

GOVERNMENT POLYTECHNIC, SAMBALPUR (RENGALI)

DEPARTMENT OF CIVIL ENGINEERING

NAME OF THE FACULTY: Smt. SHUSHREE SANGITA PATEL & Smt. ARUNIMA PRADHAN (LECTURER) Civil Engineering

LESSON PLAN OF CONCRETE TECHNOLOGY (TH-4) FOR 6TH SEM SUMMER-2023 w.e.f. 14.02.2023

DATE	WEEK NO.	TOPIC TO BE COVERED	PERIODS ASSIGNED PER TOPIC	PERIODS AVAILABLE PER WEEK
14.02.23 TO 17.02.23	W-1	Concrete as a construction material: 1.1 Grades of concrete. 1.2 Advantages and disadvantages of concrete.	2	2
20.02.23 TO 25.02.23	W-2	2.1 Composition, hydration of cement, water cement ratio and compressive strength, fineness of cement, setting time, soundness, types of cement.	4	4
27.02.23 TO 04.03.23	W-3	Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383 3.2 Quality of water for mixing and curing.	6	3
06.03.23 TO 11.03.23	W-4	3.3 Important functions, classification of admixtures, I.S 9103, accelerating admixtures, retarding admixtures, water reducing admixtures, air containing admixtures	6	3
13.03.23 TO 18.03.23	W-5	4.1 Concept of fresh concrete, workability, slump test, compacting factor test, V-bee consistency test and flow test, requirement of workability, I.S.1199.	6	4+2 Extra class
20.03.23 TO 25.03.23	W-6	5.1 Cube and cylinder compressive strengths, flexural strength of concrete, stress-strain and elasticity, phenomena of creep and shrinkage, permeability, durability of concrete, sulphate, chloride and acid attack on concrete, efflorescence.	4	4
27.03.23 TO 01.04.23	W-7	Classification and characteristics of aggregate, fineness modulus, grading of aggregate, I.S.383 3.2 Quality of water for mixing and curing.	7	3
03.04.2023 TO 08.04.2023	W-8	6.1 a) Introduction b) Data or input required for mix design.	5	3
10.04.2023 TO 15.04.2023	W-9	6.2 Nominal mix concrete & design mix concrete, test, compacting factor test, V-bee consistency test and flow test, requirement of proportioning concrete mix – I.S Code method of mix design (I.S.10262)	5	4+2 Extra class
17.04.2023 TO 22.04.2023	W-10	7.1 Batching of materials, mixing of concrete materials, strength of transportation, placing of concrete, compaction of concrete (vibrators), Curing of concrete, Formwork-requirements and types and stripping of forms. (Concepts only)	6	3
24.04.2023 TO 29.04.2023	W-11	8.1 Quality control of Concrete as per I.S.456, Factors causing the variations in the quality of concrete 8.2 Mixing, Transporting, Placing & curing requirements of Concrete as per I.S.456.	6	3

	W-12	8.3 Inspection and Testing as per Clause 17 of IS:456. 8.4 Durability requirements of Concrete as per I.S:456.		3
13.05.2023	W-13	9.1 Introduction to ready mix concrete, high performance concrete, silica fume concrete, shot-crete concrete or gunnitting (Concepts only).	6	4+2 Extra class
15.05.2023 TO 20.05.2023	W-14	10.1 Types of deterioration, prevention of concrete deterioration, corrosion of reinforcement, effects and prevention	6	4+ 1SCA+ 1Extra class
22.05.2023 & 23.05.2023	W-15	11.1 Symptom, cause and prevention and remedy of defects during construction, cracking of concrete due to different reasons. Repair of cracks for different purposes, selection of techniques, polymer based repairs, common types of repairs.	6	4+2 Extra class

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