



UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE: CIVIL	SEMESTER: 6TH Sem	NAME OF THE TEACHING FACULTY: Er. TEJASWINI		
SUBJECT: Th4. CONCRETE TECHNOLOGY	No of Days/Per week class allotted: 4 Class P/W(60)	Semester From Date: 16/01/2024		
		To Date: 26/04/2024		
		No. Of Weeks: 15		
WEEK	CLASS DAY	THEORY TOPICS	REMARKS	
1 st	1 st	Concrete as a construction material: Grades of concrete	Date	Dean/Principal
	2 nd	Advantages and disadvantages of concrete.		
	3 rd	Cement: Composition, hydration of cement		
	4 th	Water cement ratio and compressive strength		
2 nd	1 st	Fineness of cement, setting time		
	2 nd	soundness, types of cement.		
	3 rd	Aggregate, Water and Admixtures: Classification and characteristics of aggregate		
	4 th	Fineness modulus, grading of aggregate, I.S. 383		
3 rd	1 st	Quality of water for mixing and curing.		
	2 nd	Important functions, classification of admixtures		
	3 rd	I.S 9103, accelerating admixtures, retarding admixtures,		
	4 th	water reducing admixtures, air containing admixtures		

4 th	1 st	Properties of fresh concrete: Concept of fresh concrete		
	2 nd	Concept of workability, slump test		
	3 rd	Concept of compacting factor test		
	4 th	Concept of V-bee consistency test		
5 th	1 st	Concept of flow test		
	2 nd	Requirement of workability, I.S. 1199		
	3 rd	Properties of hardened concrete: Cube and cylinder compressive strengths		
	4 th	Flexural strength of concrete		
6 th	1 st	Stress-strain and elasticity		
	2 nd	Phenomena of creep and shrinkage		
	3 rd	permeability, durability of concrete,		
	4 th	Sulphate, chloride and acid attack on concrete, efflorescence		
7 th	1 st	Sulphate, chloride and acid attack on concrete, efflorescence		
	2 nd	Concrete mix Design: a) Introduction b) Data or input required for mix design.		
	3 rd	Nominal mix concrete & design mix concrete		
	4 th	Basic consideration for concrete mix design		
8 th	1 st	Methods of proportioning concrete mix – I.S Code method of mix design (I.S. 10262)		
	2 nd	Methods of proportioning concrete mix – I.S Code method of mix design (I.S. 10262)		

	3 rd	Production of concrete: Batching of materials		
	4 th	Mixing of concrete materials, transportation		
9th	1 st	Placing of concrete, compaction of concrete (vibrators)		
	2 nd	Curing of concrete, Formwork-requirements and types		
	3 rd	Curing of concrete, Formwork-requirements and types		
	4 th	Stripping of forms. (Concepts only)		
10th	1 st	Inspection and Quality Control of Concrete: Quality control of Concrete as per I.S.456,		
	2 nd	Factors causing the variations in the quality of concrete		
	3 rd	Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456.		
	4 th	Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456.		
11th	1 st	Inspection and Testing as per Clause 17 of IS:456		
	2 nd	Durability requirements of Concrete as per I.S:456		
	3 rd	Special Concrete : Introduction to ready mix concrete,		
	4 th	Introduction High performance concrete		
12th	1 st	Introduction silica fume concrete		
	2 nd	Introduction shot-crete concrete or gunniting (Concepts only)		
	3 rd	Introduction shot-crete concrete or gunniting (Concepts only)		

	4 th	REVISSIONCLASS		
13th	1 st	Deteriorationofconcreteand itsprevention:Typesof deterioration		
	2 nd	Typesprevention of concrete deterioration		
	3 rd	Typescorrosionof reinforcement		
	4 th	Effectsandprevention		
14th	1 st	ASSIGNMENT		
	2 nd	Effectsandprevention		
	3 rd	Repair technology for concretestructures: Symptom		
	4 th	Causeandpreventionand remedy of defects during construction		
15th	1 st	Crackingof concrete due to different reasons		
	2 nd	Repair ofcracksfordifferent purposes		
	3 rd	selectionoftechniques, polymer based repairs, common typesofrepairs.		
	4 th	DOUBTCLEARCLASS		

Tejaswini Das

HOD

Chittaranjan Parida

DEAN

Law

PRINCIPAL