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15CV52

Fifth Semester B.E. Degree Examination, July/August 2021 Analysis of Indeterminate Structures

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions.

- 1 Analyze the continuous beam shown in Fig. Q1 by slope deflection method. Draw BMD and Elastic curve. (16 Marks)

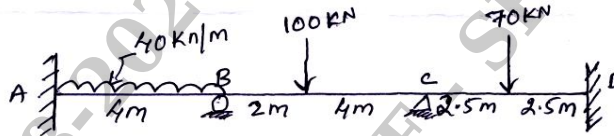


Fig. Q1

- 2 Analyze the portal Frame shown in Fig. Q2 by slope deflection method. Draw BMD. (16 Marks)

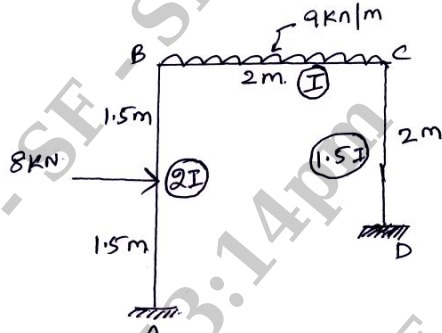


Fig. Q2

- 3 Analyze the continuous beam by moment distribution method shown in Fig. Q3. The support 'C' sinks by 9 mm. Take $EI = 1000 \text{ kN-m}^2$. Draw BMD and Elastic curve. (16 Marks)

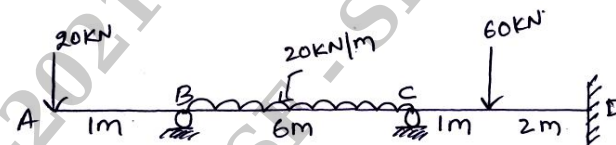


Fig. Q3

- 4 Analyze the portal frame shown in Fig. Q4 by moment distribution method. Draw BMD. (16 Marks)

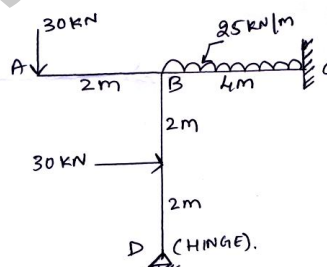


Fig. Q4

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.

- 5 Analyze the continuous beam by Kani's method shown in Fig. Q5. Draw BMD. (16 Marks)

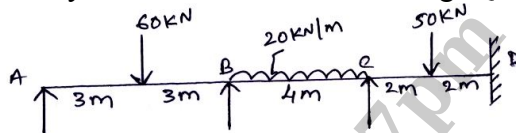


Fig. Q5

- 6 Analyze the portal frame shown in Fig. Q6 by Kani's method. Draw BMD. (16 Marks)

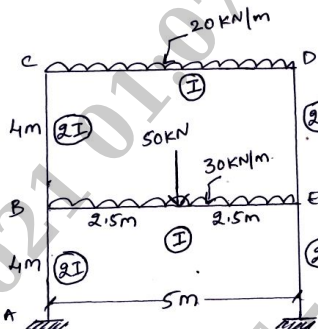


Fig. Q6



- 7 Analyze the beam shown in Fig. Q7 by flexibility matrix method. Draw BMD. (16 Marks)

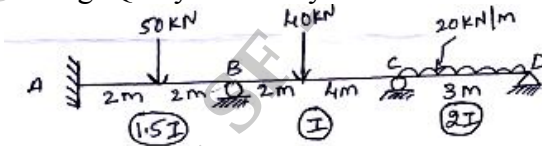


Fig. Q7

- 8 Analyze the portal frame shown in Fig. Q8 by flexibility matrix method. Draw BMD. (16 Marks)

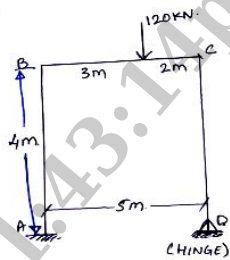


Fig. Q8

- 9 Analyze the continuous beam shown in Fig. Q9 by stiffness matrix method. Draw BMD. (16 Marks)

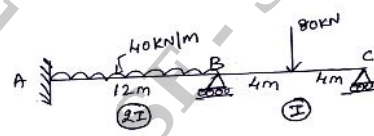


Fig. Q9

- 10 Analyze the portal frame shown in Fig. Q10 by stiffness matrix method. Draw BMD. (16 Marks)

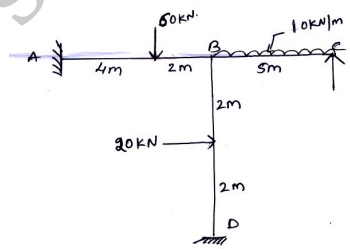


Fig. Q10
