

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2023-24 (SUMMER)

Discipline : CIVIL ENGG.		Semester: 6th Sem	Name of the Teaching Faculty : Padmabhusan Naik			
Subject : CT		No. of Days / per week class allotted : 04	Semester From date : 16.01.2024		To Date : 26.04.2024	
MONTH	Week	Day	Unit	Topics		
JANUARY	3rd		UNIT-1	1. Concrete as a construction material:		
		2nd		Grades of concrete		
		3rd		Advantages and disadvantages of concrete.		
	4th	5th		UNIT-2	2. Cement:	
			1st		Composition, hydration of cement, water cement ratio and compressive strength	
			2nd		Fineness of cement, setting time, soundness	
		3rd	Subash Ch. Bose Jayanti			
		5th	Republic Day			
		1st	Question Discussion			
	5th	2nd		UNIT-3	3. Aggregate, Water and Admixtures:	
			2nd		Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383	
			3rd		Quality of water for mixing and curing.	
FEBRUARY	1st	5th	UNIT-4	Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures		
	2nd	1st		Question Discussion		
		2nd		CLASS TEST-1		
		3rd		4. Properties of fresh concrete:		
	3rd	5th		UNIT-5	Concept of fresh concrete, workability, slump test, compacting factor test	
		1st			V-bee consistency test and flow test, requirement of workability, I.S.1199.	
		2nd			5. Properties of hardened concrete:	
		3rd			Cube and cylinder compressive strengths, flexural strength of concrete,	
	4th	5th		UNIT-5	Basanti Panchami	
		1st			Stress-strain and elasticity, phenomena of creep and shrinkage,	
		2nd			Permeability, durability of concrete	
		3rd			Sulphate, chloride and acid attack on concrete, efflorescence.	
				Question Discussion		

		5th	UNIT-6	6. Concrete mix Design
	5th	1st		a) Introduction
		2nd		b) Data or input required for mix design.
		3rd		Nominal mix concrete & design mix concrete.
				Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S
				Question Discussion
MARCH	1st	5th		Internal Assessment
	2nd	1st	UNIT-7	7. Production of concrete:
		2nd		Batching of materials, mixing of concrete materials,
		3rd		Panchayatiraj Dibas
		5th		Transportation, placing of concrete, compaction of concrete (vibrators),
	3rd	1st	UNIT-8	Maha Shivaratri
		2nd		Curing of concrete, Formwork-requirements and types ,stripping of forms. (Concepts only)
		3rd		Question Discussion
	4th	1st	UNIT-8	8. Inspection and Quality Control of Concrete
		2nd		Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete
		3rd		Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456.
		5th		Inspection and Testing as per Clause 17 of IS:456.
	5th	1st	UNIT-9	Durability requirements of Concrete as per I.S:456.
		2nd		Question Discussion
		3rd		9. Special Concrete
		5th		Introduction to ready mix concrete, high performance concrete,
1st	1st	UNIT-9	Dola Purnima	
	2nd		Holi	
	3rd		Silica fume concrete, shot-crete concrete or gunitting (Concepts only).	
	5th		Good Friday	
APRIL	1st	1st	UNIT-9	Utkal Divas
		2nd		Question Discussion
		3rd		CLASS TEST-2
	2nd	5th	UNIT-10	10. Deterioration of concrete and its prevention:
		1st		Types of deterioration, ,
		2nd		Prevention of concrete deterioration
		3rd		Corrosion of reinforcement,
		5th		Effects and prevention
				Question Discussion

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3rd	1st	UNIT- 11	11. Repair technology for concrete structures:
	2nd		Symptom, cause and prevention and remedy of defects during construction,
	3rd		Cracking of concrete due to different reasons.
	5th		Ram Navami
3rd	1st		Repair of cracks for different purposes,
	2nd		Selection of techniques, polymer based repairs, common types of repairs.
	3rd		Question Discussion
	5th		Semester Question Discussion