

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course Code

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Fifth Semester B.E. Degree Examinations, April/May 2024

STRUCTURAL ANALYSIS-II

Duration: 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.

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PI)</u>
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Module-1

1. Analyse the beam shown in Fig. Q1 by slope deflection method. Draw SFD and BMD. 20 (3 :1: 2.2.1)

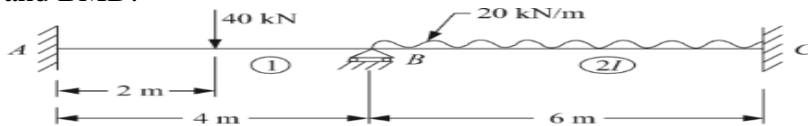


Fig. Q1

OR

2. Analyse the frame shown in Fig. Q2 by slope deflection method. Draw SFD and BMD. 20 (3 :1: 2.2.1)

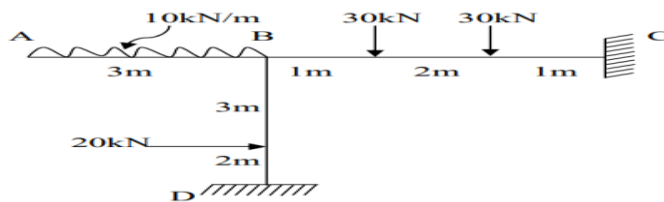


Fig. Q2

Module-2

3. Analyse the beam shown in Fig. Q3 by Moment Distribution method. Draw BMD 20 (3 :2 : 2.2.1)

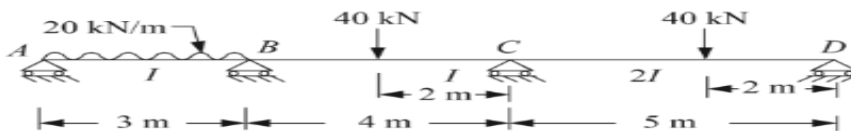


Fig. Q3

OR

4. Analyse the frame shown in Fig. Q4 by moment distribution method. Also draw BMD. 20 (3 :2: 2.2.1)

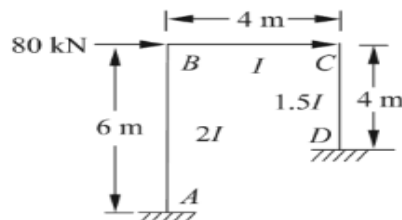


Fig. Q4

Module-3

5. Analyse the continuous beam shown in Fig. Q5 by Kani's method. Draw BMD 20 (3 :3: 2.2.1)

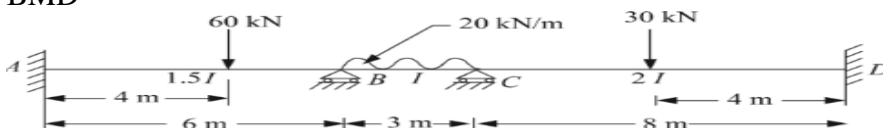


Fig. Q5

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)

OR

6. Analyse the Frame shown in Fig. Q6 by Kani's method. Draw BMD. 20 (3 : 3 : 2.2.1)

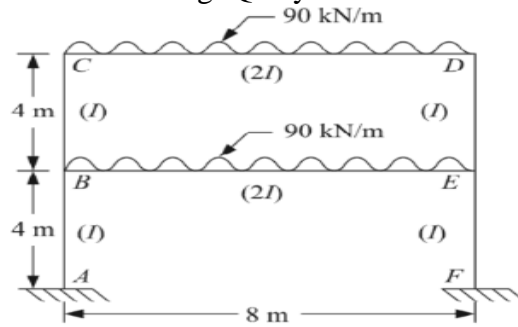


Fig. Q6

Module-4

7. Analyse the continuous beam shown in Fig. Q7 by Flexibility matrix method. Draw SFD & BMD 20 (3 : 4 : 2.2.1)

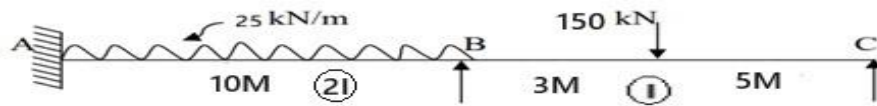


Fig. Q7

OR

8. Analyse the continuous beam shown in Fig. Q8 by Flexibility matrix method. Draw BMD 20 (3 : 4 : 2.2.1)

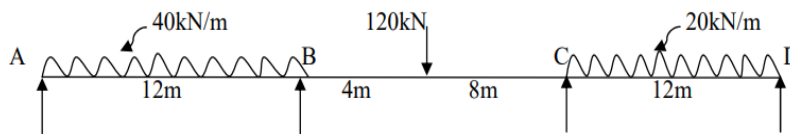


Fig. Q8

Module-5

9. Analyse the continuous beam shown in Fig. Q9 by Stiffness matrix method. Draw BMD 20 (3 : 5 : 2.2.1)

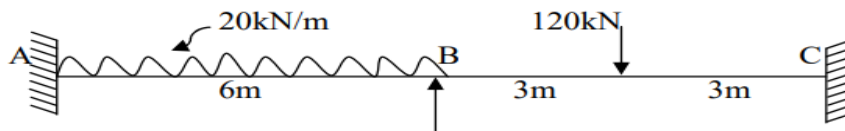


Fig. Q9

OR

10. Analyse the pin jointed truss as shown in Fig. Q10. Take cross-sectional areas for all the members 1000 mm^2 and $E=200 \text{ kN/mm}^2$ 20 (3 : 5 : 2.2.1)

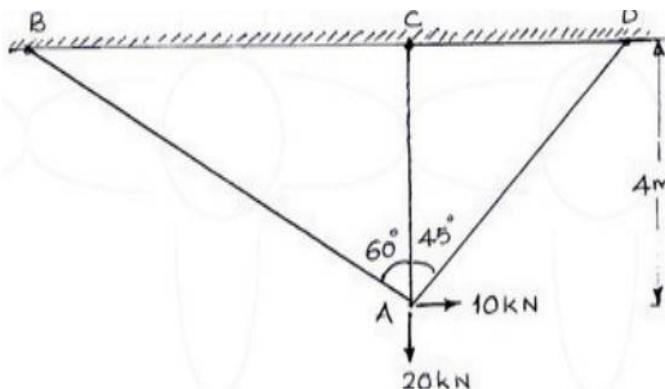


Fig. Q10

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