



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

(An Autonomous Institution affiliated to VTU, Belgaum)

**Fifth Semester, B.E. - Civil Engineering**

**Semester End Examination; Dec. - 2015**

**Analysis of Structures - II**

Time: 3 hrs

Max. Marks: 100

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

ii) Assume missing data suitably.

**UNIT - I**

1. Find the forces in the members of the plane truss shown in Fig. Q(1). Cross-sectional area of retreat members is  $3000 \text{ mm}^2$  and others  $2500 \text{ mm}^2$ . Take;  $E = 200 \text{ GPa}$ .

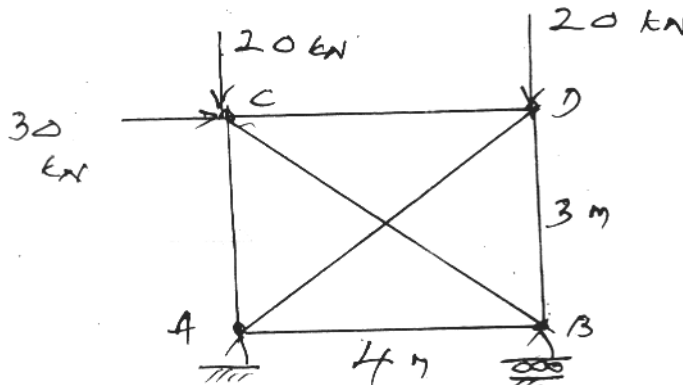


Fig. Q (1)

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2. Find the forces in the members of the plane truss showing in Fig. Q(2).  $AE = \text{Constant}$ .

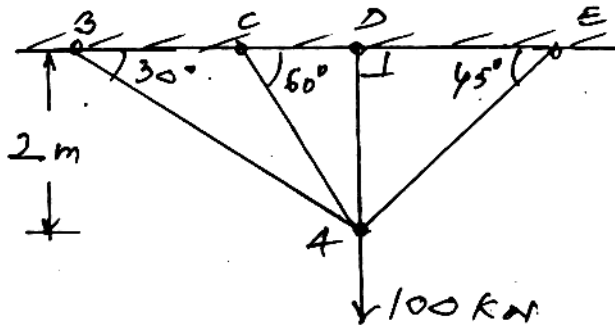


Fig. Q(2)

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**UNIT - II**

3. Analyse the continuous beam shown in Fig. Q(3) by slope deflection method. Draw BMD, SFD and elastic curve.

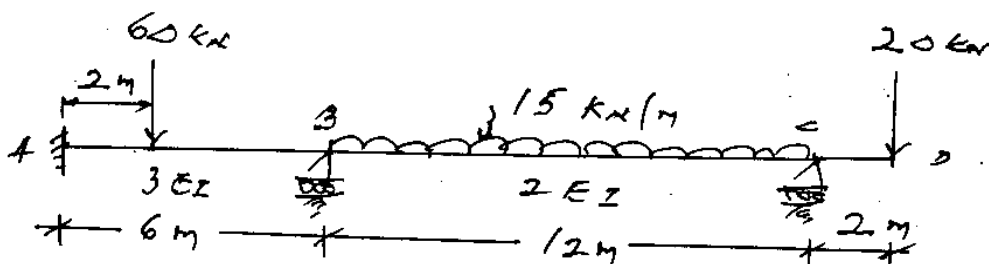
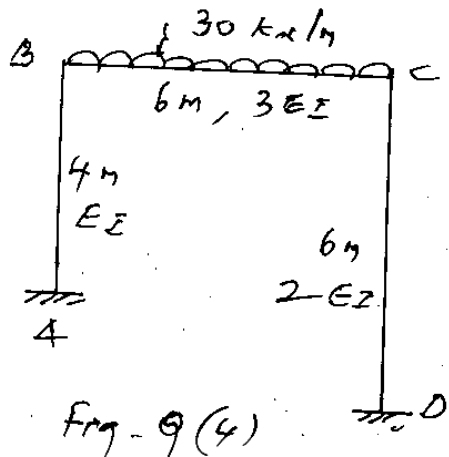


Fig. Q (3)

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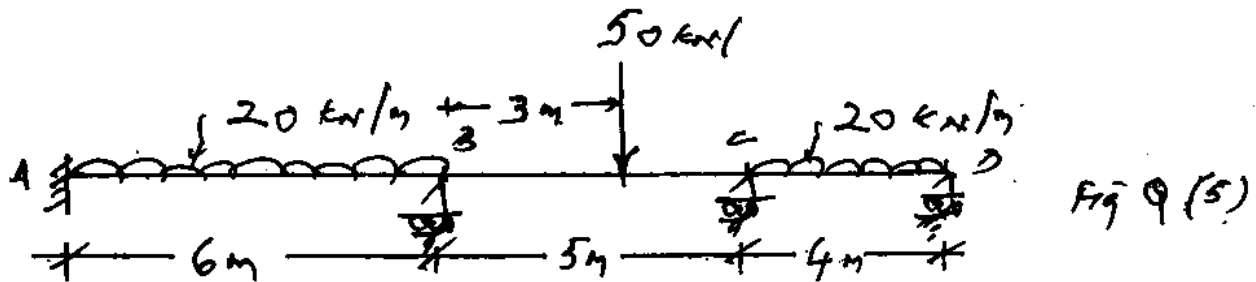
4. Analyse the rigid jointed plane frame shown in Fig. Q(4) by slope-deflection method. Draw BMD.



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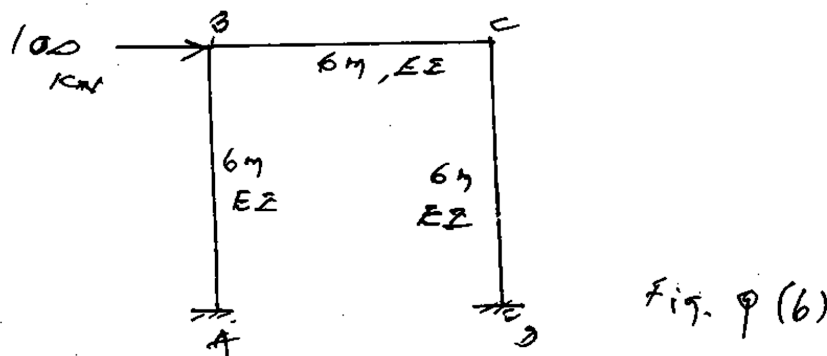
UNIT - III

5. Analyse the continuous beam shown in Fig. Q(5) by moment distribution method. Support B settles by 10 mm. Draw BMD and Elastic curve Take;  $E = 200 \text{ GPa}$  and  $I = 1.20 \times 10^{-4} \text{ m}^4$ .



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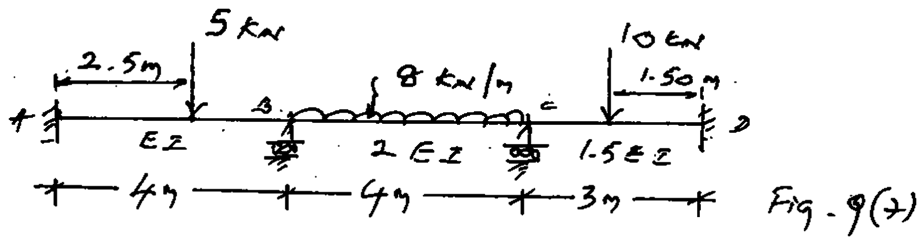
6. Analyse the rigid jointed plane frame shown in Fig. Q(6) by moment distribution method. Draw BMD and EC.



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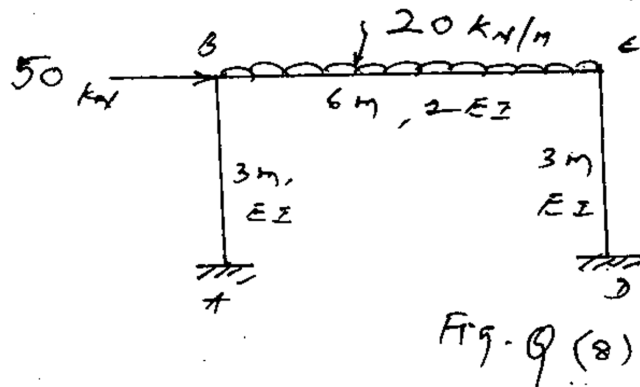
UNIT - IV

7. Analyse continuous beam shown in Fig. Q(7) by Kani's method.  $EI = \text{constant}$ . Draw BMD and SFD



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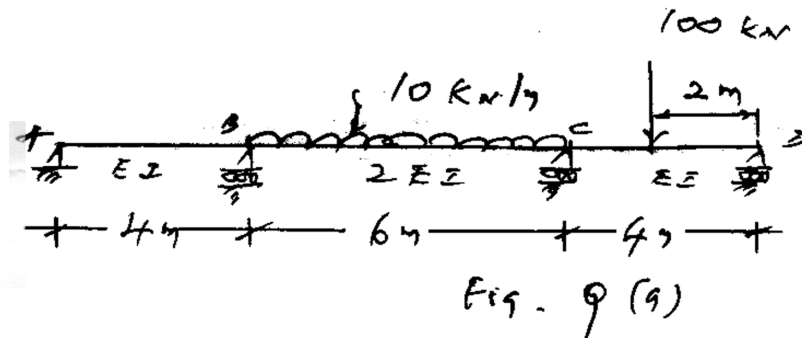
8. Analyse the rigid jointed frame shown in Fig. Q8 by Kani's method. Draw BMD and EC.



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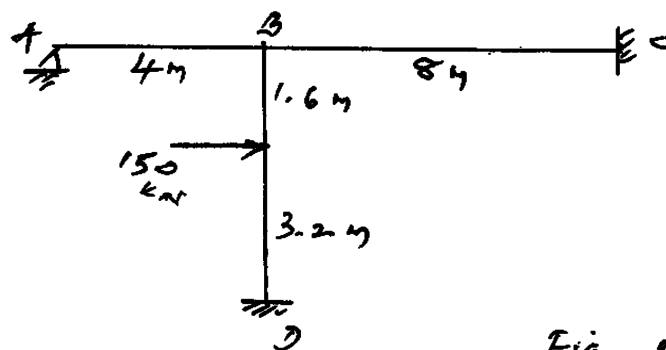
UNIT - V

9. Analyse the continuous beam shown in Fig. Q(9) by flexibility matrix method, system approach. Draw BMD and SFD.



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10 Analyse the rigid jointed plane frame shown in Fig. Q(10) by stiffness matrix method, system approach. Draw BMD.  $EI = \text{constant}$ .



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Fig. Q (10)

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