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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)

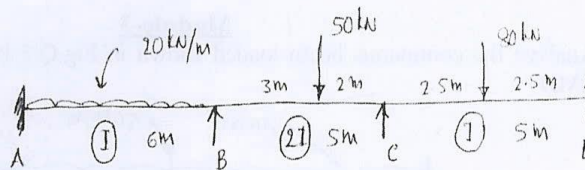


Fig.Q.1

**OR**

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

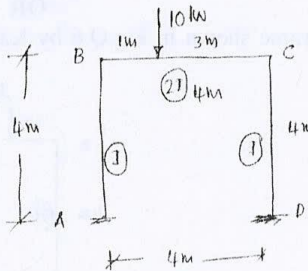


Fig.Q.2

**Module-2**

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

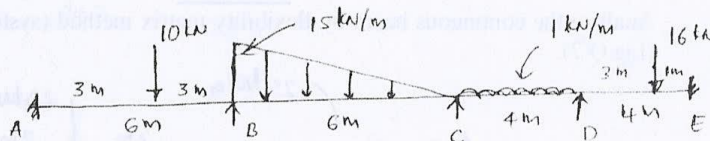


Fig.Q.3

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.

OR

- 4 Analyze the portal frame by moment-distribution method draw BMD.

(20 Marks)

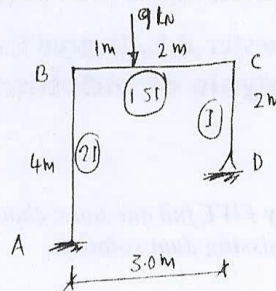


Fig.Q.4

**Module-3**

- 5 Analyze the continuous beam loaded shown in Fig.Q.5 by Kani's rotation method. Draw BMD.

(20 Marks)

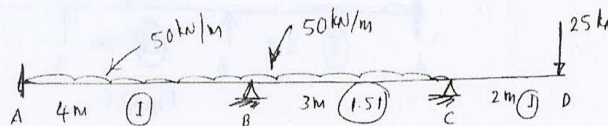


Fig.Q.5

OR

- 6 Analyze the frame shown in Fig.Q.6 by Kani's method. Take the advantage of symmetry.

(20 Marks)

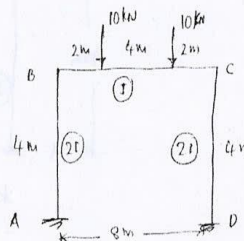


Fig.Q.6

**Module-4**

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

(20 Marks)

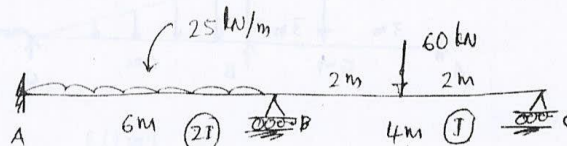


Fig.Q.7



OR

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

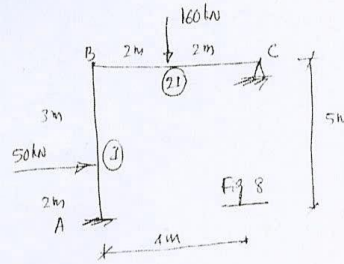


Fig.Q.8



**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)

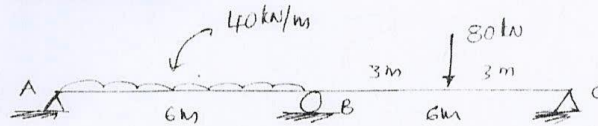


Fig.Q.9

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)

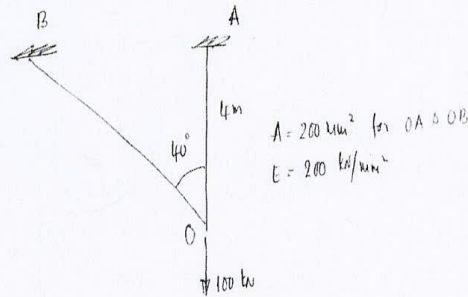


Fig.Q.10

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