

LESSION PLAN

Department: Civil Engineering	Semester : 3rd Sem Sec-A	Name of the Teaching faculty: R.Bhanu	
Subject :- Th2. BUILDING MATERIALS AND CONSTRUCTION TECHNOLOGY	No.of Days/ week class allotted : 04(5periods)	Semester from date: 01/08/2023 to 30/11/2023 No. of Weeks :18 Topics to be covered:-	
Week	Class Day	Topics	Remarks
		PART :A (BUILDING MATERIALS)	
		1.Stone	
1 st Week	1 st	1.1 Classification of rock, uses of stone, natural bed of stone	
	2 nd	1.1 Classification of rock, uses of stone, natural bed of stone	
	3 rd	1.2 Qualities of good building stone, 1.3 Dressing of stone	
	4 th	1.4 Characteristics of different types of stone and their uses	
		2.Bricks	
2nd Week	1 st	2.1 Brick earth – its composition	
	2 nd	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process)	
	3 rd	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process)	
	4 th	2.3 Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
3 rd Week	2 nd	2.3 Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
		3.Cement, Mortar and Concrete	
	3 rd	3.1 Cement: Types of cements, Properties of cements, Manufacturing of cement	
	4 th	3.2 Importance and application of blended cement with fly ash and blast furnace slag	
4th Week	1st	3.3 Mortar: Definition and types of mortar, 3.4 Sources and classification of sand, Bulking of sand	
	2nd	3.5 Use of gravel, morrum and fly ash as different building material	
	3rd	3.6 Concrete: Definition and composition- Water cement ratio- Workability, mechanical properties and grading of aggregates, mixing, placing, compacting and curing of concrete.	
		4.Other Construction Materials	
	4 th	4.1 Timber: Classification and Structure of timber	

5th Week:	1st	4.2 Seasoning of timber – Importance, 4.3 Characteristics of good timber	
	3rd	4.4 Clay products and refractory materials – Definition and Classification	
	4 th	4.5 Properties and uses of refractory materials- tiles, terracotta, porcelain glazing	
6th Week	1st	4.6 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel	
	2nd	4.6 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel, 5.Surface Protective Materials: 5.1 Composition of Paints, enamels, varnishes.	
		5.Surface Protective Materials	
	3rd	5.1 Composition of Paints, enamels, varnishes.	
7th Week	1st	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish	
	2nd	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
	3rd	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish. 1.1 Buildings and classification of buildings based on occupancy	
		PART: B (CONSTRUCTIONS TECHNOLOGY)	
		1. Introduction	
	4 th	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	
8th Week		2. Foundations	
	3rd	2.1 Concept of foundation and its purpose, 2.2 Types of foundations – shallow and deep	
	4 th	2.3 Shallow foundation-constructural details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block	
9th Week	1st	2.4 Deep foundations: Pile foundations-their suitability, classification of piles based on materials, function and method of installation.	
		3.Walls & Masonry Works	
	2nd	3.1 Purpose of walls, 3.2 Classification of walls – load bearing, non-load bearing walls, retaining walls	

	4 th	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 Week	1st	3.4 Partition Walls : Suitability and uses of brick and wooden partition walls	
	2nd	3.5 Brick masonry : Definition of different terms	
	3rd	3.6 Bond – meaning and necessity: English bond for 1and 1-1/2 Brick thick walls. T, X and right angled corner junctions, Thickness for 1and 1-1/2 brick square pillars in English bond,3.7 Stone Masonry , 3.8 Glossary of terms –String course, corbel, cornice, block-in-course, grouting, mouldings, templates, throating, through stones, parapet,	
		4. Doors, Windows And Lintels	
	4 th	4.1 Glossary of terms used in doors and windows	
11 th Week	1st	4.2 Doors – different types of doors	
	2nd	4.3 Windows – different types of windows	
	3rd	4.4 Purpose of use of arches and lintels. 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)	
		5. Floors, Roofs and Stairs	
	4 th	5.2 Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roofs	
12th Week: (16th Oct - 20th Oct)	1st	5.3 Glossary of terms; Staircase, winder, landing, stringer, newel, baluster, rise, tread, width of staircase, handrail, nosing, headroom, mumty room.	
	2nd	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, Stairs: Glossary of terms; Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mumty room,	
	3rd	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, Stairs: Glossary of terms; Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mumty room.	

12th Week		6. Protective, Decorative Finishes, Damp and Termite Proofing	
	4th	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	
		6.2 Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing	
13th week		PUJA HOLIDAYS	
14th week	1st	6.3 Pointing – purpose –Types of pointing	
	2nd	and old wall surfaces, wood surface and metal surfaces – powder coating and spray painting on metal surfaces	
	3rd	6.5 White washing – Colour washing – Distempering – internal and external walls, 6.6 Damp and Termite proofing – Materials and Methods. 7.1 Concept of green building	
		7. Green Buildings, Energy Management and Energy Audit Of Buildings & Project	
	4 th	7.2 Introduction to Energy Management and Energy Audit of Buildings	
15 th Week	1st	7.3 Aims of energy management of buildings.	
	2nd	7.4 Types of energy audit, Response energy audit questionnaire	
	3rd	7.5 Energy surveying and audit report	
16th Week		revision	
		revision	
		revision	
17th Week		revision	
18th Week		revision	
		revision	

R. Bhanu
21/08/23

SIGNATURE OF THE FACULTY