

# CBCS SCHEME

17CV52

## Fifth Semester B.E. Degree Examination, Jan./Feb. 2023 Analysis of Indeterminate Structures

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 Analyse the beam shown in Fig.Q1 by Slope-deflection method. Draw bending moment and shear force diagrams.

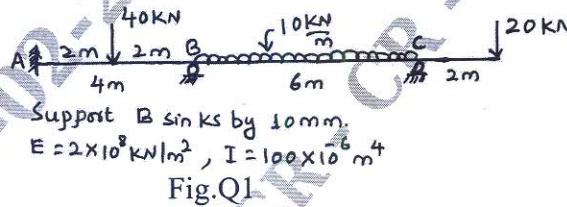


Fig.Q1

(20 Marks)

OR

- 2 Analyse the portal frame shown in Fig.Q2 by slope-deflection method. Draw Bending Moment Diagram.

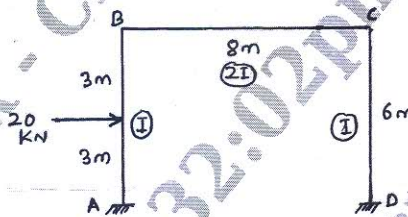


Fig.Q2

(20 Marks)

### Module-2

- 3 Using Moment Distribution Method, analyse the beam shown in Fig.Q3. Draw Bending Moment and Shear Force Diagrams.

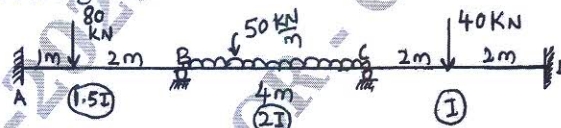


Fig.Q3

(20 Marks)

OR

- 4 Determine the moments at the ends of the members for the portal frame shown in Fig.Q4 using Moment Distribution Method. Draw Bending Moment Diagram.

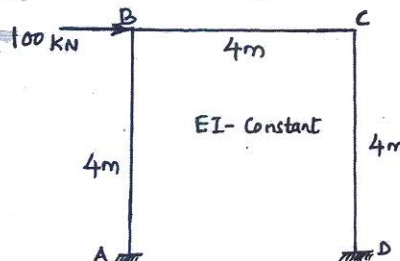


Fig.Q4

(20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.

**Module-3**

- 5 Analyse the beam shown in Fig.Q5 by Kani's method. Draw Bending Moment and Shear Force Diagrams.



Fig.Q5

(20 Marks)

OR

- 6 Analyse the Double-Storey portal frame using Kani's method as shown in Fig.Q6.

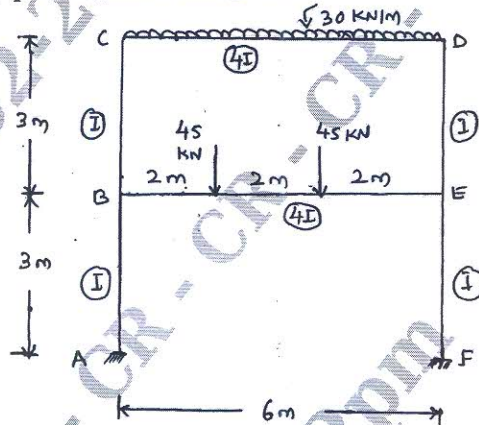


Fig.Q6

(20 Marks)

**Module-4**

- 7 For the beam shown in Fig.Q7, determine moments at the ends of the members by Flexibility Matrix method (System Approach) and draw the Bending Moment Diagram.

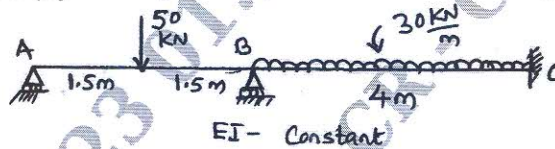


Fig.Q7

(20 Marks)

OR

- 8 Analyse the Frame Shown in Fig.Q8 by Flexibility Matrix method (System Approach) and draw the Bending Moment Diagram.

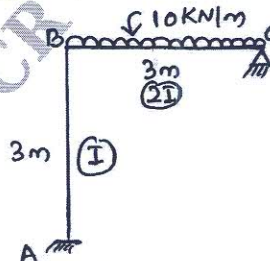


Fig.Q8

(20 Marks)

**Module-5**

- 9 Using Stiffness Matrix method (System Approach) analyse the beam shown in Fig.Q9 and Draw Bending Moment Diagram and Shear Force Diagram.



Fig.Q9

(20 Marks)

**OR**

- 10 Analyse the Portal frame shown in Fig.Q10 using Stiffness Matrix method (System Approach). Draw the Bending Moment Diagram.

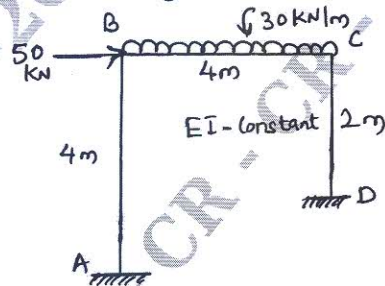


Fig.Q10

(20 Marks)

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