

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



**LESSON PLAN**

SUBJECT: CONCRETE TECHNOLOGY (TH-4)

FACULTY: ABHIJIT SAHOO

ACCADEMIC SESSION: 2022-23(SUMMER)

SEMESTER: 6<sup>TH</sup>, SEC: A

Sd/-  
H O D (Civil Engg.)

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

<b>Discipline:</b> Civil Engineering	<b>Semester: 6<sup>th</sup> A</b>		<b>Name of Teaching Faculty: ABHIJIT SAHOO</b>
<b>Subject:</b> Concrete Technology	<b>No. of Days / week class allotted: 04 period per week (Mon-1, Tue-1 &amp; Sat - 2 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	1 CONCRETE AS A CONSTRUCTION MATERIAL: 1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete.
2ND	20/02/2023	1	2 CEMENTS: 2.1 Composition, hydration of cement, water cement ratio and compressive strength,
	21/02/2023	1	2.1 fineness of cement, setting time, soundness, types of cement.
	25/02/2023	2	3 AGGREGATE, WATER AND ADMIXTURES: 3.1 Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383
3RD	27/02/2023	1	3.2 Quality of water for mixing and curing
	28/02/2023	1	3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixture
	04/03/2023	2	4 PROPERTIES OF FRESH CONCRETE: 4.1 Concept of fresh concrete, workability, slump test, compacting factor test,

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

4TH	06/03/2023	1	4.1 V-tee consistency test and flow test, requirement of workability, I.S.1199.
	11/03/2023	2	5 PROPERTIES OF HARDENED CONCRETE: 5.1 Cube and cylinder compressive strengths, flexural strength of concrete, stress-strain and elasticity,
5TH	13/03/2023	1	5.1 Phenomena of creep and shrinkage, permeability, durability of concrete,
	14/03/2023	1	5.1 Sulphate, chloride and acid attack on concrete, efflorescence.
	18/03/2023	2	6 CONCRETE MIX DESIGN 6.1 a) Introduction b) Data or input required for mix design. Monthly Class Test 1
6TH	20/03/2023	1	6.2 Nominal mix concrete & design mix concrete and Basic consideration for concrete mix
	21/03/2023	1	6.3 Methods of proportioning concrete mix – I.S Code method of mix design (I.S.10262)
	25/03/2023	2	7 PRODUCTIONS OF CONCRETE: 7.1 Batching of materials, mixing of concrete materials, transportation, placing of concrete, Compaction of concrete (vibrators),
7 <sup>th</sup>	27/03/2023	1	7.1 Curing of concrete, Formwork-requirements and types, stripping of forms
	28/03/2023	1	8 INSPECTION AND QUALITY CONTROL OF CONCRETE 8.1 Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete.
8 <sup>th</sup>	03/04/2023	1	8.2 Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456.
	04/04/2023	1	8.3 Inspection and Testing as per Clause 17 of IS:456.
	08/04/2023	2	8.4 Durability requirements of Concrete as per I.S:456
9 <sup>th</sup>	10/04/2023	1	Monthly Class Test 2

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

	11/04/2023	1	9 SPECIAL CONCRETE 9.1 Introduction to ready mix concrete,
	15/04/2023	2	9.1 high performance concrete
10 <sup>th</sup>	17/04/2023	1	9.1 silica fume concrete,
	18/04/2023	1	9.1 Shot-Crete concrete or uniting (Concepts only).
	22/04/2023	2	10 DETERIORATION OF CONCRETE AND ITS PREVENTION:
11 <sup>th</sup>	24/04/2023	1	10.1 Types of deterioration,
	25/04/2023	1	10.1 Prevention of concrete deterioration,
	29/04/2023	2	INTERNAL ASSESSMENT
12 <sup>th</sup>	01/05/2023	1	10.1 corrosion of reinforcement, effects and prevention.
	02/05/2023	1	11 REPAIR TECHNOLOGY FOR CONCRETE STRUCTURES:
	06/05/2023	2	11.1 Symptom, cause and, cracking of concrete due to different reasons.
13 <sup>th</sup>	08/05/2023	1	11.1 Symptom, cause and, cracking of concrete due to different reasons.
	09/05/2023	1	11.1 Prevention and remedy of defects during construction
	13/05/2023	2	11.1 Repair of cracks for different purpose
14 <sup>th</sup>	15/05/2023	1	11.1 Selection of techniques for repair of Concrete
	16/05/2023	1	11.1 Polymer based repairs, common types of repairs.
	20/05/2023	2	Monthly Class Test 3
15 <sup>th</sup>	22/05/2023	1	Revision
	23/05/2023	1	Previous year questions and answers discussion