

ACADEMIC LESSON PROGRESS FOR SUMMER 2023
DEPT. OF CIVIL ENGG. GOVT.POLYTECHNIC BALASORE
NAME OF THE FACULTY – GAYATRI JENA
CONCRETE TECHNOLOGY

Course code- Th-3
 Theory –4P/W
 Total period – 60P/Sem
 Semester - 4th Civil Engg.

Class test- 20
 End semester exam-80
 Total mark- 100
 Examination – 3hrs

DATE	TOPIC AS PER LESSON PLAN	ACTUALLY TOPIC COVERED	SIGNATURE
16/02/23	CONCRETE AS A CONSTRUCTION MATERIAL: Grades of concrete	Grades of concrete.	<u>Jena</u> ✓
16/02/23	Advantages and disadvantages of concrete	Advantages & disadvantages of concrete.	<u>Jena</u> ✓
20/2/23	Cement: Composition, hydration of cement	Cement, its composition & hydration of cement.	<u>Jena</u> ✓
23/2/23	Revision of previous class. water cement ratio and compressive strength	water cement ratio & comp. strength	<u>Jena</u> ✓
23/2/23	fineness of cement, setting time	fineness of cement & setting time of cement.	<u>Jena</u> ✓
25/2/23	soundness, types of cement.	Soundness of cement & types of cement.	<u>Jena</u> ✓
27/2/23	Aggregate, Water and Admixtures: Classification and characteristics of aggregate	Aggregate, water & admixture classification & characteristics.	<u>Jena</u> ✓
02/3/23	fineness modulus, grading of aggregate, I.S.383	fineness modulus & grading of aggregate.	<u>Jena</u> ✓
02/3/23	Quality of water for mixing and curing.	Quality of water for mixing & curing.	<u>Jena</u> ✓
09/3/23	Important functions, classification of admixtures, I.S. 9103	Important function - classification → REVISION.	<u>Jena</u> ✓
09/03/23	accelerating admixtures, retarding admixtures	Accelerating admixture & Retarding admixture.	<u>Jena</u> ✓
18/3/23	water reducing admixtures, air containing admixtures	water reducing admixtures & air containing admixtures.	<u>Jena</u> ✓
20/3/23	Properties of fresh concrete: Concept of fresh concrete	Properties of fresh concrete.	<u>Jena</u> ✓

Jena

23/3/23	workability, slump test	workability, slump test.	<u>Yens</u>
23/3/23	compacting factor test	Compacting factor test	<u>Yens</u>
25/3/23	V-bee consistency test	V-bee consistency test	<u>Yens</u>
27/3/23	flow test, requirement of workability, I.S. 1199.	Flow test, requirement of workability	<u>Yens</u>
	Analysis of workability result	Analysis of workability result	<u>Yens</u>
3/4/23	Properties of hardened concrete: Cube and cylinder compressive strengths	Properties of hardened concrete. Cube & cylinder comp. strength.	<u>Yens</u>
8/4/23	flexural strength of concrete	Flexural strength of concrete.	<u>Yens</u>
10/4/23	stress-strain and elasticity	stress-strain & elasticity.	<u>Yens</u>
11/4/23	phenomena of creep and shrinkage	phenomena of creep & shrinkage	<u>Yens</u>
13/4/23	permeability, durability of concrete	Permeability, durability of concrete.	<u>Yens</u>
13/4/23	sulphate, chloride and acid attack on concrete,	Sulphate, chloride & acid attack on concrete	<u>Yens</u>
14/4/23	efflorescence	Efflorescence	<u>Yens</u>
17/4/23	Concrete mix Design: Introduction, Data or input required for mix design.	Concrete mix design, Intro, data or input	<u>Yens</u>
18/4/23	Nominal mix concrete & design mix concrete	Nominal mix concrete & design mix concrete.	<u>Yens</u>
21/4/23	Basic consideration for concrete mix design,	Basic consideration for concrete mix design.	<u>Yens</u>
21/4/23	Methods of proportioning concrete mix	Methods of proportioning concrete mix	<u>Yens</u>
25/4/23	I.S Code method of mix design (I.S. 10262)	I.S Code method design	<u>Yens</u>
25/4/23	Production of concrete: Batching of materials	Production of concrete: Batching of materials	<u>Yens</u>
27/4/23	mixing of concrete materials	Mixing of concrete materials	<u>Yens</u>
	transportation, placing of concrete	Transportation, placing of concrete.	<u>Yens</u>

27/4/23	compaction of concrete (vibrators)	Compaction of concrete (vibrators)	Yes
27/4/23	Curing of concrete, Formwork	Curing of concrete Formwork.	Yes
2/5/23	Requirements and types ,stripping of forms(concept only)	Requirements & types, stripping of	Yes
2/5/23	Inspection and Quality Control of Concrete:Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete	Inspection & Quality control of concrete as per IS 456, factors causing	Yes
2/5/23	Mixing, Transporting, Placing of concrete	Mixing, Transporting	Yes
9/5/23	curing requirements of Concrete as per I.S.456.	Curing requirements of Concrete.	Yes
9/5/23	Inspection of concrete	Inspection of concrete	Yes
9/5/23	Testing as per Clause 17 of IS:456.	Testing as per clause 17 of IS 456	Yes
9/5/23	Durability requirements of Concrete as per I.S:456.	Durability requirements of Concrete.	Yes
9/5/23	Special Concrete: Introduction to ready mix concrete	Special Concrete: Introduction to ready mix concrete	Yes
9/5/23	Necessity of ready mix concrete	Necessity of ready mix concrete.	Yes
9/5/23	high performance concrete	High performance concrete	Yes
9/5/23	silica fume concrete	Silica fume concrete	Yes
9/5/23	shot-crete concrete	Shot-crete concrete	Yes
09/5/23	gunniting (Concepts only).	Gunniting (Concepts) only	Yes
12/5/23	Deterioration of concrete and its prevention: definition of deterioration,	Deterioration of concrete & its prevention: definition of deterioration	Yes
12/5/23	Types of deterioration	Types of deterioration	Yes
12/5/23	prevention of concrete deterioration	Prevention of concrete deterioration	Yes
12/5/23	corrosion of reinforcement	Corrosion of reinforcement	Yes
13/5/23	Effect of corrosion	Effect of Corrosion	Yes
13/5/23	Prevention of corrosion	Prevention of Corrosion	Yes
13/5/23	Repair technology for concrete structures: 13.1 Symptom & causes of defects during	Repair technology for concrete structures: Symptom & causes of defects during	Yes

13/5/23	construction , polymer based repairs, common types of repairs.	Constn, polymer based repairs, common types of repairs	<u>Jens</u>
13/5/23	prevention and remedy of defects during construction	Prevention & remedy of defects during	<u>Jens</u>
18/5/23	cracking of concrete due to different reasons.	Cracking of concrete due to different reasons.	<u>Jens</u>
13/5/23	, Repair of cracks for different purposes	Repair of cracks for different purposes	<u>Jens</u>
13/5/23	selection of techniques for repair concretes works	Selection of techniques for repair concrete works	<u>Jens</u>
	Common types of repairs	Common types of repairs	<u>Jens</u>

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