

PC/CE/17-T, Design of Concrete Structures - II

Lesson Plan			
Week	Lecture Day	Theory	
		Topic(Including Assignment Test)	Date
1 st	1	Continuous Beams: Basic assumptions, Moment of inertia, settlements, Modification of moments,	
	2	Maximum moments and shear, beams curved in plan-analysis for torsion,	
	3	Redistribution of moments for single and multi-span beams, design examples.	
2 nd	4	Prestressed Concrete: Basic principles, classification of prestressed members	
	5	various prestressing systems, losses in prestress, initial and final stress conditions,	
	6	analysis and design of sections for flexure and shear, load balancing concept, I:S:Specifications	
3 rd	7	End blocks-Analysis of stresses, Magnel's method, Guyon's method,	
	8	Design Examples	
	9	Bursting and spalling stresses, design examples, Design Examples	
4 th	10	Flat slabs and staircases: Advantages of flat slabs, general design considerations,	
	11	approximate direct design method, design of flat slabs, openings in flat slab	
	12	Design Examples	
5 th	13	Design Examples	
	14	Design of various types of staircases, design examples.	
	15	Foundations: Combined footings, raft foundation,	
6 th	16	Design Examples	
	17	Design of pile cap and piles, under-reamed piles, design examples.	
	18	Design Examples	
7 th		MINOR TEST I	
8 th	19	Water Tanks, Silos and Bunkers: Estimation of Wind and earthquake forces, design requirements, rectangular and cylindrical underground and overhead tanks,	
	20	Design Examples	
	21	Intze tanks, design considerations, design examples.	
9 th	22	Design Examples	
	23	Silos and Bunkers-Variou theories, Bunkers with sloping bottoms and with high side walls, battery of bunkers, design examples	
	24	Silos and Bunkers-Variou theories, Bunkers with sloping bottoms and with high side walls, battery of bunkers, design examples	
10 th	25	Silos and Bunkers-Variou theories, Bunkers with sloping bottoms and with high side walls, battery of bunkers, design examples	
	26	Design Examples	
	27	Building Frames: Introduction, Member stiffnesses, Loads,	
11 th	28	Analysis for vertical and lateral loads, Torsion in buildings,	
	29	Ductility of beams, design and detailing for ductility, design examples.	
	30	Design Examples	
12 th	31	Yield Line Theory: Basic assumptions, Methods of analysis, yield line patterns and failure mechanisms,	
	32	Numerical Problems	
	33	analysis of one way and two way rectangular and non-rectangular slabs,	
13 th	34	analysis of one way and two way rectangular and non-rectangular slabs,	
	35	analysis of one way and two way rectangular and non-rectangular slabs,	
	36	Numerical Problems	
14 th		MINOR TEST II	
15 th	37	Effect of top corner steel in square slabs, design examples.	
	38	Numerical Problems	
	39	Numerical Problems	