

LESSON PLAN OF BUILDING MATERIALS AND CONSTRUCTION TECHNOLOGY 3RD SEM SECTION B			
Department: Civil Engineering	Semester : 3rd	Name of the Teaching faculty: Laxmipriya Swain	
Subject :- Th3 Building materials & constructions technology	No.of Days/ week class allotted : 04/week	Semester from date: 15/09/2022 to 22/12/2022 No. of Weeks :15 Topics to be covered:-	
Week	Class Day	Topics	Remarks
		1.Stone -5P	
1 st Week: (15 th Sept- 17th Sept)	1 st	1.0 Classification of rock, uses of stone, natural bed of stone,	
	2 nd	1.1 Qualities of good building stone,	
	3 rd	1.2 Dressing of stone 1.3 Characteristics of different types of stone and their uses	
2 nd Week: (19 th Sept - 24 th Sept)	1 st	1.3 Characteristics of different types of stone and their uses	
		2.Bricks -6P	
	2 nd	2.1 Brick earth – its composition	
	3 rd	2.1 Brick earth – its composition	
	4 th	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process	
3 rd Week: (26 th Sept-1st Oct)	1 st	2.3 Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
	2 nd	2.3 Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
		3.Cement, Mortar and Concrete -7P	
	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.Mortar: Definition and types of mortar	

4th week	vacation		
5 th Week: (10 th Oct- 15 th Oct)	1st	3.3 Mortar: Definition and types of mortar	
	2nd	3.4 Sources and classification of sand, Bulking of sand	
	3rd	3.5 Use of gravel, morrum and fly ash as different building material	
	4th	3.6 Concrete: Definition and composition- Water cement ratio- Workability	
		4.Other Construction Materials -7P	
		4.1 Timber: Classification and Structure of timber.	
6 th Week: (17 th Oct- 22 nd Oct)	1st	4.2 Seasoning of timber – Importance.	
	2nd	4.3 Characteristics of good timber.	
	3rd	4.3 Concept and uses of – Ply wood, particle board, laminated board, straw board – Eco board.	
	4th	4.4 Advanced building materials as substitutes to timber – Steel, Aluminum, PVC, FRP, UPVC	
7 th Week: (25 th Oct- 29th Oct)	1st	4.5 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel	
		5.SURFACE PROTECTIVE MATERIALS:-5P	
	2nd	5.1 Composition of Paints, enamels, varnishes.	
	3rd	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
	4th	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
8 th Week: (31st oct- 5th Nov)	1st	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
		PART: B (CONSTRUCTIONS TECHNOLOGY)	
		1.Introduction -2P	
	2nd	1.1 Buildings and classification of buildings based on occupancy	
	3rd	1.2 Different components of a building.	
		2.Foundations -4P	
	4th	2.1 Concept of foundation and its purpose & 2.2Types of foundations – shallow and deep	

9 th Week: (7 th Nov -12 th Nov)	2nd	2.3 Shallow foundation-constructural details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block	
9 th Week: (7 th Nov -12 th Nov)	3rd	2.4 Deep foundations : Pile foundations-their suitability, classification of piles based on materials, function and method of installation.	
	4th	3.Walls & Masonry Works :6P 3.1 Purpose of walls 3.2 Classification of walls – load bearing, non-load bearing walls, retaining walls.	
10 th Week: (14 th Nov -19 th Nov)	1st	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).	
	2nd	3.4 Partition Walls : Suitability and uses of brick and wooden partition walls & 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 :	
	4th	3.8 Glossary of terms –String course, corbel, cornice, block-in-course, grouting, mouldings, templates, throating, through stones, parapet, coping, pilaster and buttress	
		Doors, Windows And Lintels -4P	
		4.1 Glossary of terms used in doors and windows	
11 th Week: (21st Nov - 26 th Nov)	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	
		Floors, Roofs and Stairs -5P	
	4th	5.1Floors: 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) 5.2 Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roofs	

12 th Week: (28 th Nov -3 rd) Dec	1st	5.3 Stairs: Glossary of terms; Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing.	
	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.	
12 th Week: (28 th Nov -3 rd) Dec	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.	
		PROTECTIVE, DECORATIVE FINISHES AND TERMITE PROOFING: 5P	
	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.	
	1st	6.2 Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing 6.3 Pointing – purpose –Types of pointing	
13 th Week: (5 th Dec -10 th) Dec)	2nd	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.	
	3rd	6.5 White washing – Colour washing – Distempering – internal and external walls. 6.6 Termite proofing – Methods.	
		GREEN BUILDINGS, ENERGY MANAGEMENT AND ENERGY AUDIT OF BUILDINGS & PROJECT-4P	
	4th	7.1 Concept of green building 7.2 Introduction to Energy Management and Energy Audit of Buildings.	
14 th Week: (12 th Dec- 17th Dec)	1st	7.3 Aims of energy management of buildings.	
	2nd	7.4Types of energy audit, Response energy audit questionnaire 7.5 Energy surveying and audit report.	
	3rd	revision	
	4th	class test	
15 th Week: (19 th Dec-	1st	doubt clearing	
	2nd	class test	

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