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18CV52

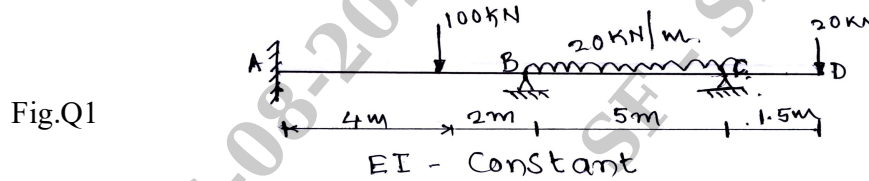
Fifth Semester B.E. Degree Examination, July/August 2021 Analysis of Indeterminate Structure

Time: 3 hrs.

Max. Marks: 100

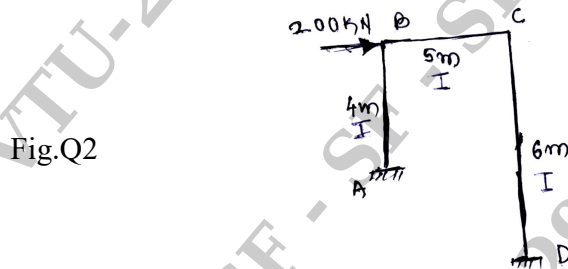
Note: Answer any FIVE full questions.

- 1 Analyze continuous beam ABCD by slope deflection method. Construct SFD and BMD.



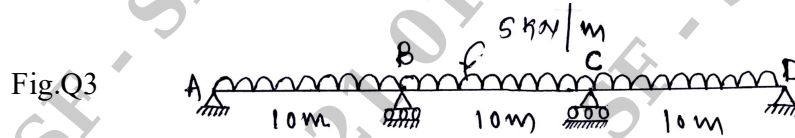
(20 Marks)

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



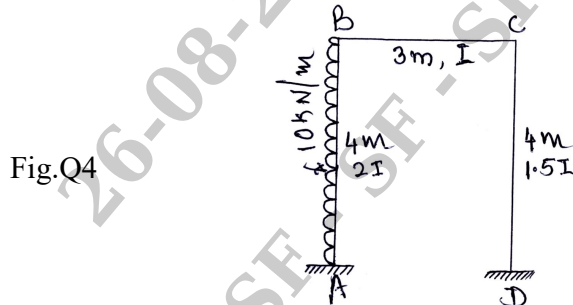
(20 Marks)

- 3 Analyze the continuous beam ABCD loaded as shown in Fig.Q3 if settlement in support B and C are 5 mm and 10 mm respectively. Use moment distribution method. Take $EI = 2.7 \times 10^5 \text{ kN-m}^2$. Draw BMD.



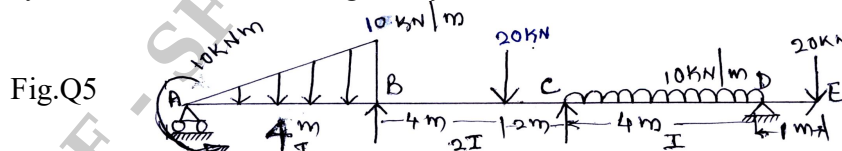
(20 Marks)

- 4 Analyze the frame loaded as shown in Fig.Q4. Use moment distribution method.



(20 Marks)

- 5 Analyze the beam shown in Fig.Q5 by Kani's method. Draw BMD.

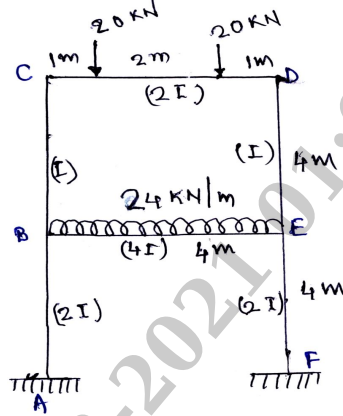


(20 Marks)

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.

6 Analyze the frame shown in Fig.Q6 by Kani's method. (Make use of symmetry)

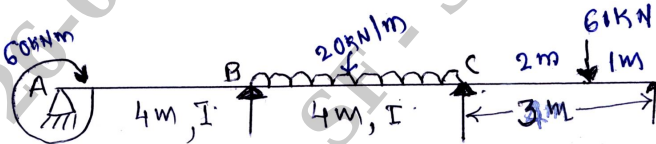
Fig.Q6



(20 Marks)

7 Analyze the continuous beam shown in Fig.Q7 by flexibility method. Draw BMD.

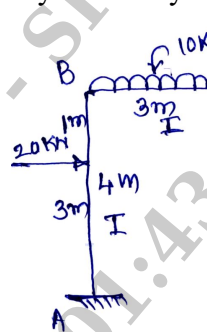
Fig.Q7



(20 Marks)

8 Analyze frame shown in Fig.Q8 by flexibility matrix approach. Draw BMD.

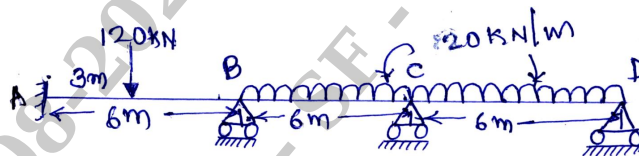
Fig.Q8



(20 Marks)

9 Analyze the continuous beam shown in Fig.Q9 by stiffness matrix method. Take EI constant.

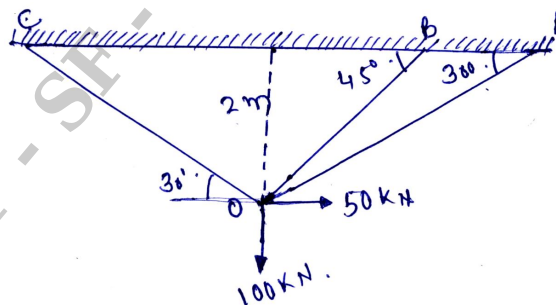
Fig.Q9



(20 Marks)

10 Analyze the pin-jointed truss shown in Fig.Q10 by stiffness matrix method. Take cross-sectional area for all members = 1000 mm² and E = 200 kN/mm².

Fig.Q10



(20 Marks)
