain glazing
	21/09/2023	1	4.6 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel
9TH	25/09/2023	1	5 Surface Protective Materials 5.1Composition of Paints, enamels, varnishes

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			Paints and Enamel 5.2Types and uses of surface protective materials like Types and uses of surface protective materials Varnishes, Distempers, Emulsion, French polish and Wax Polish
	26/09/2023	1	Monthly test
	27/09/2023	2	3 Walls & Masonry Works : 3.1 Purpose of walls, Classification of walls 3.2 load bearing, non-load bearing walls, retaining walls.Monthly test
	28/09/2023	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).
10TH	03/10/2023	1	3.4 Partition Walls : Suitability and uses of brick and wooden partition walls
	04/10/2023	2	3.5 Brick masonry : Definition of different terms 3.6 Bond – meaning and necessity.
	05/10/2023	1	English bond for 1and 1-1/2 Brick thick walls.
11TH	09/10/2023	1	T, X and right angled corner junctions. Thickness for 1and 1-1/2 brick square pillars in English bond
	10/10/2023	1	INTERNAL ASSESMENT

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	11/10/2023	2	INTERNAL ASSESMENT
	12/10/2023	1	3.7 Stone Masonry
12TH	16/10/2023	1	3.8 Glossary of terms –String course, corbel,
	17/10/2023	1	cornice block-in-course, grouting, mouldings, templates,
	18/10/2023	2	4 Doors, Windows And Lintels Throating through stones, parapet, coping, pilasters and buttress 4.1 Glossary of terms used in doors and windows
	19/10/2023	1	4.2 Doors – different types of doors
13TH	25/10/2023	2	4.3 Windows – different types of windows 4.4 Purpose of use of arches and lintels
	26/10/2023	1	5 Floors, Roofs and Stairs 5.1 Floors: Glossary of terms ,Types of floor finishes – cast-in-situ, concrete flooring(monolithic, bonded),
14TH	30/10/2023	1	terrazzo tile flooring, cast in situ Terrazzo flooring, timber flooring (Concept only)
	31/10/2023	1	5.2 Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roofs
	1/11/2023	2	5.3 Stairs: Glossary of terms; Stair case, winder,

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			landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mumty room
	02/11/2023	1	5.4 Various types of stair case – straight flight, dog legged, open well, quarter turn, half turn (newel and geometrical stairs), Bifurcated stair, spiral stair, cantilever stair, tread riser stair.
15TH	06/11/2023	1	6 Protective, Decorative Finishes, Damp and Termite Proofing 6.1 Plastering – purpose – Types of plastering, Types of plaster finishes
	07/11/2023	1	Grit finish, rough cast, smooth cast, sand faced, pebble dash, acoustic plastering and plainplaster
	08/11/2023	2	6.2 Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing.
	09/11/2023	1	6.3 Pointing – purpose –Types of pointing
16 TH	13/11/2023	1	Monthly Class Test
	14/11/2023	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
	15/11/2023	2	6.5 White washing – Colour washing – Distempering – internal and external walls 6.6 Damp and Termite proofing – Materials and Methods.
	16/11/2023	1	7 Green Buildings, Energy Management and

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			Energy Audit Of Buildings & Project 7.1 Concept of green building
17 TH	20/11/2023	1	7.2 Introduction to Energy Management and Energy Audit of Building
	21/11/2023	1	7.3 Aims of energy management of buildings
	22/11/2023	2	7.4 Types of energy audit, Response energy audit questionnaire 7.5 Energy surveying and audit report.
	23/11/2023	1	Revision
18TH	27/11/2023	1	Previous Year Question