GANGAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLY), JAGATPUR, CUTTACK

LESSON PLAN OF 6TH SEMESTER(2025-26) CIVIL ENGINEERING

DISCIPLINE-CIVIL ENGG.	SEMESTER-6th	NAME OF THE TEACHING FACULTY-JAYALAXMI BEHERA (LECTURER)
SUBJECT-CONCRETE TECHNOLOGY	NO. OF DAYS PER WEEK CLASS ALLOTTED- 04	SEMESTER FROM DATE-22/12/25 TO DATE-18/04/26 NO. OF WEEKS-17

WEEK	CLASS DAY	THEORY TOPICS
1ST	1st	**1.0 Concrete as a construction material:** 1.1 Grades of concrete.
	2nd	1.2 Advantages and disadvantages of concrete.
	3rd	**Cement:** 2.1 Composition of cement
	4th	hydration of cement
2ND	1st	water cement ratio and compressive strength
	2nd	fineness of cement, setting time
	3rd	soundness, types of cement
	4th	**Aggregate, Water and Admixtures:** 3.1 Classification of aggregate
`3RD	1st	characteristics of aggregate
	2nd	Discussion
	3rd	fineness modulus of aggregate
	4th	grading of aggregate,I.S.383
4TH	1st	3.2 Quality of water for mixing and curing
	2nd	3.3 Important functions of admixture.
	3rd	classification of admixtures, I.S 9103
	4th	accelerating admixtures, retarding admixtures,
5TH	1st	water reducing admixtures
	2nd	air containing admixtures
	3rd	**Properties of fresh concrete:** 4.1 Concept of fresh concrete, workability,
	4th	slump test, compacting factor test
6TH	1st	V-bee consistency test and flow test
	2nd	requirement of workability,I.S.1199.
	3rd	**Properties of hardened concrete:** 5.1 Cube and cylinder compressive strengths
	4th	flexural strength of concrete
7TH	1st	stress-strain and elasticity of concrete
	2nd	phenomena of creep and shrinkage, permeability of concrete
	3rd	durability of concrete
	4th	sulphate, chloride and acid attack on concrete, efflorescence
8TH	1st	**Concrete mix Design** 6.1 a) Introduction
	2nd	b) Data or input required for mix design.
	3rd	6.2 Nominal mix concrete &design mix concrete
	4th	6.3 Basic consideration for concrete mix design
9TH	1st	Discussion
	2nd	Methods of proportioning concrete mix – I.S Code
	3rd	method of mix design(I.S.10262)

23.12.25

		4th	**Production of concrete:** 7.1 Batching of materials,
	10TH	1st	mixing of concrete materials
		2nd	transportation, placing of concrete
		3rd	compaction of concrete (vibrators)
		4th	Curing of concrete
	11TH	1st	Formwork-requirements and types
		2nd	,stripping of forms. (Concepts only)
		3rd	**Inspection and Quality Control of Concrete** 8.1 Quality control of Concrete as per I.S.456,
		4th	Factors causing the variations in the quality of concrete
	12TH	1st	8.2 Mixing, Transporting
		2nd	**Discussion**
		3rd	Placing requirement of Concrete as per I.S.456.
		4th	curing requirement of Concrete as per I.S.456.
	13TH	1st	Discussion
		2nd	8.3 Inspection and Testing as per Clause 17 of IS:456.
		3rd	8.4 Durability requirements of Concrete as per I.S:456.
		4th	Discussion
	14TH	1st	**Special Concrete** 9.1 Introduction to ready mix concrete
		2nd	high performance concrete
		3rd	silica fume concrete
		4th	shot-crete concrete or gunitting (Concepts only).
	15TH	1st	Discussion
		2nd	**Deterioration of concrete and its prevention:** 10.1 Types of deterioration
		3rd	prevention of concrete deterioration
		4th	corrosion of reinforcement
	16TH	1st	effects and prevention
		2nd	**Repair technology for concrete structures:** 11.1 Symptom
		3rd	cause and prevention and remedy of defects during construction
		4th	cracking of concrete due to different reasons
	17TH	1st	Repair of cracks for different purposes,
		2nd	Discussion
		3rd	selection of techniques, polymer based repairs
		4th	Common types of repairs.

1

2

3 23.12.25

4 LECTURER

PRINCIPAL 23/12/25

Principal
GIET (Polytechnic)
Jagatpur, Cuttack

23.12.2025

SR. LECTURER

Sr. Lecturer
Civil Engg. Dept.
G.I.E.T(Poly),Jagatpur,Ctc

5