LESSON PLAN: (CONCRETE TECHNOLOGY)		
Discipline :	**CIVIL ENGINEERING**	
Faculty :	**ASHIS RANJAN PATEL**	
Semester :	**6th SEM**	
Duration :	**15 WEEKS (15th September 2022 to 22nd December 2022)**	
Work Load :	**Lecture :**	**4 Lectures per week (50 minutes per Class)**
Week	**Week Day**	**Theory**
1st	1st	Grades of concrete.
	2nd	Advantages and disadvantages of concrete
	3rd	Composition, hydration of cement
	4th	water cement ratio and compressive strength
2nd	5th	fineness of cement, setting time,
	6th	soundness, types of cement
	7th	Classification and characteristics of aggregate
	8th	fineness modulus, grading of aggregate,I.S.383
3rd	9th	Quality of water for mixing and curing.
	10th	Important functions, classification of admixtures, I.S 9103
	11th	accelerating admixtures, retarding admixtures,
	12th	water reducing admixtures, air containing admixtures
4th	13th	Concept of fresh concrete, workability
	14th	slump test, compacting factor test
	15th	V-bee consistency test and flow test
	16th	requirement of workability,I.S.1199
5th	17th	Cube and cylinder compressive strengths
	18th	flexural strength of concrete
	19th	stress-strain and elasticity
	20th	phenomena of creep and shrinkage
6th	21st	permeability, durability of concrete, sulphate
	22nd	chloride and acid attack on concrete, efflorescence.
	23rd	Introduction to Concrete mix Design
	24th	Data or input required for mix design.
7th	25th	Nominal mix concrete &design mix concrete
	26th	Basic consideration for concrete mix design
	27th	Methods of proportioning concrete mix – I.S Code method of mix design(I.S.10262)
	28th	Batching of materials, mixing of concrete materials
8th	29th	transportation, placing of concrete, compaction of concrete (vibrators)
	30th	Curing of concrete, Formwork-requirements and types
	31st	stripping of forms. (Concepts only)
	32th	Quality control of Concrete as per I.S.456,
9th	33th	Factors causing the variations in the quality of concrete
	34th	Mixing, Transporting requirements of Concrete as per I.S.456.
	35th	Placing &curing requirements of Concrete as per I.S.456.
	36th	Inspection and Testing as per Clause 17 of IS:456.
10th	37th	Durability requirements of Concrete as per I.S:456.
	38th	Introduction to ready mix concrete
	39th	high performance concrete
	40th	silica fume concrete, shot-crete concrete or gunitting (Concepts only)
11th	41th	Types of deterioration
	42th	prevention of concrete deterioration
	43th	corrosion of reinforcement in concrete

	44th	effects and prevention in concrete
12th	45th	Symptom, cause and prevention and remedy of defects during construction
	46th	cracking of concrete due to different reasons
	47th	Repair of cracks for different purposes
	48th	selection of techniques to repair the concrete structure
13th	49th	polymer based repairs, common types of repairs for concrete
	50th	
	51th	
	52th	
14th	53 th	
	54 th	
	55 th	
	56 th	
15th	57 th	
	58 th	
	59 th	
	60 th	