

# LESSON PLAN OF 3<sup>rd</sup> SEMESTER CIVIL ENGINEERING(2023-24)

Discipline :- CIVIL	Semester:-3 <sup>rd</sup>	Name of the Teaching Faculty AMARAPALLI SAHOO <i>Senior Lecturer (civil)</i>	
Subject:- Building materials and construction technology.	No of Days/per Week Class Allotted :-05	Semester From:-	<u>1<sup>st</sup> AUGUST,2023</u> To:- <u>30<sup>th</sup> NOVEMBER, 2023</u>
		No of Weeks:- <b>18</b>	
<b>Week</b>	<b>Class Day</b>	<b>Theory/ Practical Topics</b>	
1 <sup>st</sup>	1 <sup>st</sup>	Classification of rock.	
	2 <sup>nd</sup>	Uses of stone, natural bed of stone	
	3 <sup>rd</sup>	Qualities of good building stone	
	4 <sup>th</sup>	Dressing of stone	
	5 <sup>th</sup>	Characteristics of different types of stone and their uses	
2 <sup>nd</sup>	1 <sup>st</sup>	Brick earth-its composition	
	2 <sup>nd</sup>	Brick making- preparation of brick earth	
	3 <sup>rd</sup>	Moulding, Drying	
	4 <sup>th</sup>	Burning in kilns (Continuous process)	
	5 <sup>th</sup>	Classification of bricks, size of traditional and modular bricks.	
3 <sup>rd</sup>	1 <sup>st</sup>	Qualities of good building bricks	
	2 <sup>nd</sup>	Cement types of cement, properties of cements, manufacturing of cement.	
	3 <sup>rd</sup>	Importance and application of blended cement with fly ash and blast furnace slag	
	4 <sup>th</sup>	Mortar : Definition and types of mortar	
	5 <sup>th</sup>	Sources and classification of sand, bulking of sand.	
4 <sup>th</sup>	1 <sup>st</sup>	Use of gravel, morrum and fly ash as different building material.	
	2 <sup>nd</sup>	Concrete: Definition and composition -Water cement ratio- workability. Mechanical properties.	
	3 <sup>rd</sup>	Grading of aggregates, mixing, placing, compacting and curing of concrete	
	4 <sup>th</sup>	Timber classification and structure of timber	
	5 <sup>th</sup>	seasoning of timber- Importance	
5 <sup>th</sup>	1 <sup>st</sup>	Characteristics of good timber	
	2 <sup>nd</sup>	Clay products and refractory materials- Definition and classification.	
	3 <sup>rd</sup>	Properties and uses of refractory materials like-tiles, terracotta	
	4 <sup>th</sup>	Porcelain glazing , Iron and steel uses of cast iron.	
	5 <sup>th</sup>	Wrought iron, mild steel and tor steel	
	6 <sup>th</sup>	Tutorial class	
6 <sup>th</sup>	1 <sup>st</sup>	Composition of paints, enamels	
	2 <sup>nd</sup>	Composition of varnishes	
	3 <sup>rd</sup>	Types and uses of surface protective materials like paints	
	4 <sup>th</sup>	Enamels, Varnishes, Distempers	
	5 <sup>th</sup>	Emulsion, French polish and Wax polish Tutorial class.	
7 <sup>th</sup>	1 <sup>st</sup>	Building and classification of buildings based on occupancy, different components of buildings site	
	2 <sup>nd</sup>	Investigation objective, Site reconnaissance and explorations	
	3 <sup>rd</sup>	Concept of foundation and its purpose	



		Types of foundation – shallow and deep, shallow foundation - constructional details of Spread foundation of walls.
8 <sup>th</sup>	4 <sup>th</sup>	Thump rules for depth and width of foundation and thickness of concrete block.
	5 <sup>th</sup>	Deep foundations : Pile foundation their suitability, classification of piles based on materials, function and method of installation
	1 <sup>st</sup>	Purpose of walls, Classification of walls load bearing, non-load bearing walls, retaining walls
	2 <sup>nd</sup>	Classification of walls as per materials of construction : brick stone, reinforced brick , reinforced concrete, pre cast, hollow and solid concrete block and composite masonry walls
	3 <sup>rd</sup>	Partition walls suitability and uses of brick and wooden partition walls, brick masonry, Definition of different terms
9 <sup>th</sup>	4 <sup>th</sup>	Bond- meaning and necessity; English bond for I and I -1/2 brick thick walls
	5 <sup>th</sup>	Stone Masonry string course, corbel, Cornices block in course
	1 <sup>st</sup>	Grouting, mouldings, templates, throating through stones, parapet, coping, pilaster and buttress
	2 <sup>nd</sup>	Glossary of terms used in doors and windows doors- different types of doors
	3 <sup>rd</sup>	Doors- different types of doors
10 <sup>th</sup>	4 <sup>th</sup>	Windows – different types of windows
	5 <sup>th</sup>	Purpose of use of arches and lintels
	1 <sup>st</sup>	Floors, types of floor finishes-cast – situ, concrete flooring, terrazzo tile flooring cast in situ terrazzo flooring, timber flooring.
	2 <sup>nd</sup>	Roots types concept and function of flat pitched and sloped roofs
	3 <sup>rd</sup>	stair case, landing, winder, stringer, newel, baluster, rise, tread , width
11 <sup>th</sup>	4 <sup>th</sup>	Hand rail, nosing, head room, mumty room, various types of stair case – straight flight, dog legged open well
	5 <sup>th</sup>	Quarter turn, half turn, bifurcated stair, spiral stair, cantilever stair, tread riser stair
	1 <sup>st</sup>	Plastering – purpose- types of plastering types of plaster finishes.
	2 <sup>nd</sup>	Proportions of mortar of plaster, pre parathion techniques and curing.
	3 <sup>rd</sup>	Painting purpose types, paining- method of paining new and old surface
12 <sup>th</sup>	4 <sup>th</sup>	White washing –colour washing- distempering internal and external walls
	5 <sup>th</sup>	Damp and termite proofing – materials and method
	1 <sup>st</sup>	Concept of green building, introduction to energy management and audit of building
	2 <sup>nd</sup>	Aims of energy management of buildings
	3 <sup>rd</sup>	Types of energy audit, response energy audit questionnaire
13 <sup>TH</sup>	4 <sup>th</sup>	Energy Surveying and audit report
	5 <sup>th</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	1 <sup>st</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	2 <sup>nd</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	3 <sup>rd</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	4 <sup>th</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	5 <sup>th</sup>	DOUBT CLEARING CLASS

14 <sup>th</sup>	1 <sup>st</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	2 <sup>nd</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	3 <sup>rd</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	4 <sup>th</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	5 <sup>th</sup>	DOUBT CLEARING CLASS
15 <sup>th</sup>	1 <sup>st</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	2 <sup>nd</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	3 <sup>rd</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	4 <sup>th</sup>	PREVIOUS YEAR QUESTIONS PRACTICE
	5 <sup>th</sup>	DOUBT CLEARING CLASS
16 <sup>th</sup>	1 <sup>st</sup>	DOUBT CLEARING CLASS
	2 <sup>nd</sup>	DOUBT CLEARING CLASS
	3 <sup>rd</sup>	DOUBT CLEARING CLASS
	4 <sup>th</sup>	DOUBT CLEARING CLASS
	5 <sup>th</sup>	DOUBT CLEARING CLASS
17 <sup>th</sup>	1 <sup>st</sup>	DOUBT CLEARING CLASS
	2 <sup>nd</sup>	DOUBT CLEARING CLASS
	3 <sup>rd</sup>	DOUBT CLEARING CLASS
	4 <sup>th</sup>	DOUBT CLEARING CLASS
	5 <sup>th</sup>	DOUBT CLEARING CLASS
18 <sup>th</sup>	1 <sup>st</sup>	DOUBT CLEARING CLASS
	2 <sup>nd</sup>	DOUBT CLEARING CLASS
	3 <sup>rd</sup>	DOUBT CLEARING CLASS
	4 <sup>th</sup>	DOUBT CLEARING CLASS
	5 <sup>th</sup>	DOUBT CLEARING CLASS

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