

Lecture plan for Subject: Design of Concrete Structure II (Civil Engg. VII Sem)

Unit No.	Lecture No.	Contents	Contact Hours
I	1	Elements of Pre -stressed Concrete: Basic Principles of prestress concrete	8
	2	Material properties	
	3	Pre stressing systems	
	4	Losses of pre-stress	
	5	I.S. specifications	
	6	Examples related to losses of prestress	
	7	Analysis and design of rectangular sections for flexure and shear	
	8	Analysis and design of T sections for flexure and shear	
II	9	Torsion, Continuous and Curved Beams : Basic concept of Torsion	8
	10	Analysis and Design of beams for torsion as per codal method	
	11	Examples related to Design of beams for torsion as per code	
	12	Analysis and Design of continuous beams using coefficients (IS Code)	
	13	Concept of moment redistribution	
	14	Examples related to Design of continuous beams	
	15	Basic concept of beams curved in plan	
	16	Analysis and design of beams curved in plan.	
III	17	Circular Domes: Basic study of domes	8
	18	Analysis and design of Circular domes with u.d.l.	
	19	Analysis and design of Circular domes with conc. load at crown.	
	20	Water Tanks and Towers: Basic study related to Water Tanks	
	21	Examples related to Design of rectangular tank	
	22	Design of circular tanks	
	23	Design of Intze type tanks	
	24	Design of column brace type staging	
IV	25	Yield Line Theory: Introduction to Yield line concept	8
	26	Application of Y.L.T. to slabs with simple support conditions	
	27	Retaining walls: Basic study of Retaining Walls	
	28	Analysis and design of Cantilever Retaining Walls	
	29	Introduction to counterfort retaining walls	
	30	Introduction to buttress type retaining walls	
	31	Structural behaviour of retaining wall	
	32	Stability analysis of retaining wall	
V	33	Culverts and Bridges: Basic study of culvert and Bridges	8
	34	Analysis of super structure of slab culverts	
	35	Design of super structure of slab culverts for I.R.C. loading.	
	36	Wind load, lateral load and longitudinal forces in bridges	
	37	General design requirements	
	38	Effective width method	
	39	Analysis of super structure of T-bridge for I.R.C. loading.	
	40	Design of T – Bridge for I.R.C. loading	
		Total	40

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