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**JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA
DEPARTMENT OF CIVIL ENGINEERING**

**LESSON PLAN
PROGRAMME: DIPLOMA IN CIVIL ENGINEERING**

SUBJECT: BUILDING MATERIAL & CONSTRUCTION TECHNOLOGY

SEMESTER : 3rd

CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
1	1			A. Building Material
		1	1	Stone: Rock, Classification Of Rock
		2	2	Uses Of Stone, Natural Bed Of Stone
	2	3	3	Qualities of building stone, characteristic of stone
		4	4	Dressing of stone, Quarrying of stone
		5	5	Selection of stone
		6	6	Blasting of Stone
		7	7	Revision

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
2	3	8	8	BRICK: Introduction, composition
		9	9	Shape & size of Brick of Traditional & modular brick, Frog
		10	10	Classification of Brick, Qualities of Brick
		11	11	Manufacturing brick Process
		12	12	Test for Brick
3	4	13	13	Cement,: Properties ,Manufacturing of cement, composition , field Test & lab Test
		14	14	Types & Application of cement with fly ash & blast furnace slag
		15	15	Mortar: Definition, Type uses
		16	16	Uses of gravel, Morrums & fly ash as building Material
		17	17	Concrete: Definition & composition, w/c ratio workability

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
3	5	18	18	Mechanical properties, Grading of aggregate , mixing
		19	19	Placing compacting & curing of concrete
		20	20	Other Construction Material : Definition , Classification& Structure of Timber
4		21	21	Seasoning of Timber: importance
		22	22	Characteristics of good Timber
5	6	23	23	Clay products& refractory materials: Defination & classification
		24	24	Properties & uses of Refractory materials : Tiles terracotta ,porcelain Glazing
		25	25	Iron & Steel : composition, type, cast iron ,wrought iron, mild steel ,Torsteel
		26	26	Surface protective material: Paint, enamels , Varnishes
		27	27	Types & uses of Paint , enamels, varnishes distempers emulsion,French polish , Wax polish

CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
1	7			B. Construction Technology
		28.	28.	Building & classification of building
		29.	29	Component parts of building.
2.		30	30	Site investing – Objectives, Site reconnaissance & exploration
		31	31	Foundations; Concept of foundation and its purpose
		32	32	Types of foundations – shallow and deep
3.	8	33	33	Shallow foundation-constructional details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block
		34	34	Deep foundations: Pile foundations-their suitability, classification of piles based on materials, function and method of installation.
		35	35	Walls & Masonry Works : Purpose of walls
		36	36	Classification of walls
		37	37	Classification of walls as per materials of construction

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
3	9	38	38	Partition Walls
		39	39	Brick masonry : Definition of different terms
		40	40	Bond – meaning and necessity:.
		41	41	Stone Masonry :
		42	42	Glossary of terms –String course, corbel, cornice, block-in-course
4	10	43	43	Doors, Doors – different types of doors
		44	44	Windows. different types of windows
		45	45	Lintels: Purpose of use of arches and lintels
5.		46	46	Floors, Floors: Glossary of terms ,Types of floor finishes
		47	47	terrazzo tile flooring, cast in situ Terrazzo flooring, timber flooring

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CHAPTER	WEEK NO.	CLASS DAY	LECTURE NO.	TOPICS TO BE COVERED
5.	11	48	48	Roofs: Types of roofs, concept and function of flat, pitched, hipped and Sloped roof
		49	49	Stairs: Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mumty room
		50	50	Various types of stair case
		Protective, Decorative Finishes, Damp and Termite Proofing:		
		51	51	Plastering – purpose – Types of plastering
6.	12	52	52	Types of plaster finishes
		53	53	preparation of mortars, Proportion of mortars used for different plasters
		54	54	Pointing – purpose –Types of pointing
		55	55	Painting – objectives – method of painting new and old wall surfaces
		56	56	White washing – Colour washing – Distempering

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6.	13	57	57	Damp and Termite proofing – Materials and Methods
		58	58	Green Buildings: Concept of green building
		59	59	Energy Management:.. Energy Management and Energy Audit of Buildings.
		60	60	Aims of energy management of buildings:
		61	61	Energy Audit Of Buildings, Types of energy audit
7	14	62	62	Response energy audit questionnaire
		63	63	Energy surveying and audit report
		64	64	Revision
		65	65	Revision
		66	66	Revision

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CHAPTER No.	WEEK NO.	CLASS DAY	LECTURE NO	TOPICS TO BE COVERED
	15	67	67	Revision
		68	68	Revision
		69	69	Revision
		70	70	Revision

Deepanjali Sethi
Signature of faculty Member

Somyajit Jitoh

Signature of H.O.D.

17/9/2021