CBCS SCHEME

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

18CV52

Fifth Semester B.E. Degree Examination, June/July 2025
Analysis of Indeterminate Structures

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 Analyze this beam using slope deflection method and draw SFD and BMD shown in Fig.Q.1. **(20 Marks)**

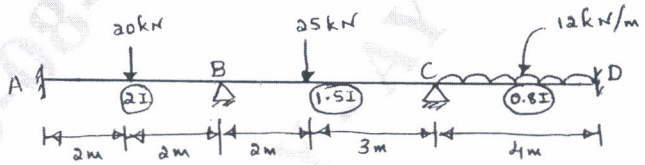

Fig.Q.1

OR

2 Analyze the frame shown in Fig.Q.2 by slope deflection method and draw bending moment diagram. **(20 Marks)**

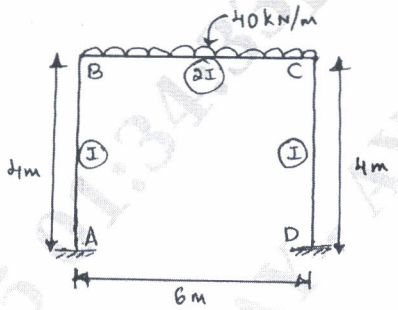

Fig.Q.2

Module-2

3 Analyze the continuous beam shown in Fig.Q.3 by moment distribution method and draw bending moment and shear force diagram. Draw the elastic curve. **(20 Marks)**

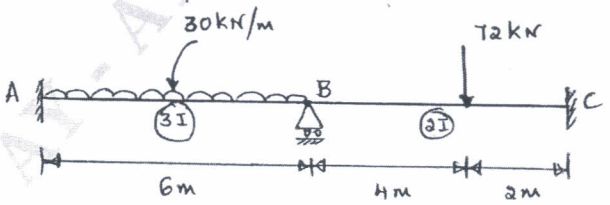

Fig.Q.3

OR

4 Analyze the frame shown in Fig.Q.4 by moment distribution method and draw BMD and SFD. EI = constant. **(20 Marks)**

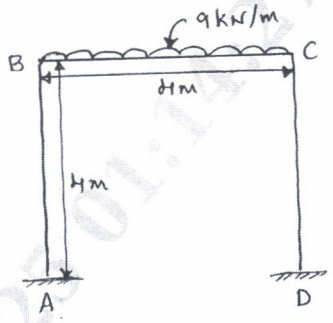

Fig.Q.4

Module-3

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

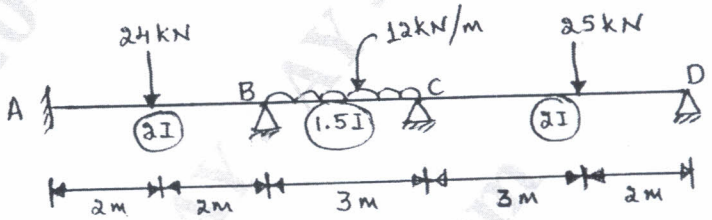

Fig.Q.5

OR

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

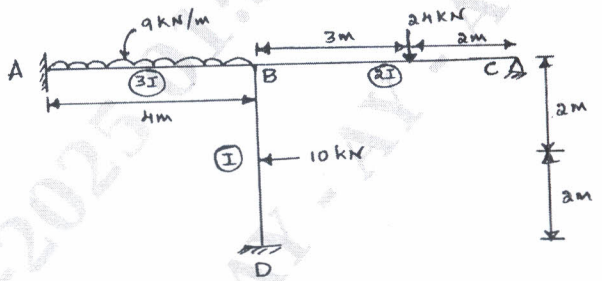

Fig.Q.6

Module-4

7 Analyze the beam shown in Fig.Q.7 by using flexibility matrix method. Draw S.F.D and B.M.D. EI = constant. **(20 Marks)**

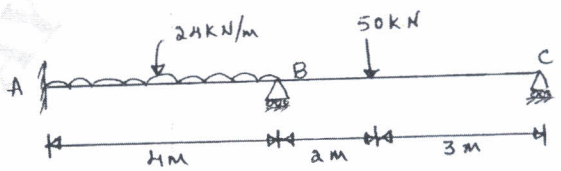

Fig.Q.7

OR

8 Analyze the frame shown in Fig.Q.8 by using flexibility matrix method. Draw B.M.D. **(20 Marks)**

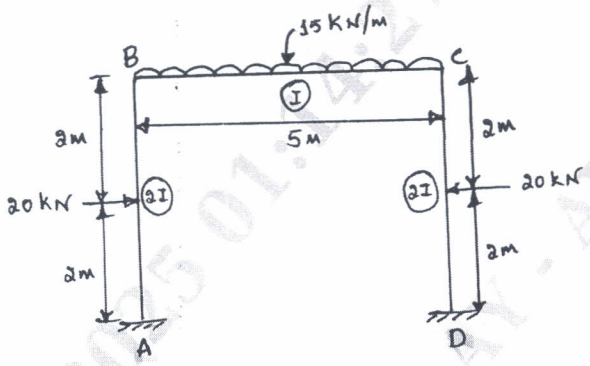

Fig.Q.8

Module-5

9 Analyze the continuous beam shown in Fig.Q.9 by using stiffness matrix method and draw B.M.D.

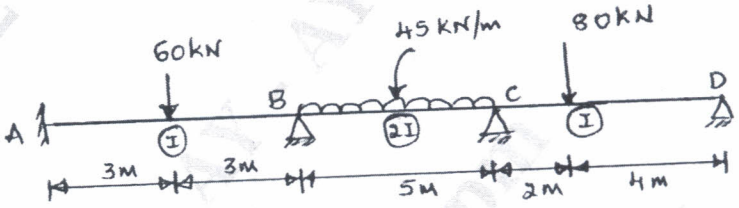

Fig.Q.9

(20 Marks)

OR

10 Analyze the truss joint shown in Fig.Q.10 by stiffness matrix method and tabulate the member forces. The cross-section of all the member is 1000 mm^2 and E = 2×10^5 N/mm^2.

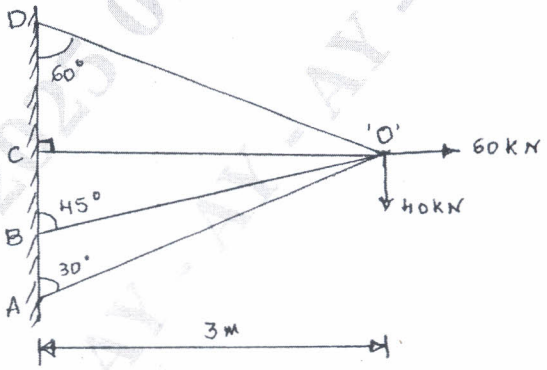

Fig.Q.10

(20 Marks)

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