CBCS SCHEME

USN | | | | | | | | | | |

17CV52

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022
Analysis of Indeterminate Structures

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

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.

Module-1

1 Analyze the continuous beam as shown in Fig.Q.1 by slope deflection method. Draw BMD and SFD and elastic curve. **(20 Marks)**

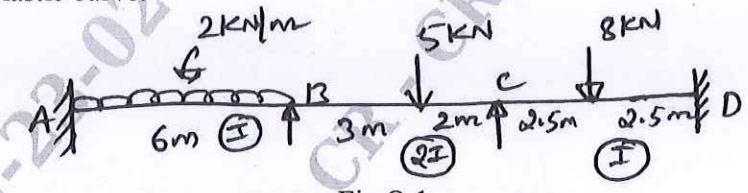


Fig.Q.1

OR

2 Analyze the frame shown in Fig.Q.2 by slope deflection method. Draw BMD and SFD. **(20 Marks)**

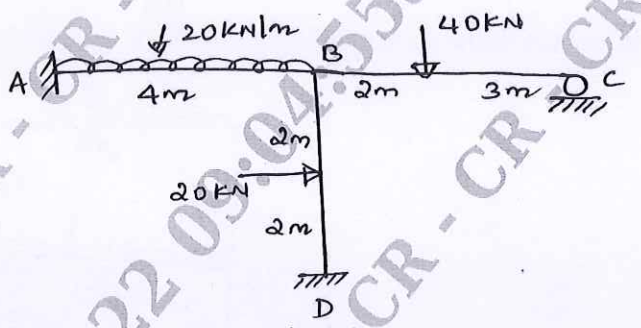


Fig.Q.2

Module-2

3 A horizontal beam is loaded as shown in Fig.Q.3. If the support 'A' sinks by 10mm and 'B' by 30mm and 'C' by 20mm. Determine the end moments in the beam. Given $I = 2.4 \times 10^6 mm^4$ and $E = 2 \times 10^5 N/mm^2$. Analyze by moment distribution method. **(20 Marks)**

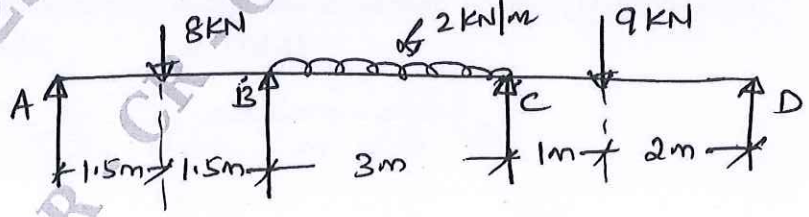


Fig.Q.3

OR

4 Using moment distribution method, analyze the frame shown in Fig.Q.4 and find the end moments. Draw BMD and SFD. **(20 Marks)**

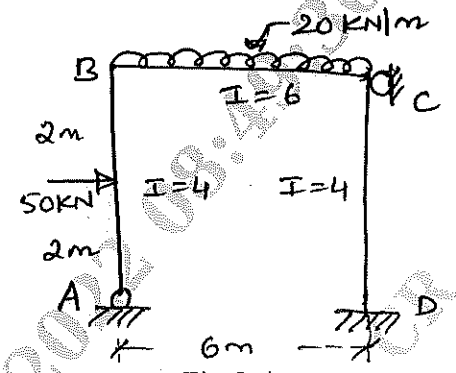


Fig.Q.4

Module-3

5 Analyze the beam shown in Fig.Q.5 by Kani's method. Draw BMD and SFD. **(20 Marks)**

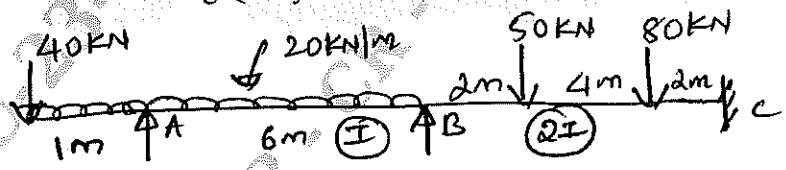


Fig.Q.5

OR

6 Analyze the frame shown in Fig.Q.6 by Kani's method. Draw BMD and SFD. **(20 Marks)**

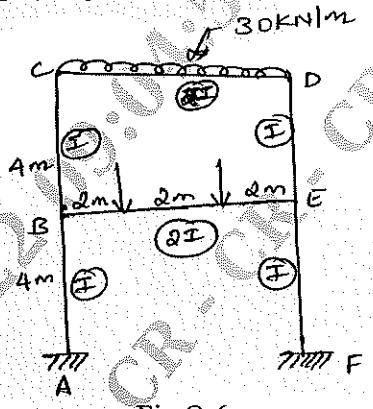


Fig.Q.6

Module-4

7 Using flexibility method, analyze the continuous beam as shown in Fig.Q.7. **(20 Marks)**

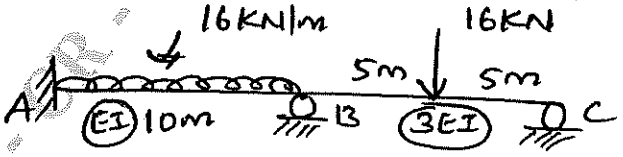


Fig.Q.7

OR

8 Using the flexibility method, analyze the pin jointed frame shown in Fig.Q.8. The cross sectional areas A and E for all members is the same. **(20 Marks)**

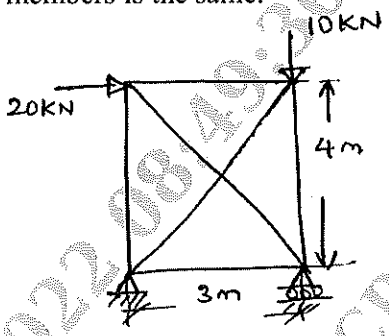


Fig.Q.8

Module-5

9 Analyze the continuous beam shown in Fig.Q.9 by stiffness method. **(20 Marks)**

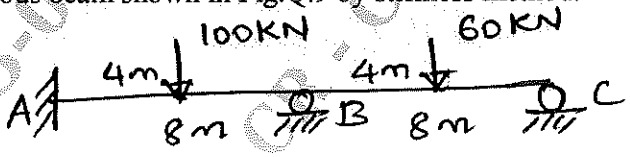


Fig.Q.9

OR

10 Analyze the frame by stiffness method refer Fig.Q.10. **(20 Marks)**

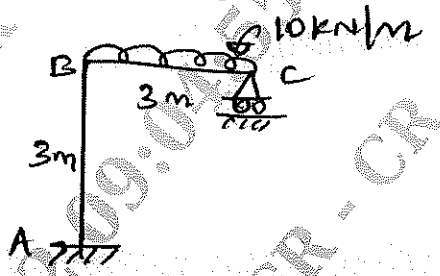
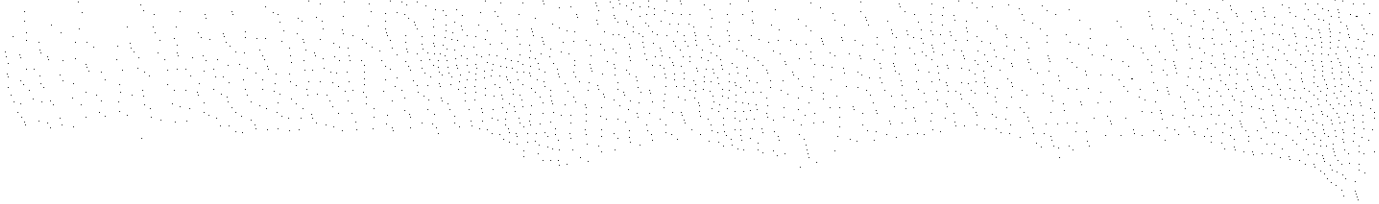


Fig.Q.10

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