For Lecture's in **B. Tech. Civil Engineering Vth Semester**

Course No.	Title of the Course	Course Structure	
CE-303A	**Design of Concrete Structures I**	**L-T-P**	**3-0-0**
COURSE OUTCOMES (CO)			
CO1	Understanding of design philosophies of RCC Structures		
CO2	Design of RCC beams using working and Limit State Method		
CO3	Design of Columns and Footings using Working and Limit State Method		
CO4	Design of Slabs and Retaining Wall using working stress and Limit State Method		

UNIT NO`	Topics To Be Covered	Lecture Nos
1	Introduction to Concrete Technology	1-3
	Indian Standards for Design	4
	Creep and Shrinkage	5
	Design Philosophies	6
	Design of Concrete Mixes	7-10
II	Working Stress Method under Flexure	11-13
	Limit State Method under Flexure	14-16
III	Design under Shear by Working Stress Method and Limit State Method	17
	Design under Bond by Working Stress Method and Limit State Method	18
	Design under Torsion by Working Stress Method and Limit State Method	19
	Limit State of Serviceability	20-22
	Design of Columns by Working Stress Method	23
	Design of Columns by Limit State Method	24-27
	Functions and Types of Footing	25
	Design of Footings	26-29
IV	Design of Slabs	30-31
	Design of Two way Slabs	32-23
	Retaining walls and their types	34
	Rankine's and Columb's Theory	35
	Design of Cantilever retaining walls	36-37
	Design of Counterfort retaining walls	38-39

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