



**NAVVRACHANA
UNIVERSITY**
a UGC recognized University

School: School of Engineering and Technology
Program/s: B.Tech Civil Engineering
Year: 3rd **Semester:** 6th
Examination: End Semester Examination
Examination year: May - 2023

Course Code: CE412

Course Name: Advanced Design of RCC Structures

Date: 17/05/2023

Total Marks: 40

Time: 02:00 p.m. to 04:00 p.m.

Total Pages: 01

Instructions

- Use of IS:456 and SP:16 is permitted
- Assume suitable data if required, and mention the same

Q. No.	Details	Marks	COs*	BTL*
Q.1	Draw neat reinforcement sketch for following 1. Deep beam (cross section and longitudinal section) 2. RCC pipe (cross section and longitudinal section)	14	CO2	BT1 BT3
Q.2	Design an interior panel of flat slab of size 5 m x 5 m without drop and column head. The size of the column is 400 mm x 400 mm. Live load on panel is 3 kN/m ² and floor finish as 1 kN/m ² . Consider M25 and Fe 500. Show reinforcement details in plan and section through column strip.	14	CO2 CO3	BT3 BT5
Q.3	1. Write a shortnote on Prestress in RCC 2. List out design steps for RCC slender column	12	CO1 CO4	BT4
OR				
	A reinforced concrete pressure pipe is to be designed to withstand internal pressure of 0.3 N/mm ² . The internal diameter of pipe is 1000 mm. The length of pipe is 2.9 m. Design the pipe and sketch the reinforcement. Adopt M25 and steel wire conforming to IS 432. Permissible tensile stresses in steel and concrete are limited to 350MPa and 6 MPa respectively. Consider minimum reinforcement as 35 kg/m as main reinforcement and 12.5 kg/m for secondary reinforcement.		CO3	BT2 BT5

*****End of Question Paper*****