Deparment: Civil Engineering	Semester : 3rd sec B	Name of the Teaching faculty: Laxmipriya Swain	
Subject :- Th3 Building materials & constructions	No.of Days/ week class allotted : 05/week	Semester from date: 1/08/2023 to 30/11/2023 No. of Weeks :18 Topics to be covered:-	
Week		Topics	Remarks
		Stone -5P	
1 st Week	Day 2	1.1 Classification of rock, uses of stone, natural bed of stone,	
	Day 3	1.2 Qualities of good building stone,	
	Day 4	1.3 Dressing of stone	
	Day 5	1.4 Characteristics of different types of stone and their uses	
2 nd Week	Day 1	1.4 Characteristics of different types of stone and their uses	
		Bricks -6P	
	Day 2	2.1 Brick earth – its composition	
	Day 3	2.1 Brick earth – its composition	
	Day 4	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process	
	Day 5	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process	
3 rd Week	Day 1	2.2 Brick making – Preparation of brick earth, Moulding, Drying, Burning in kilns (continuous Process	
	Day 3	2.3 Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
	Day 4	2.3 Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
	Day 5	2.3 Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
4th week		Cement, Mortar and Concrete -7P	
	Day 1	3.1 Cement: Types of cements, Properties of cements, Manufacturing of cement	
	Day 2	3.2 Importance and application of blended cement with flyash and blast furnace slag	
	Day 3	3.2 Importance and application of blended cement with flyash and blast furnace slag	
	Day 4	3.3 Mortar: Definition and types of mortar	
	Day 5	3.4 Sources and classification of sand, Bulking of sand	
5 th Week	Day 1	3.4 Sources and classification of sand, Bulking of sand	
	Day 2	3.5 Use of gravel, morrum and fly ash as different building material	
	Day 4	3.5 Use of gravel, morrum and fly ash as different building material	
	Day 5	3.6 Concrete: Definition and composition- Water cement ratio- Workability,mechanical properties nd grading of aggregates,mixing,placing,compacting and curing of concrete.	
6 th Week		Other Construction Materials -7P	
	Day 1	4.1 Timber: Classification and Structure of timber.	

6 th Week	Day 2	4.2 Seasoning of timber – Importance.	
	Day 4	4.3 Characteristics of good timber.	
	Day 5	4.3 Concept and uses of – Ply wood, particle board, laminated board, straw board – Eco board.	
7 th Week	Day 1	4.4 Advanced building materials as substitutes to timber – Steel, Aluminum, PVC, FRP, UPVC	
	Day 2	4.5 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel	
	Day 3	4.5 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel	
	Day 4	4.5 Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel	
		SURFACE PROTECTIVE MATERIALS:-5P	
	Day 5	5.1 Composition of Paints, enamels, varnishes.	
8 th Week	Day 1	5.1 Composition of Paints, enamels, varnishes.	
	Day 4	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
	Day 5	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
9 th Week	DAY 1	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
	Day 2	5.2 Types and uses of surface protective materials like Paints, Enamels, Varnishes, Distempers, Emulsion, French polish and Wax Polish.	
		PART: B (CONSTRUCTIONS TECHNOLOGY)	
		Introduction -2P	
	Day 3	1.1 Buildings and classification of buildings based on occupancy	
	Day 4	1.2 Different components of a building. 1.3 Site investigation- objectives, site reconnaissance and explorations.	
10 th Week		Foundations -4P	
	Day 2	2.1 Concept of foundation and its purpose	
	DAY 3	2.2Types of foundations – shallow and deep	
	DAY 4	2.3 Shallow foundation-constructional details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block	
	Day 5	2.4 Deep foundations : Pile foundations-their suitability, classification of piles based on materials, function and method of installation.	
		Walls & Masonry Works :6P	
10 th Week	DAY 1	3.1 Purpose of walls 3.2 Classification of walls – load bearing, non-load bearing walls, retaining walls.	
	DAY 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).	

14th Week	DAY 3	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.	
	DAY 4	6.5 White washing – Colour washing – Distempering – internal and external walls. Damp & Termite proofing – Materials & Methods.	6.6
		GREEN BUILDINGS, ENERGY MANAGEMENT AND ENERGY AUDIT OF BUILDINGS & PROJECT-4P	
	DAY 5	7.1 Concept of green building	
15 th Week:	DAY 1	7.2 Introduction to Energy Management and Energy Audit of Buildings.	
	DAY 2	7.3 Aims of energy management of buildings.	
	DAY 3	7.4Types of energy audit, Response energy audit questionnaire	
15 th Week:	DAY 4	7.5 Energy surveying and audit report	
	DAY 5	REVISION	
16 th Week:	DAY 1	REVISION	
	DAY 2	REVISION	
	DAY 3	REVISION	
	DAY 4	REVISION	
	DAY 5	REVISION	
17 th Week:	DAY 1	REVISION	
	DAY 2	REVISION	
	DAY 3	REVISION	
	DAY 4	REVISION	
	DAY 5	REVISION	
18 th Week	DAY 2	REVISION	
	DAY 3	REVISION	
	DAY 4	REVISION	

Laxmi Priya Swain
01/08/2023
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