



# CBCS SCHEME

18CV52

Fifth Semester B.E. Degree Examination, June/July 2023

## Analysis of Indeterminate Structures

Time: 3 hrs.

Max. Marks: 100

- Note:** 1. Answer any FIVE full questions, choosing ONE full question from each module.  
 2. Missing data, if any, may be suitably assumed.

### Module-1

- 1 Analyse and draw BMD and SFD for the continuous beam shown in Fig.Q1 by slope deflection method.

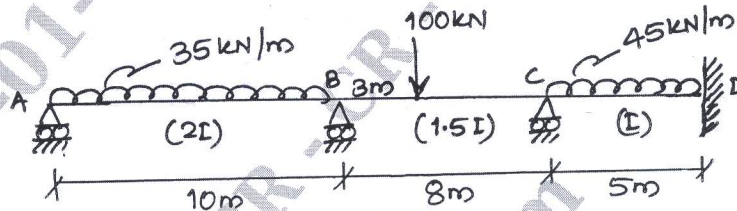


Fig.Q1

(20 Marks)

OR

- 2 Analyse and draw BMD for the rigid frame shown in Fig.Q2 by slope deflection method.

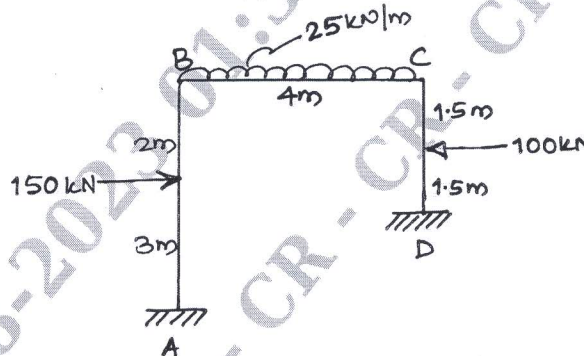


Fig.Q2

(20 Marks)

### Module-2

- 3 Analyse and draw BMD and SFD for the continuous beam shown in Fig.Q3 by moment distribution method.

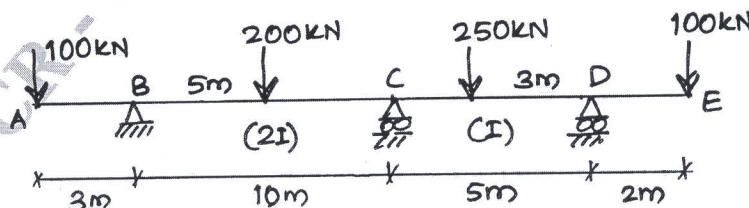


Fig.Q3

(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.

OR

- 4 Analyse the portal frame shown in Fig.Q4 by moment distribution method and draw BMD.

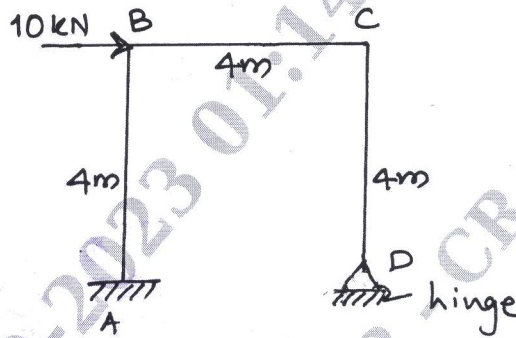


Fig.Q4

(20 Marks)

**Module-3**

- 5 Analyse the continuous beam shown in Fig.Q5 by Kani's method and draw BMD.

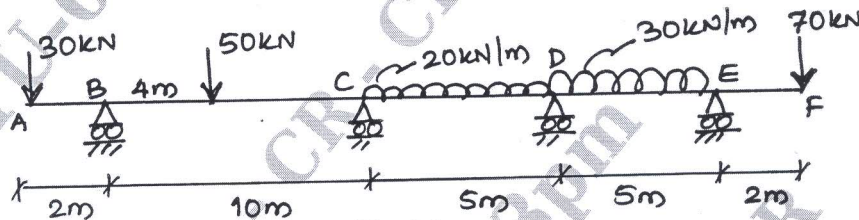


Fig.Q5

(20 Marks)

OR

- 6 Analyse the portal frame shown in Fig.Q6 by Kanis method and draw BMD.

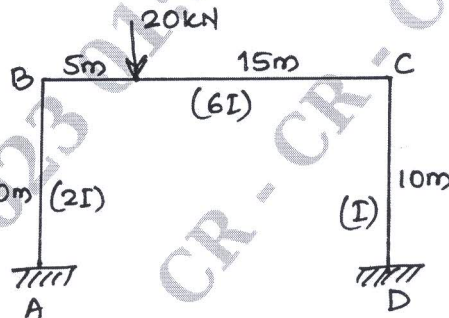


Fig.Q6

(20 Marks)

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**Module-4**

- 7 Analyse the continuous beam shown in Fig.Q7 by matrix flexibility method and draw BMD and SFD. Take moments as redundant. (Use system approach).

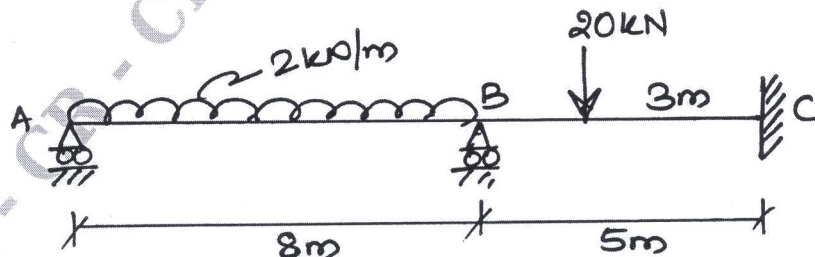


Fig.Q7

(20 Marks)

OR

- 8 Analyse the rigid frame shown in Fig.Q8 by matrix flexibility method using system approach. Take reaction at 'D' as redundant.

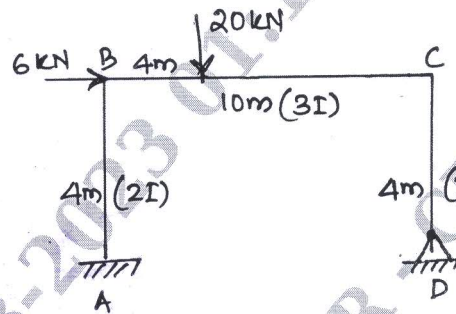


Fig.Q8

(20 Marks)

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**Module-5**

- 9 Analyse the continuous beam shown in Fig.Q9 by matrix stiffness method using system approach and draw BMD.

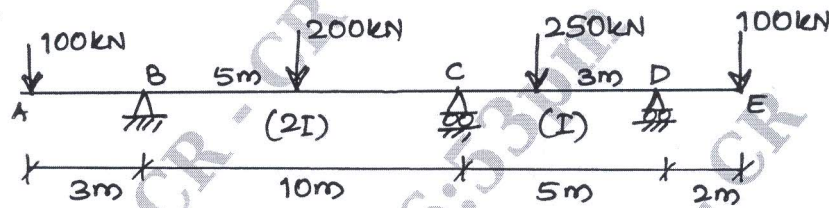


Fig.Q9

(20 Marks)

OR

- 10 Analyse the pin-jointed truss shown in Fig.Q10, by matrix stiffness method using system approach. Take  $E = \text{constant}$  for all members. The values in parenthesis indicates c/s area of members.

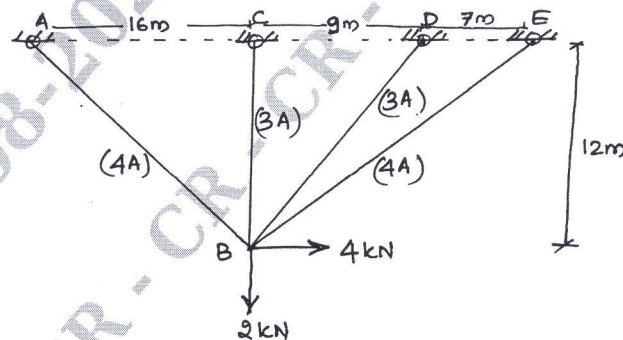


Fig.Q10

(20 Marks)

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