

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2022/23 (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 : 14.02.2023 To Date : 23.05.2023	
MONTH	Week	Day	Unit	Topics
FEBRUARY	3rd		UNIT-1	1. Concrete as a construction material:
		1st		Grades of concrete
		2nd		Advantages and disadvantages of concrete.
	4th	3rd	UNIT-2	2. Cement:
		5th		Composition, hydration of cement, water cement ratio and compressive strength
		1st		Fineness of cement, setting time, soundness
		2nd		Types of cement.
MARCH	1ST	3rd	UNIT-3	3. Aggregate, Water and Admixtures:
		5th		CLASS TEST-1
		1st		Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383
		2nd		Quality of water for mixing and curing.
		3rd		Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures
	2nd	5th	UNIT-4	Question Discussion
		1st		4. Properties of fresh concrete:
	4th	2nd	UNIT-5	Concept of fresh concrete, workability, slump test, compacting factor test
		3rd		V-tee consistency test and flow test, requirement of workability, I.S.1199.
		5th		Question Discussion
		1st		5. Properties of hardened concrete:
	5th	2nd	UNIT-6	Cube and cylinder compressive strengths, flexural strength of concrete,
		3rd		Stress-strain and elasticity, phenomena of creep and shrinkage,
		5th		Permeability, durability of concrete
1st		Sulphate, chloride and acid attack on concrete, efflorescence.		
2nd		Question Discussion		
5th	3rd	UNIT-6	6. Concrete mix Design	
	5th		a) Introduction	
	1st		b) Data or input required for mix design. Nominal mix concrete & design mix concrete.	

APRIL	2nd	2nd	Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S	
		3rd	Question Discussion	
		5th	UNIT-7	7. Production of concrete:
		1st		Batching of materials, mixing of concrete materials,
		2nd		Transportation, placing of concrete, compaction of concrete (vibrators),
		3rd		Curing of concrete, Formwork-requirements and types ,stripping of forms. (Concepts only)
		5th	Question Discussion	
	3rd	1st	UNIT-8	CLASS TEST-2
		2nd		8. Inspection and Quality Control of Concrete
		3rd		Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete
		5th		Mixing, Transporting, Placing &curing requirements of Concrete as per I.S.456.
		1st		Inspection and Testing as per Clause 17 of IS:456.
	4th	2nd	UNIT-9	Durability requirements of Concrete as per I.S:456.
		3rd		Question Discussion
		5th		9. Special Concrete
		1st		Introduction to ready mix concrete, high performance concrete,
	5th	2nd	UNIT-10	Silica fume concrete, shot-crete concrete or gunniting (Concepts only).
		3rd		Question Discussion
		5th		10. Deterioration of concrete and its prevention:
		1st		Types of deterioration, ,
2nd		Prevention of concrete deterioration		
MAY	1st	3rd	Corrosion of reinforcement,	
		5th	Effects and prevention	
		5th	Question Discussion	
	2nd	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		Repair of cracks for different purposes,
2nd	1st	UNIT-11	Selection of techniques, polymer based repairs, common types of repairs.	
	3rd		Question Discussion	