

## GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2021-22 (SUMMER)

Discipline : CIVIL ENGG.		Semester: 6th Sem	Name of the Teaching Faculty : Padmabhusan Naik		
Subject : CT (C312)		No. of Days / per week class allotted : 04	Semester From date : 10.03.2022 To Date : 10.06.2022		
MONTH	Week	Day	Unit	Topics	
JANUARY	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	<b>Subash Ch. Bose Jayanti</b>		
		5th	<b>Republic Day</b>		
		1st	Question Discussion		
	5th	2nd		UNIT-3	<b>3. Aggregate, Water and Admixtures:</b>
			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		<b>CLASS TEST-1</b>	
		3rd		<b>4. Properties of fresh concrete:</b>	
	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			Question Discussion
		3rd			<b>5. Properties of hardened concrete:</b>
	4th	5th		UNIT-5	Cube and cylinder compressive strengths, flexural strength of concrete,
		1st			<b>Basant Panchami</b>
		2nd			Stress-strain and elasticity, phenomena of creep and shrinkage,
		3rd			Permeability, durability of concrete
4th	1st	UNIT-5	Sulphate, chloride and acid attack on concrete, efflorescence.		
	2nd		Question Discussion		
4th	3rd	UNIT-5	Question Discussion		
	4th		Question Discussion		

		5th	<b>UNIT-6</b>	<b>6. Concrete mix Design</b>
	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
<b>MARCH</b>	1st	5th		<b>Internal Assessment</b>
	2nd	1st	<b>UNIT-7</b>	<b>7. Production of concrete:</b>
		2nd		Batching of materials, mixing of concrete materials,
		3rd		<b>Panchayatiraj Dibas</b>
		5th		Transportation, placing of concrete, compaction of concrete (vibrators),
	3rd	1st	<b>UNIT-8</b>	<b>Maha Shivaratri</b>
		2nd		Curing of concrete, Formwork-requirements and types ,stripping of forms. (Concepts only)
		3rd		Question Discussion
	4th	1st	<b>UNIT-8</b>	<b>8. Inspection and Quality Control of Concrete</b>
		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	<b>UNIT-9</b>	Durability requirements of Concrete as per I.S:456.
		2nd		Question Discussion
		3rd		<b>9. Special Concrete</b>
		5th		Introduction to ready mix concrete, high performance concrete,
1st	1st	<b>UNIT-9</b>	<b>Dola Purnima</b>	
	2nd		<b>Holi</b>	
	3rd		Silica fume concrete, shot-crete concrete or gunitting (Concepts only).	
	5th		<b>Good Friday</b>	
<b>APRIL</b>	1st		<b>Utkal Divas</b>	
			2nd	Question Discussion
			3rd	<b>CLASS TEST-2</b>
	2nd	5th	<b>UNIT-10</b>	<b>10. Deterioration of concrete and its prevention:</b>
		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	<b>UNIT- 11</b>	<b>11. Repair technology for concrete structures:</b>
	2nd		Symptom, cause and prevention and remedy of defects during construction,
	3rd		Cracking of concrete due to different reasons.
	5th		<b>Ram Navami</b>
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