

Name of faculty: Mr Dheeraj Grover

Branch: Civil

Semester: 5th

Subject: RCCD&D

Lesson Plan Duration : 15 Weeks

Workload: Practical-3 Lecture 5

Week	Lecture No.	Topic Covered	
1	1	Concept of Reinforced Cement Concrete (RCC)	Drawing No. 1: RC Slabs - One way slab, Two way slab and Cantilever Slab
	2	Reinforcement Materials - Suitability of steel as reinforcing material	
	3	Loading on structures as per IS: 875	
	4	Introduction to following methods of RCC design	
	5	Working stress method: Definition and basic assumptions	
2	1	Limit state method: Definition and basic assumptions	Drawing No.2 : Beams - Singly and doubly reinforced rectangular beams and Cantilever beam (All beams with vertical stirrups)
	2	Shear as per IS:456-2000 by working stress method	
	3	Shear strength of concrete without shear reinforcement	
	4	Maximum shear stress	
	5	Shear reinforcement	
3	1	Definitions and assumptions made in limit state of collapse (flexure)	Drawing No.3: Columns and Footings – Square, Rectangular and Circular Columns with lateral ties and their isolated sloped column footings
	2	Partial factor of safety for materials	
	3	Partial factor of safety for loads	
	4	Design loads	
	5	Stress block, parameters	
4	1	Numerical Problem	Drawing No. 4 : Portal Frame – Three bay two storey RC portal frame with blow up of column beam junctions
	2	Numerical Problem	
	3	Singly Reinforced beam	
	4	Theory and design of singly reinforced beam by Limit State Method	
	5	Numerical Problem	
5	1	Numerical Problem	Drawing No. 5 : Draw atleast one sheet using AutoCAD software
	2	Numerical Problem	
	3	Numerical Problem	
	4	Numerical Problem	
	5	Numerical Problem	
6	1	Revision	
	2	Doubly Reinforced Beams	
	3	Theory	
	4	design of simply supported doubly reinforced rectangular beam by Limit State Method	
	5	design of simply supported doubly reinforced rectangular beam by Limit State Method	
7	1	design of simply supported doubly reinforced rectangular beam by Limit State Method	
	2	design of simply supported doubly reinforced rectangular beam by Limit State Method	
	3	design of simply supported doubly reinforced rectangular beam by Limit State Method	
	4	design of simply supported doubly reinforced rectangular beam by Limit State Method	
	5	design of simply supported doubly reinforced rectangular beam by Limit State Method	
8	1	design of simply supported doubly reinforced rectangular beam by Limit State Method	
	2	Revision	
	3	Behaviour of T beam	
	4	inverted T beam	
	5	isolated T beam	
9	1	L' beams	
	2	Only introduction no numerical	
	3	One Way Slab	
	4	Theory and design of simply supported one way slab including sketches showing reinforcement details (plan and section) by Limit State Method..	
	5	Theory and design of simply supported one way slab including sketches showing reinforcement details (plan and section) by Limit State Method..	
10	1	Theory and design of simply supported one way slab including sketches showing reinforcement details (plan and section) by Limit State Method..	
	2	Numerical practice	
	3	Numerical practice	
	4	Numerical practice	
	5	Numerical practice	
11	1	Numerical practice	
	2	Numerical practice	
	3	Two Way Slab	
	4	Theory and design of two-way simply supported slab with corners free to lift,	
	5	no provisions for torsional reinforcement by Limit State Method including sketches showing reinforcement details (plan and two sections)	
12	1	Numerical practice	
	2	Numerical practice	
	3	Numerical practice	
	4	Numerical practice	
	5	Numerical practice	
13	1	Definition and classification of columns	
	2	Effective length of column	
	3	Specifications for longitudinal and lateral reinforcement	
	4	Design of axially loaded square, rectangular by Limit State Method including sketching of reinforcement(sectional elevation and plan)	
	5	Design of axially loaded square by Limit State Method including sketching of reinforcement(sectional elevation and plan)	
14	1	Design of axially loaded circular short columns by Limit State Method including sketching of reinforcement(sectional elevation and plan)	
	2	Numerical practice	
	3	Numerical practice	
	4	Numerical practice	
	5	Numerical practice	
15	1	Concept of pre-stressed concrete	
	2	Methods of pre-stressing : pre-tensioning and post-tensioning	
	3	Advantages and disadvantages of pre-stressing	
	4	Losses in pre-stress	
	5	Revision	