

## GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2024-25 (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 : 04.02.2025 To Date : 17.05.2025	
MONTH	Week	Day	Unit	Topics
FEBRUARY	2nd		UNIT-1	<b>1. Concrete as a construction material:</b>
		1st		Grades of concrete
		2nd	Advantages and disadvantages of concrete.	
		3rd	UNIT-2	<b>2. Cement:</b>
		5th		Composition, hydration of cement, water cement ratio and compressive strength
	3rd	1st	UNIT-3	Fineness of cement, setting time, soundness
		2nd		Types of cement.
		3rd		Question Discussion
		5th		<b>3. Aggregate, Water and Admixtures:</b>
	4th	1st	UNIT-4	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
		5th		Question Discussion
		1st		<b>CLASS TEST-1</b>
	5th	2nd	UNIT-5	<b>4. Properties of fresh concrete:</b>
		3rd		Concept of fresh concrete, workability, slump test, compacting factor test
5th		V-tee consistency test and flow test, requirement of workability, I.S.1199.		
1st		Question Discussion		
5th		<b>Maha Shivaratri</b>		
MARCH	2nd	1st	UNIT-5	<b>5. Properties of hardened concrete:</b>
		2nd		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		<b>Panchayatiraj Dibas</b>
	3rd	1st	UNIT-6	Sulphate, chloride and acid attack on concrete, efflorescence.
		2nd		Question Discussion
		3rd		<b>6. Concrete mix Design</b>
		5th		a) Introduction b) Data or input required for mix design.
		1st		Nominal mix concrete & design mix concrete.
4th	1st	UNIT-6	<b>Dola Purnima</b>	
	2nd		Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S	
	2nd		Code method of mix design (I.S.10262)	
				Question Discussion

	4th	3rd	UNIT-7	<b>Internal Assessment</b>		
		5th		<b>7. Production of concrete:</b>		
	5th	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		
	6th	1st		Question Discussion		
		2nd		<b>Id-UI-Fitre</b>		
	APRIL	1st		2nd	UNIT-8	<b>Utkal Divas</b>
				3rd		<b>8. Inspection and Quality Control of Concrete</b>
5th			Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete			
2nd		1st	Mixing, Transporting, Placing &curing requirements of Concrete as per I.S.456.			
		2nd	Inspection and Testing as per Clause 17 of IS:456.			
		3rd	Durability requirements of Concrete as per I.S:456.			
		5th	Question Discussion			
3rd		1st	UNIT-9	<b>9. Special Concrete</b>		
		2nd		Introduction to ready mix concrete, high performance concrete,		
		3rd		<b>Dr. B.R Ambedkar Jayanti</b>		
		5th		Silica fume concrete, shot-crete concrete or gunitting (Concepts only).		
4th		1st		Question Discussion		
		2nd		<b>Good Friday</b>		
		3rd		<b>CLASS TEST-2</b>		
		5th		<b>10. Deterioration of concrete and its prevention:</b>		
5th		1st		UNIT-10		Types of deterioration
		2nd				Prevention of concrete deterioration
	3rd	Corrosion of reinforcement,				
	5th	Question Discussion				
	1st	Effects and prevention				
MAY	1st	2nd			UNIT-11	Question Discussion
		3rd				<b>11. Repair technology for concrete structures:</b>
		5th				Symptom, cause and prevention and remedy of defects during construction,
	2nd	1st				Cracking of concrete due to different reasons.
		2nd	Repair of cracks for different purposes,			
		3rd	Question Discussion			
		5th	Selection of techniques, polymer based repairs, common types of repairs.			
	3rd	1st	UNIT-11			<b>Budha Purnima</b>
2nd		Question Discussion				
3rd		Semester Question Discussion				
5th		Semester Question Discussion				
5th		Semester Question Discussion				