

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK**  
**DEPARTMENT OF CIVIL ENGINEERING**



**LESSON PLAN**

SUBJECT: CONCRETE TECHNOLOGY (TH4)

FACULTY: MS SRADHANJALI SAHOO

ACCADEMIC SESSION: 2022-23

SEMESTER: 6<sup>TH</sup>

SEC: C

Sd/-

HOD (Civil Engg.)

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<b>Discipline:</b> Civil Engineering	<b>Semester: 6<sup>th</sup></b> <b>Sec: C</b>		<b>Name of Teaching Faculty: SRADHANJALI SAHOO</b>
<b>Subject:</b> Concrete Technology	<b>No. of Days / week class allotted: 04 period per week ( Tue- 1 Period, Wed- 2 Period &amp; Thu- 1 period )</b>		<b>Semester From Date : 14-02-2023 To Date 23-05-2023</b> <b>No. of Weeks: 15</b>
<b>Week</b>	<b>Date</b>	<b>No. of periods available</b>	<b>Topics to be covered</b>
1ST	14/02/2023	1	<b>1 Concrete as a construction material:</b> 1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete.
	15/02/2023	2	<b>2 Cement:</b> 2.1 Composition, hydration of cement, water cement ratio and compressive strength,
	16/02/2023	1	2.1 fineness of cement, setting time, types of cement.
2ND	21/02/2023	1	2.1 soundness, types of soundness test.
	22/02/2023	2	<b>3 Aggregate, Water and Admixtures:</b> 3.1 Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383

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	23/02/2023	1	<b>3 Aggregate, Water and Admixtures:</b> 3.1 Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383 3.2 Quality of water for mixing and curing
3RD	28/02/2023	1	3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixture
	01/03/2023	2	3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixture
	02/03/2023	1	<b>4 Properties of fresh concrete:</b> 4.1 Concept of fresh concrete, 4.1 workability, slump test, compacting factor test
4TH	09/03/2023	1	4.1 V-tee consistency test and flow test, requirement of workability, I.S.1199 <b>5 Properties of hardened concrete:</b> 5.1 Cube and cylinder compressive strengths, flexural strength of concrete, stress-strain and elasticity,
5TH	14/03/2023	1	5.1 Phenomena of creep and shrinkage, permeability, durability of concrete
	15/03/2023	2	5.1 Sulphate, chloride and acid attack on concrete, efflorescence.
	16/03/2023	1	<b>6 Concrete mix Design</b> 6.1 a) Introduction b) Data or input required for mix design.
6TH	21 /03/2023	1	6.2 Nominal mix concrete & design mix concrete.

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	22/03/2023	2	6.3 Basic consideration for concrete mix design, 6.3 Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
	23/03/2023	1	6.3 Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
7TH	28/03/2023	1	<b>7 Production of concrete:</b> 7.1 Batching of materials, mixing of concrete materials, transportation, placing of concrete,
	29/03/2023	2	<b>MONTHLY CLASS TEST -1</b>
8TH	04/04/2023	1	7.1 Compaction of concrete (vibrators), 7.1 Curing of concrete
	05/04/2023	2	7.1 Formwork-requirements and types, stripping of forms <b>8 Inspection and Quality Control of Concrete</b>
	06/04/2023	1	8.1 Quality control of Concrete as per I.S.456, 8.1 Factors causing the variations in the quality of concrete
9TH	11/04/2023	1	8.2 Mixing, Transporting, Placing &curing requirements of Concrete as per I.S.456.
	12/04/2023	2	8.3 Inspection and Testing as per Clause 17 of IS: 456.
	13/04/2023	1	8.4 Durability requirements of Concrete as per I.S:456.

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10TH	18/04/2023	1	<b>9 Special Concrete</b> 9.1 Introduction to ready mix concrete.
	19/04/2023	2	9.1 high performance concrete, silica fume concrete.
	20/04/2023	1	9.1 Shot-Crete concrete or gunitting (Concepts only)
11TH	25/04/2023	1	MONTHLY CLASS TEST-2
	26/04/2023	2	<b>10 Deterioration of concrete and its prevention:</b> 10.1 Types of deterioration,
	27/04/2023	1	<b>10 Deterioration of concrete and its prevention:</b> 10.1 Types of deterioration,
12TH	02/05/2023	1	10.1 Prevention of concrete deterioration, 10.1 Corrosion of reinforcement, effects and prevention.
	03/05/2023	2	<b>11 Repair technology for concrete structures:</b> 11.1 Symptom, cause and, cracking of concrete due to different reasons.
	04/05/2023	1	11.1 Prevention and remedy of defects during construction
13TH	09/05/2023	1	11.1 Repair of cracks for different purposes
	10/05/2023	2	11.1 Selection of techniques for repair of Concrete.
	11/05/2023	1	11.1 Polymer based repairs, common types of repairs.
14TH	16/05/2023	1	MONTHLY CLASS TEST-3

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	17/05/2023	2	Revision
	18/05/2023	1	Revision
15TH	23/05/2023	1	Previous Year Questions and Answers discussion