

CBCGS Scheme

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15CV52

Fifth Semester B.E. Degree Examination, June/July 2018 Analysis of Indeterminate Structures

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 Analyze the continuous beam as shown in Fig.Q1 by slope deflection method and also determine its bending moment diagram and shear force diagram.

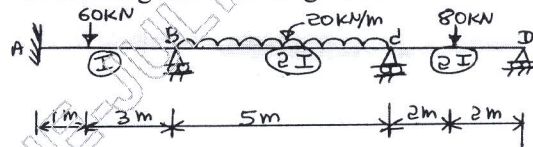


Fig.Q1

(16 Marks)

OR

- 2 Analyze the rigid jointed frame as shown in Fig.Q2 by slope deflection method and also determine its bending moment diagram.

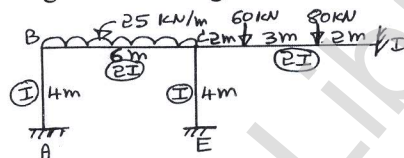


Fig.Q2

(16 Marks)

Module-2

- 3 Analyze the continuous beam as shown in Fig.Q3 by moment distribution method and also determine its bending moment diagram and shear force diagram.

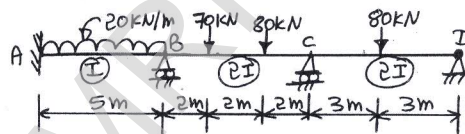


Fig.Q3

(16 Marks)

OR

- 4 Analyze the portal frame as shown in Fig.Q4 by moment distribution method and also determine its bending moment diagram.

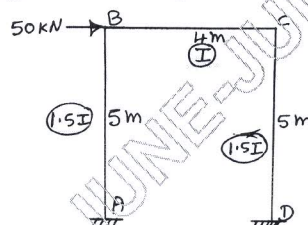


Fig.Q4

(16 Marks)

Module-3

- 5 Analyze the continuous beam as shown in Fig.Q5 by Kani's method and also determine its bending moment diagram and shear force diagram.

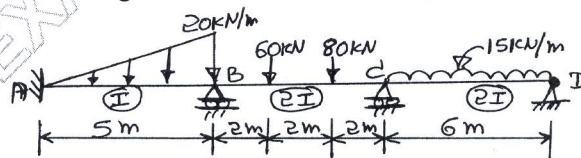


Fig.Q5

(16 Marks)

OR

- 6 Analyze the portal frame as shown in Fig.Q6 by Kani's method by taking the advantage of symmetry and also determine its bending moment diagram.

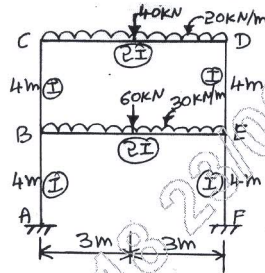


Fig.Q6

(16 Marks)

Module-4

- 7 Analyze the continuous beam as shown in Fig.Q7 by flexibility matrix method with system approach and also determine its bending moment diagram.

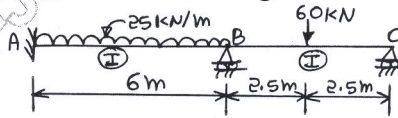


Fig.Q7

(16 Marks)

OR

- 8 Analyze the mill bent as shown in Fig.Q8 by flexibility matrix method with system approach and also determine its bending moment diagram.

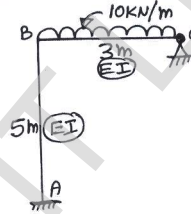


Fig.Q8

(16 Marks)

Module-5

- 9 Analyze the rigid jointed frame as shown in Fig.Q9 by stiffness matrix method with system approach and also determine its bending moment diagram.

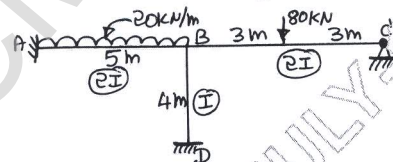


Fig.Q9

(16 Marks)

OR

- 10 Analyze the truss joint as shown in Fig.Q10 by stiffness matrix method with system approach and also tabulate the member forces. Cross section area of all members are 1000 mm^2 and $E = 2 \times 10^5 \text{ N/mm}^2$.

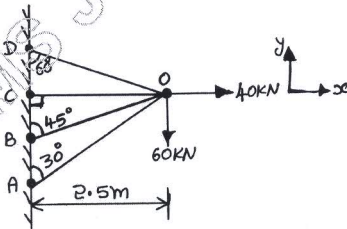


Fig.Q10

(16 Marks)
