Specimen of lesson Plan

Name of the Faculty Mr. J.P. Bindra
Discipline CIVIL ENGG.
Semester 4th
Subject CONCRETE TECHNOLOGY
Lesson Plan Duration 15 weeks(from January, 2018 to April,2018)

Week		**Theory**		
	Lecture Day	**Topic (inculding assignment/test)**	**Practical Day**	
1st	1st	Introduction: Definition of concrete, uses of concrete in comparison to other building materials.	1st	T
	2nd	Introduction: Definition of concrete, uses of concrete in comparison to other building materials.	2nd	To d
	3rd	Ingredients of Concrete: Cement: physical properties of cement; different types of cement as per IS Codes		
2nd	4th	Aggregates:-Classification of aggregates according to size and shape	3rd	
	5th	Characteristics of aggregates: Particle size and shape, surface texture, specific gravity of aggregate; bulk density,	4th	
	6th	water absorption, surface moisture, bulking of sand, deleterious materials, soundness		
3rd	7th	Grading of aggregates: coarse aggregate, fine aggregate;	5th	De
	8th	All-inaggregate; fineness modulus; interpretation of grading charts	6th	De
	9th	Water: Quality requirements as per IS:456-2000		
4th	10th	Water Cement Ratio:-Hydration of cement, principle of water-cement ratio, Duff Abram's Water-cement ratio law:	7th	
	11th	Limitations of water-cement ratio law and its effects on strength of concrete	8th	
	12th	Workability:-Workability factors affecting workability		

5th	13th	Measurement of workability: slump test, compacting factor and Vee Bee consistometer;	9th	Det fi
	14th	Recommended slumps for placement in various conditions as per IS:456-2000/SP-23	10th	T
	15th	Revision/Assignment		
6th	16th	Properties of Concrete:-Properties in plastic state: Workability,	11th	
	17th	Segregation, Bleeding and Harshness	12th	T
	18th	Properties in hardened state: Strength, Durability,		
7th	19th	Impermeability, Dimensional changes;	13th	T
	20th	Proportioning for Normal Concrete:-Objectives of mix design, introduction to various grades as per IS:4562000; proportioning for nominal mix design as prescribed by IS 456-2000	14th	
	21st	Adjustment on site for: Bulking of fine aggregate, water absorption of aggregate, workability		
8th	22nd	Difference between nominal and controlled concrete	15th	
	23rd	Introduction to IS-10262-2009-Code for controlled mix design	16th	
	24th	Revision		
9th	25th	Introduction to Admixtures (chemicals and minerals) for improving performance of concrete	17th	
	26th	Introduction to Admixtures (chemicals and minerals) for improving performance of concrete	18th	
	27th	Revision		
10th	28th	Special Concretes (only features) :- Concreting under special conditions, difficulties and precautions before, during and after concreting	19th	
	29th	Cold weather concreting , Under water concreting	20th	Re
	30th	Hot weather concreting		
11th	31st	Ready mix concrete, Fibre reinforced concrete,Polymer Concrete, Fly ash concrete, Silica fume concrete	21th	Re
	32nd	Concreting Operations: Storing of Cement:Storing of cement in a warehouse, Storing of cement at site , Effect of storage on strength of cement, Determination of warehouse capacity for storage of Cement	22th	
	33rd	Storing of Aggregate: Storing of aggregate at site		

12th	34th	Batching (to be shown during site visit):- Batching of Cement, Batching of aggregate, Volume, using gauge box (farma) selection of proper gauge box, Weight spring balances and batching machines, Measurement of water	23th	
	35th	Mixing:-Hand mixing, Machine mixing - types of mixers, capacities of mixers, choosing appropriate size of mixers, operation of mixers, Maintenance and care of machines	24h	Te
	36th	Transportation of concrete: Transportation of concrete using: wheel barrows, transit mixers, chutes, belt conveyors, pumps, tower crane and hoists etc.		
13th	37th	Placement of concrete:- Checking of form work, shuttering and precautions to be taken during placement	25th	Te
	38th	Compaction:-Hand compaction, Machine compaction - types of vibrators, internal screed vibrators and form vibrators, Selection of suitable vibrators for different situations	26th	
	39th	Finishing concrete slabs - screeding, floating and trowelling		
14th	40th	Revision	27th	
	41st	Curing:-Objectives of curing, methods of curing like ponding, membrane curing, steam curing, chemical curing, Duration for curing and removal of form work	28th	
	42nd	Jointing: Location of construction joints, treatment of construction joints, expansion joints in buildings - their importance and location		
15th	43rd	Defects in concrete: Identification of and methods of repair	29th	
	44th	Importance and methods of non-destructive tests (introduction only)	30th	
	45th	Revision/Assignment		