

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme		Bachelor of Technology			Branch/Spec.		Civil Engineering		
Semester		VII			Version		2.0.0.0		
Effective from Academic Year			2016-17		Effective for the batch Admitted in			2014-2015	
Subject code		2CI 701		Subject Name		<b>DESIGN OF CONCRETE STRUCTURE</b>			
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3		1		4	Theory	40	60	100
Hours	3		2		5	Practical	35	15	50
Pre-requisites:									
<b>ELEMENTS OF STRUCTURAL DESIGN</b>									
Learning Outcome:									
After Completion of the curriculum of design of steel structure. Students can understand how to calculate the dead load, live load, wind load in a structural building. And also able to design the plate girder, gantry girder and connections.									
Theory syllabus									
Unit	Content								Hrs
1	<b>Structural layout for buildings:</b> General detailing required in structural drawing as per SP-34 , do's details required for general drawing, beam, slab and column as per SP-34.								5
2	Continuous beam, typical floor design including two way continuous slabs, T beam floor.								6
3	<b>Columns:</b> Slender columns with uniaxial and biaxial bending, Eccentric, Biaxial								5
4	<b>Footings :</b> Combined footings and raft, Biaxial								5
5	<b>Structure:</b> Canopy, cantilever shed portal, building, flat slab								5
6	<b>Structural detailing</b> Reinforcement detailing of structural elements as per SP-34.								6
7	<b>Design of Water Tank:</b> Underground and elevated circular and rectangular water tanks retaining walls.								7
Practical content									
Practical work shall consist of not less than 3 designs suitably selected from topics of the course under									

design of reinforced concrete structures. The report shall consist of full analytical treatment, design procedure, references and all necessary drawings in form of neat dimensioned sketches. In addition working drawing shall be on full imperial size drawing sheet.

Practical examination shall consist of oral and sketching based on topics given under the subject

Text Books	
1	Reinforced Concrete Structure Vol. I & II- H.J.Shah
2	Limit State Theory & Design of Reinforced Concrete - Shah & Karve
3	Design of Concrete Structures - A.K. Jain
Reference Books	
1	Design of Concrete Structures - Dayaratnam
2	Advanced Design of Concrete Structures - KrishanaRaju
3	Code of practice for plain and reinforced concrete (III revision)(with amendment 1) - IS : 456
4	Code of practice for structural safety of Building Loading standards.(revised) (with Amendment 1) – I S : 875
5	Criteria for earthquake resistant design of structure (III revision) – IS : 1893
6	Design aids for reinforced concrete IS : 456 - SP : 16
7	Reinforcement detailing - SP : 34