B.Tech. Civil Engineering				
Course code: Course Title	**Course Structure**			**Pre-Requisite**
CE308: Advanced Design of Structures	L	T	P	CE203: Design of Structures
	3	**0**	**2**	

Course Objective: Design of advanced reinforced concrete structures is one of the primary requisites of any structural engineer. Hence, the course aims to provide a detailed theoretical background of various design philosophies and their applications using national and international design guidelines. Therefore, at the end of the course, the student is expected to analyse and design various special reinforced concrete structures. The students are also able to apply the knowledge to real civil engineering problems and to design new and advanced reinforced concrete structures.

S. No	Course Outcomes (CO)
CO1	Analysis, design and detailing of Deam Beams, Curved beams and Corbels
CO2	Analysis, design and detailing of folded plates and cylindrical shells
CO3	Analysis, design and detailing of water tanks
CO4	Analysis, design and detailing of Chimney and silos
CO5	Analysis, design and detailing of the various types of retaining walls.

S. No	Contents	Contact Hours
UNIT 1	Analysis and Design of curved beams in plan, Deep Beams and Corbels	8
UNIT 2	Analysis, design and detailing of folded plates and cylindrical shells (beam and arch theory).	8
UNIT 3	Analysis, design and detailing of cylindrical water tanks resting on the ground (fixed and hinged boundary conditions at the base).	8
UNIT 4	Analysis, design and detailing of circular silos including foundations. Analysis, design and detailing of cylindrical chimneys including foundations.	8
UNIT 5	Retaining walls: Types of retaining walls, Analysis and design of cantilever-type retaining walls, Analysis and design of counterfort and buttress-type retaining walls, Analysis and design of Abutments.	10
	Total	**42**

References

S. No.	Name of Books/Authors/Publishers	Year of Publication / Reprint
1	Pillai and Menon (2003) “Reinforced Concrete Design” - TMH, New Delhi, India.	2003