Name of the Faculty :
Discipline : Civil Engg.
Semester : 5th
Subject : Reinforced Cement Concrete
Lesson Plan Duration : 15 weeks
**** Work Load (Lecture/ Practical) per Week (In Hours): Lecture-05**

Week	Theory	
	Lecture Day	**Topic (Including assignment/test)**
1st	1	Concept of reinforced cement concrete
	2	Reinforcement materials
	3	Properties of mild steel and HYSD steel
	4	Loading on structures as per IS: 875
	5	Discussion and oral test of previous topics
2nd	6	Introduction about methods of R.C.C. Design
	7	Working stress method
	8	Limit state method
	9	Differentiate between above methods
	10	Shear and development length
3rd	11	Shear as per IS:456:2000 by working stress method
	12	Shear strength of concrete
	13	Concept of maximum shear stress
	14	Shear reinforcement
	15	Revision of above topics
4th	16	Introduction of singly reinforced beam
	17	Stress strain curve and neutral axis
	18	Balanced, Under reinforced and over reinforced beam
	19	Moment of resistance for singly reinforced beam
	20	Design of singly reinforced beam
5th	21	Test of above covered syllabus
	22	Concept of limit state method
	23	Assumptions made in limit state of collapse
	24	Partial factor of safety for loads and materials
	25	Design loads, stress block, parameters
6th	26	Singly reinforced beam
	27	Theory of singly reinforced beam
	28	Design of singly reinforced beam by limit state method
	29	Numerical practice
	30	Doubts and numerical practice

7th	31	Doubly reinforced beam
	32	Theory of doubly reinforced beam
	33	Design of doubly reinforced beam by limit state method
	34	Numerical problems
	35	Doubly reinforced beam design practice
8th	36	Introduction of T beam
	37	Inverted T beam, isolated T beam and L beam
	38	Revision
	39	Introduction of one way slab
	40	Theory and design of simply supported one way slab
9th	41	Design of simply supported one way slab using limit state method
	42	Sketch detail of design of one way slab
	43	Numerical problems
	44	Practice of numerical problems and doubts
	45	Practice of numerical problems
10th	46	Test of above covered syllabus
	47	Concept of two way slab
	48	Theory and design of two way slab with corner free to lift
	49	Numerical practice
	50	Design of two way slab with no provision for torsional reinforcement by limit state method
11th	51	Sketches of two way slab showing reinforcement detail
	52	Axially loaded column
	53	Definition and classification of columns
	54	Effective length of column
	55	Specifications for longitudinal and lateral reinforcement
12th	56	Design of axially loaded square column
	57	Rectangular short column
	58	Circular short column by LSM
	59	Sketches of different columns showing reinforcement detail
	60	Numerical practice
13th	61	Numerical practice
	62	Concept of pre-stressed concrete
	63	Introduction of different prestressing methods
	64	Pre tensioning
	65	Post tensioning
14th	66	Advantages of prestressing
	67	Disadvantages of prestressing
	68	Losses in prestress
	69	Revision of prestressed concrete

	70	Tutorial for doubts
15th	71	Test
	72	Tutorial for numerical problems
	73	Tutorial for numerical problems
	74	Tutorial for numerical problems
	75	Revision of syllabus