Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING
MID TERM EXAMINATION - OCT 2023

Semester : Semester V - 2021
Course Code : CIV3003
Course Name : Sem V - CIV3003 - Design of RCC Structural Elements
Program : B. TECH

Date : 2-NOV-2023
Time : 9:30AM - 11:00AM
Max Marks : 50
Weightage : 25%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS **(2 X 5 = 10M)**

1. What are the assumptions taken in limit state of collapse - flexure?

(CO1) [Knowledge]

2. Draw and explain the design stress strain curve for mild steel.

(CO1) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS **(2 X 10 = 20M)**

3. What are the three types of beam sections? Explain.

(CO1) [Comprehension]

4. A rectangular reinforced concrete beam has a width of 200mm and is reinforced with 2 bars of 20mm diameter at an effective depth of 400mm. If M20 grade concrete and Fe415 HYSD bars are used, estimate the ultimate moment of resistance of the section.

(CO2) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS **(1 X 20 = 20M)**

5. Design a singly reinforced concrete beam for the following data:
Effective span = 5m
Width of supports = 300mm
Live Load = 8kN/m
M20 grade concrete and Fe415 HYSD bars

(CO2) [Application]