

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2020-21 (WINTER)

Discipline : CIVIL ENGG.		Semester: 3rd Sem	Name of the Teaching Faculty : Padmabhusan Naik	
Subject : BM&CT (C203)		No. of Days / per week class allotted : 05	Semester From date : 01.09.2020 To Date : 31.12.2020	
MONTH	Week	Day	Unit	Topics
AUGUST	1st	2nd	UNIT-1	PART :A (BUILDING MATERIALS)
		3rd		1. Stone:
		4th		Classification of rock, uses of stone, natural bed of stone,
		5th		Qualities of good building stone,
		1st		Dressing of stone
	2nd	2nd	UNIT-2	Characteristics of different types of stone and their uses
		3rd		Question Discussion
		4th		2. Bricks:
		5th		Brick earth – its composition
		1st		Brick making – Preparation of brick earth, Moulding,
	3rd	2nd	UNIT-3	Drying, Burning in kilns (continuous Process)
		3rd		Classification of bricks, size of traditional and modular bricks, qualities of good building bricks
		4th		Question Discussion
		5th		Independence day
		1st		3. Cement, Mortar and Concrete:
	4th	2nd	UNIT-3	Cement: Types of cements, Properties of cements, Manufacturing of cement
		3rd		Importance and application of blended cement with fly ash and blast furnace slag.
		4th		Mortar: Definition and types of mortar
		5th		Sources and classification of sand, Bulking of sand
		1st		Use of gravel, morrum and fly ash as different building material
	5th	2nd	UNIT-3	Concrete: Definition and composition- Water cement ratio- Workability, mechanical properties and grading of aggregates, mixing, placing, compacting and curing of concrete.
		3rd		Question Discussion
		4th		CLASS TEST-1
		5th		4. Other Construction Materials:
		1st		Timber: Classification and Structure of timber.
5th	2nd	UNIT-3	Seasoning of timber – Importance.	
	3rd		Jhulana Purnima	
	4th		Characteristics of good timber.	
	4th			

SEPTEMBER	1st	5th	UNIT-4	Clay products and refractory materials – Definition and Classification.
	2nd	1st		Properties and uses of refractory materials- tiles, terracotta, porcelain glazing.
		2nd		Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel
		3rd		Janmastami
		4th		Question Discussion
	5th		5. Surface Protective Materials:	
	3rd	1st	UNIT-5	Composition of Paints, enamels, varnishes.
		2nd		Types and uses of surface protective materials like Paints, Enamels, Varnishes,
		3rd		Types and uses of surface protective materials like Distempers, Emulsion, French polish and Wax Polish.
		4th		Question Discussion
	5th		PART: B (CONSTRUCTIONS TECHNOLOGY)	
	4th	1st	UNIT-1	1. Introduction:
		2nd		Buildings and classification of buildings based on occupancy
		3rd		Ganesh Puja
		4th		Nuakhai
		5th		Different components of a building.
	5th	1st	UNIT-2	Site investigation – objectives, site reconnaissance and explorations.
		2nd		Question Discussion
		3rd		2. Foundations:
		4th		Concept of foundation and its purpose
5th		Types of foundations – shallow and deep		
1st	1st	UNIT-3	Shallow foundation-constructional details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block	
	2nd		Birthday of Prophet Muhammad	
	3rd		Gandhi Jayanti	
	4th		Deep foundations: Pile foundations-their suitability, classification of piles based on materials, function and method of installation.	
2nd	1st	UNIT-3	Question Discussion	
	2nd		Internal Assessment	
	3rd		3. Walls & Masonry Works :	
	4th		Purpose of walls	
2nd	1st	UNIT-3	Classification of walls – load bearing, non-load bearing walls, retaining walls.	
	2nd		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).	
	3rd		Partition Walls : Suitability and uses of brick and wooden partition walls	
	4th		Brick masonry : Definition of different terms	

OCTOBER		5th		Bond – meaning and necessity: English bond for 1 and 1-1/2 Brick thick walls. T, X and right angled corner junctions. Thickness for 1 and 1-1/2 brick square pillars in English bond	
	3rd	1st		Stone Masonry : Glossary of terms –String course, corbel, cornice, block-in-course, grouting, mouldings, templates, throating, through stones, parapet, coping, pilaster and buttress	
		2nd		Question Discussion	
		3rd	UNIT-4		4. Doors, Windows And Lintels :
		4th		Glossary of terms used in doors and windows	
		5th		Doors – different types of doors	
	1st	Puja Holidays			
	2nd	Puja Holidays			
	4th	3rd	Puja Holidays		
		4th	Puja Holidays		
5th		Puja Holidays			
5th		1st	Windows – different types of windows		
		2nd	Purpose of use of arches and lintels		
NOVEMBER	1st	3rd		Question Discussion	
		4th	UNIT-5	5. Floors, Roofs and Stairs :	
		5th		flooring, cast in situ Terrazzo flooring, timber flooring (Concept only)	
	1st	Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roofs			
	2nd	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	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.			
	2nd	4th		Question Discussion	
		5th		CLASS TEST-2	
		3rd	1st	UNIT-6	6. Protective, Decorative Finishes, Damp and Termite Proofing :
			2nd		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
3rd	Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing				
4th	Pointing – purpose –Types of pointing				
5th	Painting – objectives – method of painting new and old wall surfaces, wood surface and metal surfaces – powder coating and spray painting on metal surfaces.				
3rd	1st		White washing – Colour washing – Distempering – internal and external walls.		
	2nd		Damp and Termite proofing – Materials and Methods.		
	3rd		Question Discussion		
4th	1st		7. Green Buildings, Energy Management and Energy Audit Of Buildings & Project :		
	2nd		Concept of green building		

	7th	3rd	UNIT-7	Introduction to Energy Management and Energy Audit of Buildings.
		4th		Aims of energy management of buildings.
		5th		Types of energy audit, Response energy audit questionnaire
5th	1st	Rasa Purnima		
	2nd	Energy surveying and audit report.		
	3rd	Question Discussion		
	4th	Semester Questions Discussion		