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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Civil Engineering

Semester End Examination; Dec. - 2019

Analysis of Indeterminate Structures

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1. Analyze the frame shown in Fig. 1. Q(1) using slope deflection method. Draw BMD, SFD and also sketch the elastic curve. 20

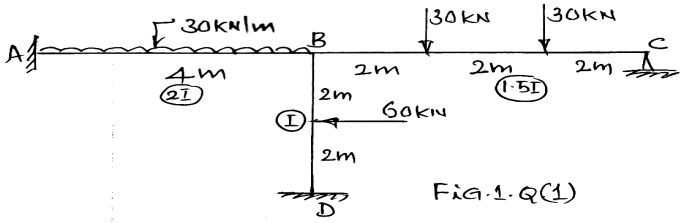

Fig.1.Q(1)

2. Analyze the continuous beam loaded as shown in Fig. 2. Q(2) by slope deflection method. Draw BMD, SFD and also sketch the elastic curve. Give $2I_{AB} = I_{BC} = 2I_{CD} = 2I$ 20

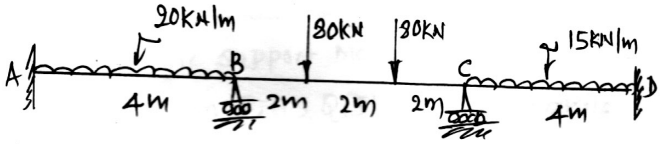

Fig.2. Q(2)

UNIT - II

3. Analyze the frame shown in Fig.3 Q(3) by Moment Distribution method. Draw BMD, SFD and also sketch the elastic curve. 20

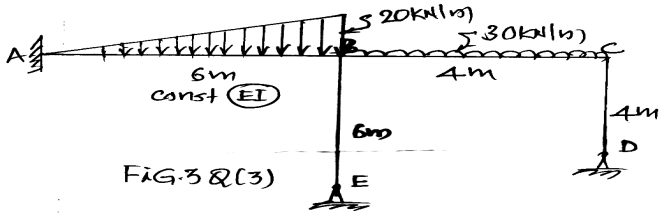

Fig.3 Q(3)

4. Analyze the frame shown in Fig.4 Q(4) by Moment Distribution method . Draw BMD, SFD and also sketch the elastic curve. 20

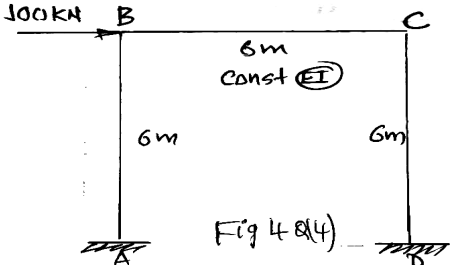

Fig 4 Q(4)

UNIT - III

5. Determine the support moments for the continuous beam shown in Fig.5 Q(5) by using Kani's method . Draw BMD, SFD and also sketch the elastic curve. 20

Contd…2

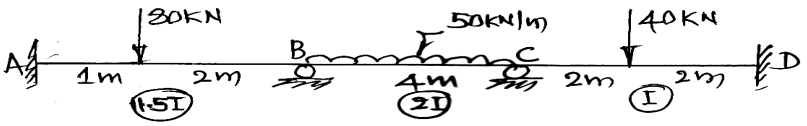

FIG. 5. Q(5)

6. Analyze the frame shown in Fig.6 Q.(6) by using Kani's method . Draw BMD, SFD and also sketch the elastic curve. 20

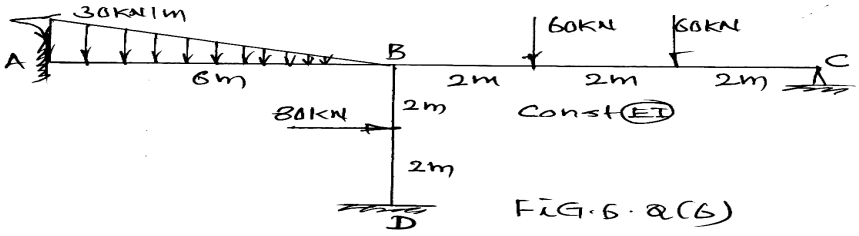

FIG. 6. Q(6)

UNIT - IV

7. Analyze the continuous beam shown in Fig.7.Q.(7) by using flexibility matrix method. Draw BMD, SFD and also sketch the elastic curve. 20

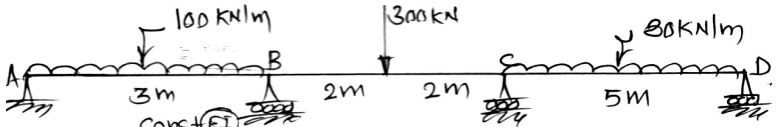

FIG. 7. Q(7)

8. Analyze the continuous beam shown in Fig.8 Q(8) by using stiffness matrix method. Draw BMD and also sketch the elastic curve. 20

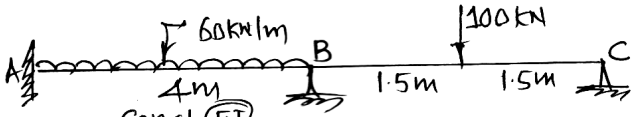

FIG. 8. Q(8)

UNIT - V

9. Detemine the force in the members of the truss shown in Fig.9.Q(9). AE is constant for all members. 20

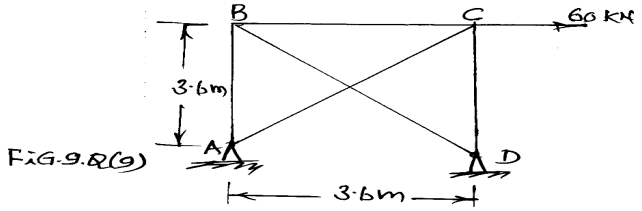

FIG. 9. Q(9)

10. A braced cantilever truss is loaded as shown in Fig.10 Q(10). All the members are of same material and have the same cross sectional area. Find the axial forces in all the members of the truss. 20

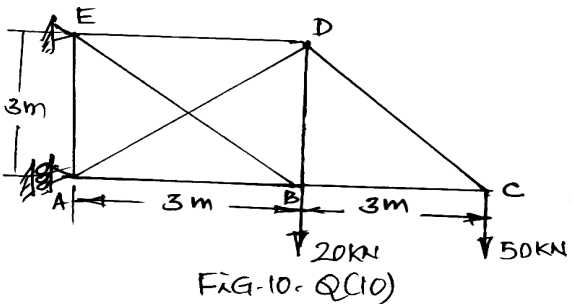

FIG. 10. Q(10)

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