

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

SUBJECT: CONCRETE TECHNOLOGY (TH 4)

FACULTY: KSHITISH KUMAR SAHOO

ACCADEMIC SESSION: 2023-24(SUMMER)

SEMESTER: 6TH, SEC: C

Sd/-
H O D (Civil Engg.)

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Discipline: Civil Engineering	Semester: 6th C		Name of Teaching Faculty: KSHITISH KUMAR SAHOO
Subject: Concrete Technology	No. of Days / week class allotted: 04 periods per week (Mon-1, Wed-1, Thu-1 & Sat – 1 Period)		Semester From Date: 16-01-2024 To Date 26-04-2024 No. of Weeks: 15
Week	Date	No. of periods available	Topics to be covered
1ST	17/01/2024	1P	1 CONCRETE AS A CONSTRUCTION MATERIAL: 1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete.
	18/01/2024	1P	2 CEMENTS: 2.1 Composition, hydration of cement, water cement ratio and compressive strength,
	20/01/2024	1P	2.1 fineness of cement, setting time, soundness, types of cement.
2ND	22/01/2024	1P	3 AGGREGATE, WATER AND ADMIXTURES: 3.1 Classification and characteristics of aggregate
	24/01/2024	1P	3.1 Fineness modulus, grading of aggregate, I.S.383
	25/01/2024	1P	3.2 Quality of water for mixing and curing
	27/01/2024	1P	3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixture
3RD	29/01/2024	1P	4 PROPERTIES OF FRESH CONCRETE: 4.1 Concept of fresh concrete, workability, slump test
	31/01/2024	1P	4.1 Compacting factor test
	01/02/2024	1P	4.1 V-bee consistency test and flow test, requirement of workability, I.S.1199.

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	03/02/2024	1P	5 PROPERTIES OF HARDENED CONCRETE: 5.1 Cube and cylinder compressive strengths, flexural strength of concrete
4TH	05/02/2024	1P	5.1 Stress-strain and elasticity
	07/02/2024	1P	5.1 Phenomena of creep and shrinkage, permeability, durability of concrete,
	08/02/2024	1P	5.1 Sulphate, chloride and acid attack on concrete, efflorescence.
	10/02/2024	1P	6 CONCRETE MIX DESIGN 6.1 a) Introduction b) Data or input required for mix design.
5TH	12/02/2024	1P	6.2 Nominal mix concrete & design mix concrete and Basic consideration for concrete mix
	15/02/2024	1P	6.3 Methods of proportioning concrete mix – I.S Code method of mix design (I.S.10262)
	17/02/2024	1P	7 PRODUCTIONS OF CONCRETE: 7.1 Batching of materials, mixing of concrete materials
6TH	19/02/2024	1P	7.1 Transportation, placing of concrete, Compaction of concrete (vibrators)
	21/02/2024	1P	7.1 Curing of concrete, Formwork-requirements and types, stripping of forms
	22/02/2024	1P	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.
	24/02/2024	1P	8.2 Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456.
7TH	26/02/2024	1P	8.3 Inspection and Testing as per Clause 17 of IS:456.
	28/02/2024	1P	8.4 Durability requirements of Concrete as per I.S:456
	29/02/2024	1P	Monthly Class Test-1
	02/03/2024	1P	9 SPECIAL CONCRETE 9.1 Introduction to ready mix concrete,
8TH	04/03/2024	1P	9.1 high performance concrete
	06/03/2024	1P	9.1 high performance concrete
	07/03/2024	1P	9.1 silica fume concrete
	09/03/2024	1P	9.1 Shot-Crete concrete or uniting (Concepts only).
9TH	11/03/2024	1P	9.1 Shot-Crete concrete or uniting (Concepts only).
	13/03/2024	1P	10 DETERIORATION OF CONCRETE AND ITS PREVENTION: Introduction
	14/03/2024	1P	10.1 Types of deterioration,

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	16/03/2024	1P	10.1 Prevention of concrete deterioration,
10TH	18/03/2024	1P	10.1 corrosion of reinforcement, effects and prevention.
	20/03/2024	1P	10.1 corrosion of reinforcement, effects and prevention.
	21/03/2024	1P	11 REPAIR TECHNOLOGY FOR CONCRETE STRUCTURES: Introduction
	23/03/2024	1P	11.1 Symptom, cause and, cracking of concrete due to different reasons.
11TH	27/03/2024	1P	Monthly Class Test-1
	28/03/2024	1P	11.1 Symptom, cause and, cracking of concrete due to different reasons.
	30/03/2024	1P	11.1 Prevention and remedy of defects during construction
12TH	03/04/2024	1P	INTERNAL ASSESSMENT
	04/04/2024	1P	11.1 Repair of cracks for different purpose
	06/04/2024	1P	11.1 Repair of cracks for different purpose
13TH	08/04/2024	1P	11.1 Selection of techniques for repair of Concrete
	10/04/2024	1P	11.1 Polymer based repairs, common types of repairs.
	13/04/2024	1P	11.1 Polymer based repairs, common types of repairs.
14TH	15/04/2024	1P	Revision
	18/04/2024	1P	Revision
	20/04/2024	1P	Revision
15TH	22/04/2024	1P	Previous year questions and answers discussion
	24/04/2024	1P	Previous year questions and answers discussion
	25/04/2024	1P	Previous year questions and answers discussion