

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2022-23 (WINTER)

Discipline : CIVIL ENGG.		Semester: 3rd Sem	Name of the Teaching Faculty : Padmabhusan Naik	
Subject : BM&CT		No. of Days / per week class allotted : 05	Semester From date : 15.09.2022 To Date : 21.01.2023	
MONTH	Week	Day	Unit	Topics
SEPTEMBER	3rd	4th	UNIT-1	PART :A (BUILDING MATERIALS)
		5th		1. Stone:
		1st		Classification of rock, uses of stone, natural bed of stone,
	2nd	Qualities of good building stone,		
	3rd	Dressing of stone		
	4th	Characteristics of different types of stone and their uses		
	4th	3rd	UNIT-2	Question Discussion
		4th		2. Bricks:
		5th		Brick earth – its composition
	1st	Brick making – Preparation of brick earth, Moulding,		
	2nd	Drying, Burning in kilns (continuous Process)		
	3rd	Classification of bricks, size of traditional and modular bricks, qualities of good building bricks		
	5th	3rd	UNIT-3	Question Discussion
		4th		3. Cement, Mortar and Concrete:
5th		Cement: Types of cements, Properties of cements, Manufacturing of cement		
2nd	1st	Puja Holidays		
	2nd	Puja Holidays		
	3rd	Puja Holidays		
	4th	Puja Holidays		
	5th	Puja Holidays		
3rd	1st	Mortar: Definition and types of mortar		
	2nd	Sources and classification of sand, Bulking of sand		
	3rd	Use of gravel, morrum and fly ash as different building material		
	4th	Concrete: Definition and composition- Water cement ratio- Workability, mechanical properties and grading of aggregates, mixing, placing, compacting and curing of concrete.		
	5th	Question Discussion		
	4th	1st	4. Other Construction Materials:	
2nd		Timber: Classification and Structure of timber. Seasoning of timber – Importance.		

	4th	3rd	UNIT-4	Characteristics of good timber.
		4th		Clay products and refractory materials – Definition and Classification.
		5th		Properties and uses of refractory materials- tiles, terracotta, porcelain glazing.
	5th	1st	UNIT-5	Kali puja/Diwali
		2nd		Iron and Steel: Uses of cast iron, wrought iron, mild steel and tor steel
		3rd		Question Discussion
		4th		5. Surface Protective Materials:
	6th	5th	UNIT-5	Composition of Paints, enamels, varnishes.
		1st		Types and uses of surface protective materials like Paints, Enamels, Varnishes,
	NOVEMBER	1st	2nd	UNIT-1
3rd			Question Discussion	
2nd		3rd	UNIT-1	PART: B (CONSTRUCTIONS TECHNOLOGY)
		4th		1. Introduction:
		5th		Buildings and classification of buildings based on occupancy
		1st		Different components of a building.
3rd		1st	UNIT-2	Site investigation – objectives, site reconnaissance and explorations.
		2nd		Rasa Purnima
		3rd		Question Discussion
		4th		2. Foundations:
		5th		Concept of foundation and its purpose
4th		1st	UNIT-2	Types of foundations – shallow and deep
		2nd		Shallow foundation-constructural details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block
		3rd		Deep foundations: Pile foundations-their suitability, classification of piles based on materials, function and method of installation.
		4th		Question Discussion
4th		5th	UNIT-3	Internal Assesswment
		1st		3. Walls & Masonry Works :
	2nd	Purpose of walls		
	3rd	Classification of walls – load bearing, non-load bearing walls, retaining walls.		
	4th	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).		
4th	5th	UNIT-3	Partition Walls : Suitability and uses of brick and wooden partition walls	
	1st		Brick masonry : Definition of different terms	
	2nd		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	

	5th	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	4. Doors, Windows And Lintels :
December	1st	4th	Glossary of terms used in doors and windows
		5th	Doors – different types of doors
		2nd	1st
	2nd		Purpose of use of arches and lintels
	3rd		Question Discussion
	4th		5. Floors, Roofs and Stairs :
	5th		flooring, cast in situ Terrazzo flooring, timber flooring (Concept only)
	3rd	1st	UNIT-5 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.
		4th	Question Discussion
		5th	6. Protective, Decorative Finishes, Damp and Termite Proofing :
		1st	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
	4th	2nd	UNIT-6 Proportion of mortars used for different plasters, preparation of mortars, techniques of plastering and curing
		3rd	Pointing – purpose –Types of pointing
		4th	Painting – objectives – method of painting new and old wall surfaces, wood surface and metal surfaces – powder coating and spray painting on metal surfaces.
		5th	White washing – Colour washing – Distempering – internal and external walls.
		1st	Damp and Termite proofing – Materials and Methods.
	5th	2nd	Question Discussion
		3rd	X'Mas Holidays
4th		X'Mas Holidays	
5th		X'Mas Holidays	
1st		X'Mas Holidays	
y-23	1st	1st	7. Green Buildings, Energy Management and Energy Audit Of Buildings & Project :
		2nd	Concept of green building
		3rd	Introduction to Energy Management and Energy Audit of Buildings.
		4th	Aims of energy management of buildings.
		4th	Types of energy audit, Response energy audit questionnaire

Januar		5th	UNIT-7	Energy surveying and audit report.
	2nd	1st		Question Discussion
		2nd		Semester Questions Discussion
		3rd		Semester Questions Discussion
		4th		Semester Questions Discussion
		5th		Semester Questions Discussion

**Subject
Expert**

**HOD
Civil Department**

**Academic
Co-ordinator**