Total No. of Questions – [2]

Total No. of Printed Pages: 02

G.R. No.	

PAPER CODE	V124-324

MARCH 2024 (INSEM) EXAM
F.Y.B. TECH. - CIVIL ENGINEERING (SEMESTER - II)

COURSE NAME: MECHANICS OF SOLIDS
COURSE CODE: CV12234

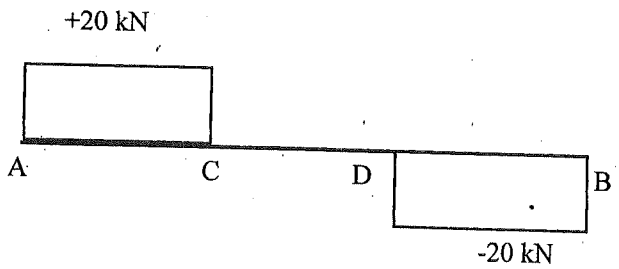
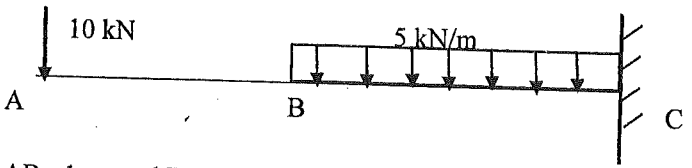
(PATTERN 2023)

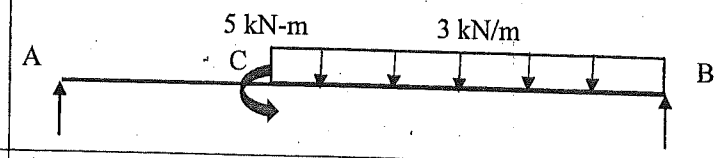
Time: [40 Minutes]

[Max. Marks: 20]

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **Solve any two sub questions from Question 1 and 2**

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1	a) Shear Force Diagram for a simply supported beam is shown below. Draw the loading diagram. AC=CD=BD= 2 m  **Shear Force Diagram**	[5]	CO 1	Apply
	b) A 2 m long cantilever beam as shown in below figure is subjected to loads as shown. Draw bending moment diagram.  AB= 1 m and BC = 1m	5]	CO1	Apply

	c) A simply supported beam is subjected to the loads as shown in the figure. Draw bending moment diagram. AC= 2 m, CB=4 m  	[5]	CO1	Apply
Q2	a) A rectangular beam of 300 mm wide and 400 mm deep is simply supported over a span of 4 m. What uniformly distributed load per meter length will be carried by the beam if the bending stress is not to exceed 10 M Pa.	[5]	CO 2	Apply
	b) A timber beam of rectangular section is to support a load of 20 kN/m over a span of 3.6 m when the beam is simply supported. If the depth of the section is twice the breadth and the bending stress is not exceed 7 N/mm^2, find the dimension of the cross section.	[5]	CO 2	Apply
	c) A wooden beam 100 mm wide and 150 mm deep is simply supported over 4 m span. If the shear force at a section is 4500 N, find the shear stress at 50 mm above the neutral axis.	[5]	CO 2	Apply