

## 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	<b>1. Concrete as a construction material:</b>	
		2nd		Grades of concrete	
		3rd		Advantages and disadvantages of concrete.	
	4th	5th		UNIT-2	<b>2. Cement:</b>
			1st		Composition, hydration of cement, water cement ratio and compressive strength
			2nd		Fineness of cement, setting time, soundness
			3rd		Types of cement.
	5th	5th		UNIT-3	<b>3. Aggregate, Water and Admixtures:</b>
			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		
4th			Question Discussion		
MARCH	1st	3rd	UNIT-4	<b>4. Properties of fresh concrete:</b>	
		5th		Concept of fresh concrete, workability, slump test, compacting factor test	
	2nd	5th	1st	UNIT-4	V-tee consistency test and flow test, requirement of workability, I.S.1199.
			2nd		<b>Dola Purnima</b>
			3rd		<b>Holi</b>
			5th		Question Discussion
	3rd	5th	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
	4th	5th	1st	UNIT-6	Sulphate, chloride and acid attack on concrete, efflorescence.
			2nd		Question Discussion
			3rd		<b>6. Concrete mix Design</b>
			4th		a) Introduction
5th			b) Data or input required for mix design.		
				Nominal mix concrete & design mix concrete.	
				Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S	

	5th	1st		Question Discussion
		2nd		<b>Internal Assessment</b>
		3rd	<b>UNIT-7</b>	<b>7. Production of concrete:</b> Batching of materials, mixing of concrete materials,
		5th		Transportation, placing of concrete, compaction of concrete (vibrators),
APRIL	2nd	1st	<b>UNIT-8</b>	Curing of concrete, Formwork-requirements and types ,stripping of forms. (Concepts only)
		2nd		Question Discussion
		3rd		<b>8. Inspection and Quality Control of Concrete</b> Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete
		5th		<b>Good Friday</b>
	3rd	1st	<b>UNIT-8</b>	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		<b>Mahabishuba Sankranti/Dr. B.R Ambedkar Jayanti</b>
	4th	1st	<b>UNIT-9</b>	Question Discussion
		2nd		<b>9. Special Concrete</b> Introduction to ready mix concrete, high performance concrete,
		3rd		Silica fume concrete, shot-crete concrete or gunitting (Concepts only).
		5th		Question Discussion
	5th	1st	<b>UNIT-10</b>	<b>10. Deterioration of concrete and its prevention:</b> Types of deterioration, ,
		2nd		Prevention of concrete deterioration
		3rd		Corrosion of reinforcement,
		5th		Effects and prevention
MAY	1st	1st	<b>UNIT-11</b>	Question Discussion
		2nd		<b>11. Repair technology for concrete structures:</b> Symptom, cause and prevention and remedy of defects during construction,
		3rd		Cracking of concrete due to different reasons.
		5th		<b>Buddha Purnima</b>
	2nd	1st	<b>UNIT-11</b>	Repair of cracks for different purposes,
		2nd		Selection of techniques, polymer based repairs, common types of repairs.
		3rd		Question Discussion
		5th		Semester Question Discussion

Subject  
Expert

HOD  
Civil Department

Academic  
Co-ordinator