



**NDHI SCHOOL OF ENGINEERING**  
**BHABANDHA, BERHAMPUR**

BRANCH- CIVIL ENGINEERING

SEMESTER- 6th

SUBJECT- Th 4(a). CONCRETE TECHNOLOGY

Name of the Faculty- Er. MANJULA BHUYAN

Sl. No	Topic/ Module	No. of period	Topic to be taken		Actual topic taken		Remarks	
			Details of the topics	Date	Topic No.	Topic Name		Date
1	Concrete as a construction material	2	1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete	14.02.2023 15.02.2023	1.1 1.2	1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete	14.02.2023 15.02.2023	
2	Cement	4	2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement.	17.02.2023 24.02.2023	2.1	Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement.	17.02.2023 21.02.2023 24.02.2023 25.02.2023	
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	25.02.2023 03.03.2023	3.1 3.2 3.3	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	28.02.2023 01.03.2023 03.03.2023 04.03.2023 08.03.2023 10.03.2023	

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.	04.03.2023 11.03.2023	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.	11.03.2023 14.03.2023 15.03.2023 17.03.2023 18.03.2023
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.	14.03.2023 18.03.2023	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.	21.03.2023 22.03.2023 24.03.2023 25.03.2023 28.03.2023 29.03.2023
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)	21.03.2023 24.03.2023	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)	31.03.2023 04.04.2023 05.04.2023 11.04.2023
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)	25.03.2023 31.03.2023	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)	12.04.2023 18.04.2023 19.04.2023 21.04.2023

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	04.04.2023 12.04.2023	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	25.04.2023 26.04.2023 28.04.2023 29.04.2023	
9	Special Concrete	6	11.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunniting (Concepts only).	18.04.2023 26.04.2023	11.1 11.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunniting (Concepts only).	02.05.2023 02.05.2023 03.05.2023	
10	Deterioration of concrete and its prevention	6	12.1 Types of deterioration, prevention of concrete deterioration, corrosion of reinforcement, effects and prevention	28.04.2023 09.05.2023	12.1 Types of deterioration, prevention of concrete deterioration, corrosion of reinforcement, effects and prevention	09.05.2023 10.05.2023 12.05.2023	
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.	10.05.2023 17.05.2023	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.	13.05.2023 16.05.2023 17.05.2023	

  
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Gandhi School of Engg.  
Berhampur (Gm.)

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