

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme		Bachelor of Technology			Branch/Spec.		Civil Engineering		
Semester		VIII			Version		2.0.0.0		
Effective from Academic Year			2019-20		Effective for the batch Admitted in			2014-2015	
Subject code		2CI 801		Subject Name		ADVANCED STRUCTURAL DESIGN			
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:									
ELEMENTS OF STRUCTURAL DESIGN									
Learning Outcome:									
This subject, Advanced Structural Design, provides deep knowledge regarding RCC as well as Steel structures like Retaining Wall, Industrial Roof Truss, Bunkers and Silos by designing and detailing of structures by using IS codes.									
Theory syllabus									
Unit	Content								Hrs
1	<p>Any 2 to 3 special structures from the list given below will be opted for design & details comprehensively as per current practice from planning to execution stage including staging design & cost calculation.</p> <ol style="list-style-type: none"> 1. Industrial structures 2. Power plant structures 3. Bridges – RCC/PSC/Steel with substructure 4. Cooling towers 5. Hydraulic structures 6. Off-shore/ On-shore structures 7. Shell/ dome/folded plates/barrel vault structures – RCC/PSC/Steel 8. Earth Retaining structures 9. Storage structures like Bunker & silo 10. Residential Building (R.C.C Structure) <p>The selection of structures for academic term will be rotationally decided with the consensus of different institutes affiliated to the University</p>								39
Practical content									
Complete design & detailing in the form of A1- size drawing sheets using any CAD package. Complete documentation (report writing) showing design philosophy, calculations, cost analysis & other related									

matters for selected structures

Text Books

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|---|---|
| 1 | Design of Concrete Structures - A.K. Jain |
| 2 | Design of Steel Structures - Bhavikatti |

Reference Books

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| 1 | Design of Concrete Structures - Dayaratnam |
| 2 | Advanced Design of Concrete Structures – Krishana-Raju |
| 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 |
| 8 | Reinforced Concrete Structure Vol. I & II- H.J.Shah |
| 8 | Limit State Theory & Design of Reinforced Concrete - Shah & Karve |