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18CV52

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

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Assume missing data suitably.

Module-1

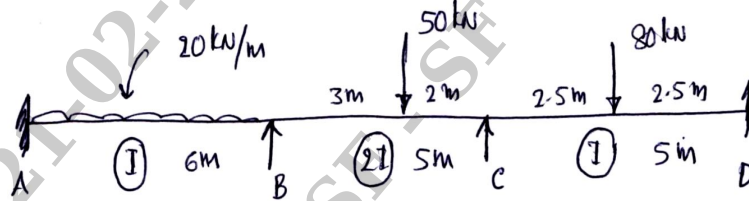**1** Analyze the continuous beam shown in Fig.Q.1 by slope deflection method. Draw BMD and SFD. **(20 Marks)**

Fig.Q.1

OR

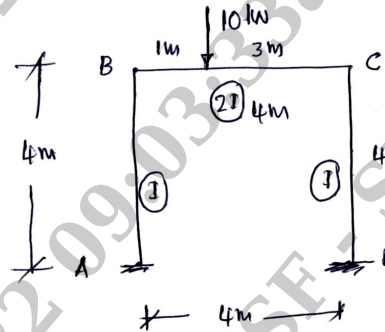**2** Analyze the portal frame shown in Fig.Q.2 by slope deflection method. Draw BMD. **(20 Marks)**

Fig.Q.2

Module-2

3 Analyze the beam shown in Fig.Q.3 by moment distribution method. Draw BMD EI is constant. **(20 Marks)**
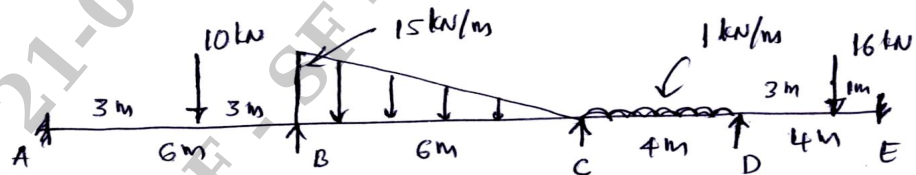

Fig.Q.3

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OR

4 Analyze the portal frame by moment-distribution method draw BMD. **(20 Marks)**
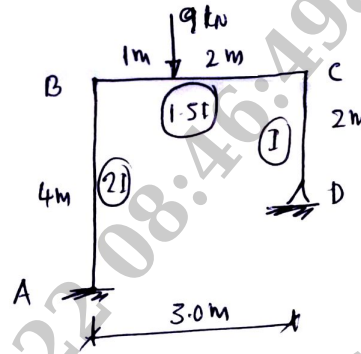

Fig.Q.4

Module-3

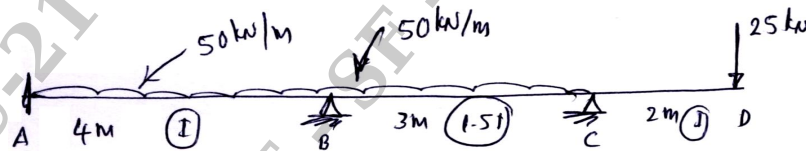**5** Analyze the continuous beam loaded shown in Fig.Q.5 by Kani's rotation method. Draw BMD. **(20 Marks)**

Fig.Q.5

OR

6 Analyze the frame shown in Fig.Q.6 by Kani's method. Take the advantage of symmetry. **(20 Marks)**
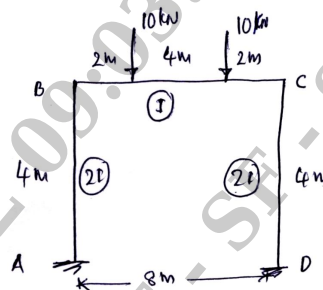

Fig.Q.6

Module-4

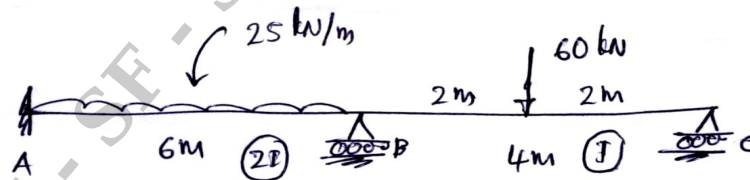**7** Analyze the continuous beam by flexibility matrix method (system approach). Draw BMD. (Fig.Q.7). **(20 Marks)**

Fig.Q.7

OR

8 Analyze the L-frame shown in Fig.Q.8 by flexibility matrix method. Draw BMD (system approach). **(20 Marks)**
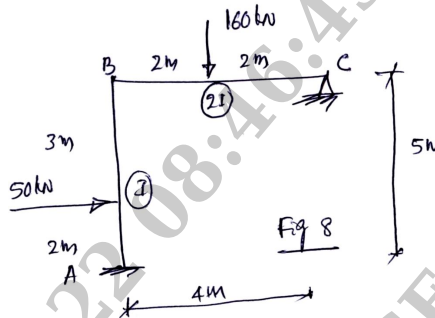

Fig.Q.8

Module-5

9 Analyze the continuous beam by stiffness matrix method (system approach) shown in Fig.Q.9. Draw BMD EI is constant. **(20 Marks)**
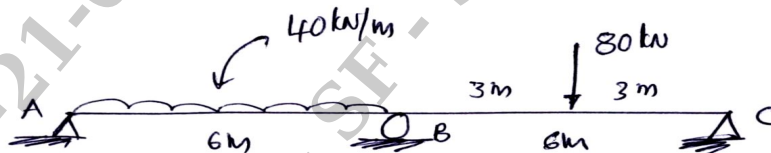

Fig.Q.9

OR

10 Find the forces in the members of a joint 'O' shown in Fig.Q.10 by stiffness matrix method. (system approach). **(20 Marks)**
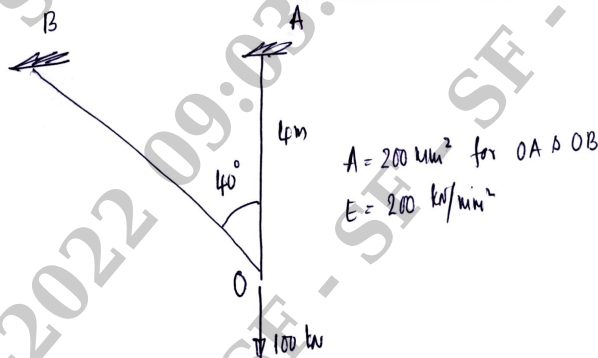

Fig.Q.10

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