



GANDHI SCHOOL OF ENGINEERING
BHABANDHA, BERHAMPUR

BRANCH- CIVIL ENGINEERING

SEMESTER- 6th

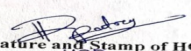
SUBJECT- Th 4(a). CONCRETE TECHNOLOGY

Name of the Faculty- Er. SAGAR PRIYA SAHU & ER.SWADHIN MUND

	Topic to be taken					Actual topic taken		
Sl. No	Topic/Module	No. of period	Details of the topics	Date	Topic No.	Topic Name	Date	Remarks
1	Concrete as a construction material	2	1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete	16.01.2024- 17.01.2024	1.1 1.2	Grades of concrete. Advantages and disadvantages of concrete	18.01.2024 19.01.2024	
2	Cement	4	2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement.	18.01.2024- 22.01.2024	2.1	Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement.	20.01.2024 22.01.2024 25.01.2024 27.01.2024	
3	Aggregate, Water and Admixtures	6	3.1 Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383 3.2 Quality of water for mixing and curing. 3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures	24.01.2024- 03.02.2024	3.1 3.2 3.3	Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383 Quality of water for mixing and curing. Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures	01.02.2024 02.02.2024 03.02.2024 08.02.2024 15.02.2024	

4	Properties of fresh concrete	6	4.1 Concept of fresh concrete, workability, slump test, compacting factor test, V-bee consistency test and flow test, requirement of workability, I.S.1199.	05.02.2024-10.02.2024	4.1	Concept of fresh concrete, workability, slump test, compacting factor test, V-bee consistency test and flow test, requirement of workability, I.S.1199.	17.02.2024 21.02.2024 23.02.2024 24.02.2024 26.02.2024	
5	Properties of hardened concrete	7	5.1 Cube and cylinder compressive strengths, flexural strength of concrete, stress-strain and elasticity, phenomena of creep and shrinkage, permeability, durability of concrete, sulphate, chloride and acid attack on concrete, efflorescence.	12.02.2024-20.02.2024	5.1	Cube and cylinder compressive strengths, flexural strength of concrete, stress-strain and elasticity, phenomena of creep and shrinkage, permeability, durability of concrete, sulphate, chloride and acid attack on concrete, efflorescence.	29.02.2024 01.03.2024 02.03.2024 04.03.2024 07.03.2024 11.03.2024	
6	Concrete mix Design	5	6.1 a) Introduction b) Data or input required for mix design. 6.2 Nominal mix concrete & design mix concrete. 6.3 Basic consideration for concrete mix design, Methods of proportioning concrete mix – I.S Code method of mix design (I.S.10262)	21.02.2024-26.02.2024	6.1 6.2 6.3	a) Introduction 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 Code method of mix design (I.S.10262)	18.03.2024 21.03.2024 23.03.2024 28.03.2024 30.03.2024	
7	Production of concrete	6	7.1 Batching of materials, mixing of concrete materials, transportation, placing of concrete, compaction of concrete (vibrators), Curing of concrete, Formwork-requirements and types, stripping of forms. (Concepts only)	27.02.2024-04.03.2024	7.1	Batching of materials, mixing of concrete materials, transportation, placing of concrete, compaction of concrete (vibrators), Curing of concrete, Formwork-requirements and types, stripping of forms. (Concepts only)	14.03.2024 15.03.2024 16.03.2024 04.04.2024 05.04.2024	

8	Inspection and Quality Control of Concrete	6	10.1 Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete 10.2 Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456. 10.3 Inspection and Testing as per Clause 17 of IS:456. 10.4 Durability requirements of Concrete as per I.S:456	06.03.2024-13.03.2024	10.1 10.2 10.3 10.4	Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456. Inspection and Testing as per Clause 17 of IS:456. Durability requirements of Concrete as per I.S:456	06.04.2024 08.04.2024 12.04.2024 13.04.2024	
9	Special Concrete	6	11.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunnitting (Concepts only).	14.03.2024-20.03.2024	11.1	Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunnitting (Concepts only).	15.04.2024 18.04.2024	
10	Deterioration of concrete and its prevention	6	12.1 Types of deterioration, prevention of concrete deterioration, corrosion of reinforcement, effects and prevention	21.03.2024-30.03.2024	12.1	Types of deterioration, prevention of concrete deterioration, corrosion of reinforcement, effects and prevention	19.04.2024 20.04.2024 22.04.2024	
11	Repair technology for concrete structures	6	13.1 Symptom, cause and prevention and remedy of defects during construction, cracking of concrete due to different reasons. Repair of cracks for different purposes, selection of techniques, polymer based repairs, common types of repairs.	02.04.2024-08.04.2024	13.1	Symptom, cause and prevention and remedy of defects during construction, cracking of concrete due to different reasons. Repair of cracks for different purposes, selection of techniques, polymer based repairs, common types of repairs.	25.04.2024 26.04.2024	


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