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PRESIDENCY UNIVERSITY

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Mid Term Examinations - October 2026

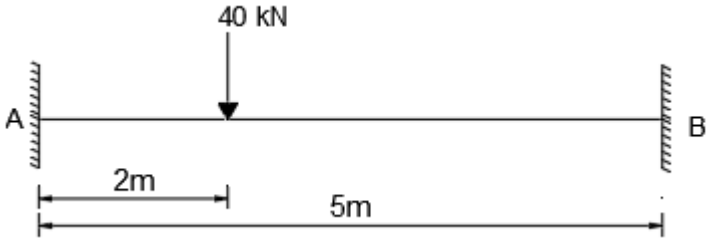
Date: 08/10/2026 **Time:** 11:45 AM - 01:15 PM

Course Code: CIV2507 **Course Name:** Analysis of Indeterminate Structures

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	58	32

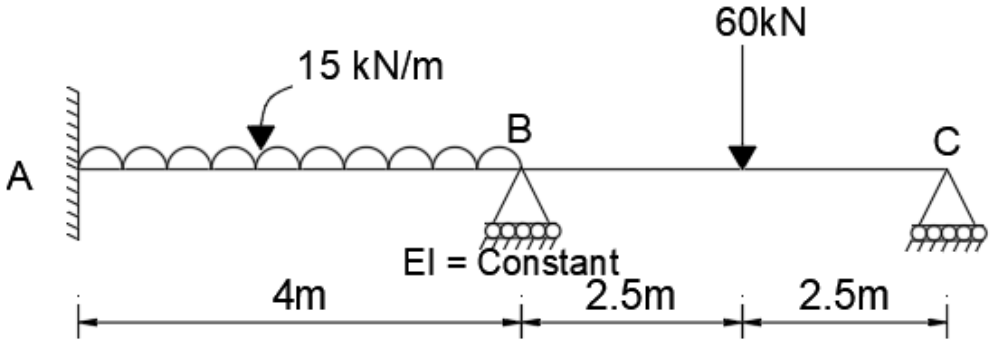
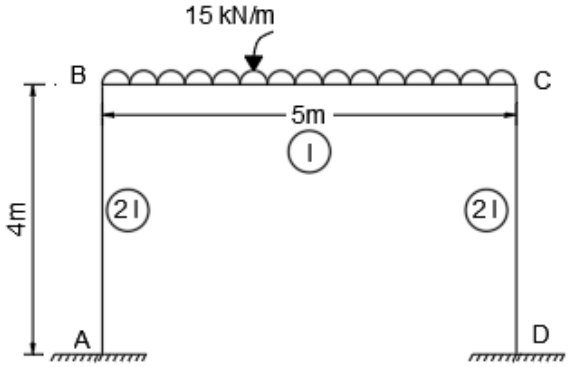
PART A: Answer Following Questions. 10 M

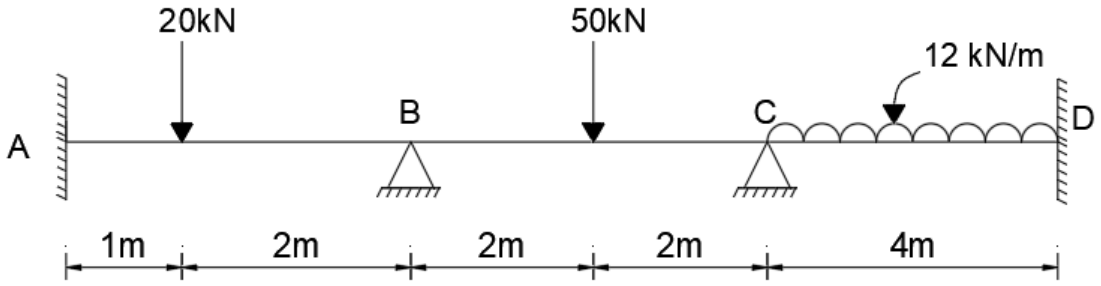
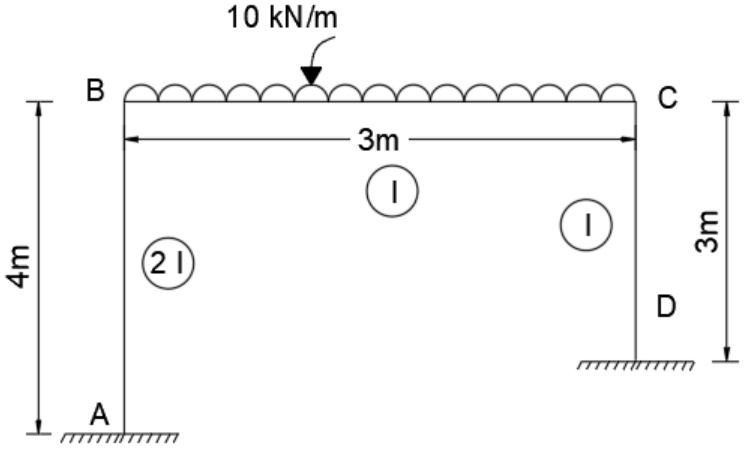
Q.N.	Questions	M	CO	BT
1	What are indeterminate structures? Give an example.	2	CO1	BT1
2	Identify the correct statement/s. i) Slope is maximum near the fixed support and minimum at the simple support. ii) Deflection is maximum near the center of span and minimum near the support. iii) Slope is minimum near the fixed support and maximum near the simple support. (iv) Slope and deflections are both zero near the simple support.	2	CO1	BT1
3	Flexural rigidity is defined as the product of elastic modulus (E) and moment of inertia (I) of the cross section. Determine the flexural rigidity of a beam c/s of width 300mm, depth 450mm & E = $21x10^3$ N/mm^2.	2	CO1	BT3
4	Determine the fixed end moments for a beam subjected to loads as shown in the figure below. 	2	CO1	BT3
5	Define absolute stiffness and relative stiffness in the Moment distribution method of structural analysis.	2	CO2	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT

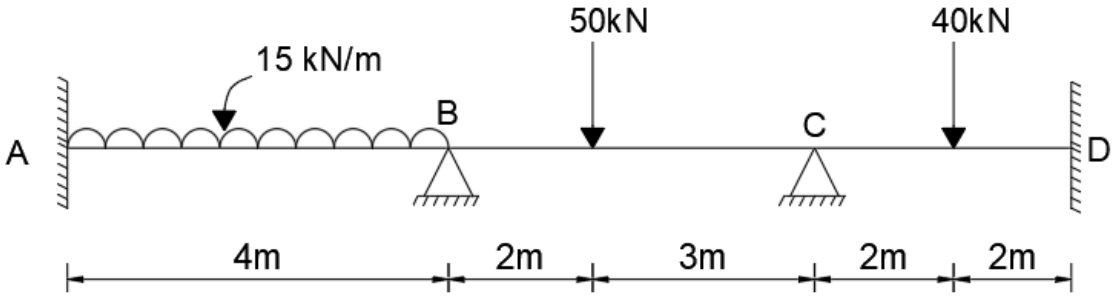
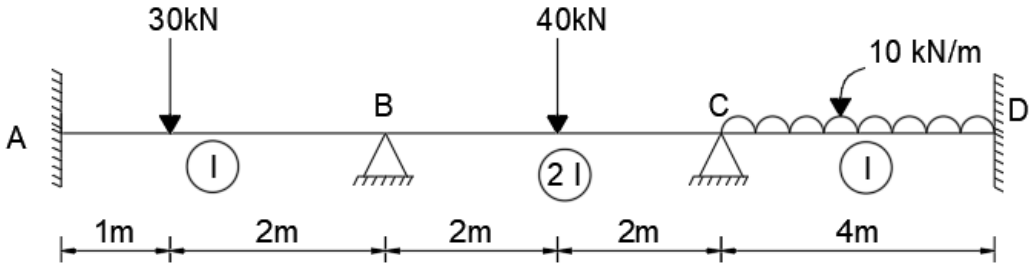
PTO (Please Turn Over)

6	Analyse a continuous beam subjected to loads as shown in the figure by Slope-deflection method. Draw BMD and Elastic curve. 	10	CO1	BT3
7	Analyse a portal frame subjected to loads as shown in the figure by Slope-deflection method. Draw BMD and Elastic curve. 	10	CO1	BT3

PART C: Answer Any 1 Following Questions. 15 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
8	A continuous beam ABCD is fixed at A and D and loaded as shown in the figure. Analyse the beam by Slope-deflection method and draw BMD and Elastic curve. Also consider the following data a. End A is turning through 1/200 radians in a clockwise direction. b. Support B sinks 25mm in downward direction. c. Support C sinks 15mm in downward direction. d. Beam has a constant EI of 600 kNm^2. 	15	CO1	BT3
9	A portal frame ABCD is fixed at A and D and has a rigid joint B and C. Analyse the portal frame loaded as shown in the figure by Slope-deflection method. Draw BMD and Sketch the deflected shape of the frame. 	15	CO1	BT3

PARTD: Answer Any 1 Following Questions. 15 M				
Q.N.	**Questions**	**M**	**CO**	**BT**

PTO (Please Turn Over)

10	Analyse the continuous beam loaded as shown in the figure by Moment distribution method. Draw BMD, Elastic curve and SFD. 	15	CO2	BT3
11	Analyse the continuous beam loaded as shown in the figure by Moment distribution method. Draw BMD, Elastic curve and SFD. 	15	CO2	BT3