

RKCAT POLYTECHNIC LESSON PLAN- 2023-24 (WINTER)

Discipline : CIVIL ENGG.		Semester: 3rd Sem		Name of the Teaching Faculty : DEEPIKA BEHERA	
Subject : BM&CT		No. of Days / per week class allotted : 05		Semester From date : 01.08.2023	To Date : 30.11.2023
MONTH	Week	Day	Unit	Topics	
AUGUST	1st			PART :A (BUILDING MATERIALS)	
		2nd	UNIT-1	1. Stone:	
		3rd		Classification of rock, uses of stone, natural bed of stone,	
		4th		Qualities of good building stone,	
		5th		Dressing of stone	
	2nd	1st		Characteristics of different types of stone and their uses	
		2nd		Question Discussion	
		3rd	UNIT-2	2. Bricks:	
		4th		Brick earth – its composition	
		5th		Brick making – Preparation of brick earth, Moulding,	
	3rd	1st		Drying, Burning in kilns (continuous Process)	
		2nd		Classification of bricks, size of traditional and modular bricks, qualities of good building bricks	
		3rd		Question Discussion	
		4th	UNIT-3	Independence day	
		5th		3. Cement, Mortar and Concrete:	
	4th	1st		Cement: Types of cements, Properties of cements, Manufacturing of cement	
		2nd		Importance and application of blended cement with fly ash and blast furnace slag.	
		3rd		Mortar: Definition and types of mortar	
		4th		Sources and classification of sand, Bulking of sand	
		5th		Use of gravel, morrum and fly ash as different building material	
	5th	1st		Concrete: Definition and composition- Water cement ratio- Workability, mechanical properties and grading of aggregates, mixing, placing, compacting and curing of concrete.	
		2nd		Question Discussion	
		3rd		CLASS TEST-1	
		4th		4. Other Construction Materials:	
		5th		Timber: Classification and Structure of timber.	
		1st		Seasoning of timber – Importance.	
		2nd		Jhulana Purnima	
		3rd			
		4th		Characteristics of good timber.	

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		UNIT-5	5. Surface Protective Materials:
	3rd	1st		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		UNIT-1	PART: B (CONSTRUCTIONS TECHNOLOGY)
	4th			1. Introduction:
		1st		Buildings and classification of buildings based on occupancy
		2nd		Ganesh Puja
		3rd		Nuakhai
		4th		Different components of a building.
	5th	5th		Site investigation – objectives, site reconnaissance and explorations.
		1st		Question Discussion
		2nd		2. Foundations:
		3rd		Concept of foundation and its purpose
		4th		Types of foundations – shallow and deep
		5th		Shallow foundation-constructional details of : Spread foundations for walls, thumb rules for depth and width of foundation and thickness of concrete block
	1st		UNIT-2	Birthday of Prophet Muhammad
				Gandhi Jayanti
		2nd		Deep foundations: Pile foundations-their suitability, classification of piles based on materials, function and method of installation.
		3rd		Question Discussion
		4th		Internal Assesswment
	5th		UNIT-3	3. Walls & Masonry Works :
	2nd			Purpose of walls
		1st		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
	4th	1st		Puja Holidays
		2nd		Puja Holidays
		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		3rd		Question Discussion
	1st	4th	UNIT-5	5. Floors, Roofs and Stairs :
		5th		flooring, cast in situ Terrazzo flooring, timber flooring (Concept only)
				Roofs: Glossary of terms, Types of roofs, concept and function of flat, pitched, hipped and Sloped roofs
	2nd	1st		Stairs: Glossary of terms; Stair case, winder, landing, stringer, newel, baluster, rise, tread, width of stair case, hand rail, nosing, head room, mummy room.
		2nd		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.
		3rd		Question Discussion
		4th		CLASS TEST-2
		5th	UNIT-6	6. Protective, Decorative Finishes, Damp and Termite Proofing :
	3rd	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
		2nd		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.
				Damp and Termite proofing – Materials and Methods.
		1st		Question Discussion
		2nd		7. Green Buildings, Energy Management and Energy Audit Of Buildings & Project :
				Concept of green building

		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