GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. Semester II
Civil Engineering (Structural Engineering)

Subject: - Advanced Concrete Structures

Sr. No	Course Content
1	Flat slabs: Proportioning, analysis by direct design method and equivalent frame method, slab design and detailing.
2	Grid floors: Analysis and design by Rankine Grashoff Method, classical equivalent plate theory and IS:456 method.
3	Multi storied Buildings: Determination of dead load, live load, wind load and earthquake load on various components of the buildings and appropriate design. Detailing of reinforcement and bar bending schedule.
4	Foundations: Combined footing subjected torsion. Design of rafts. Design of pile caps.
5	Design of domes with openings.
6	Analysis and design of Folded plate roofs.
7.	Water Tanks: Shaft supported elevated water tanks. Column supported water tanks along with appropriate bracing systems.

REFERENCE BOOKS:

1 Jain & Jaikrishna, “Plain & Reinforced Concrete Structures, vol.- I & II”, Memchand & Bros, 12/e/1999
2 N. Krishna Raju, “Advanced Reinforced Concrete Design”, CBS Publications, 1/e/1986.
3 Varghese AV,”Limit State Design of Reinforced Concrete”, Prentice Hall of India, 1/e/2002.
4 Dayaratnam P et all, “Cable stayed, supported and Suspension Bridges”, Indian Institure of Bridge Engineers Universities Press, 1/e1997
5 Varghese AV,”Advanced Reinforced Concrete”, Prentice Hall of India.
6 IS Codes : IS-456, IS-875, IS-1893, IS-4326, IS-13920