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18CV52

## Fifth Semester B.E. Degree Examination, July/August 2022 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 Analyse the continuous beam ABCD shown in Fig Q1 by slope deflection method and draw SFD and BMD.

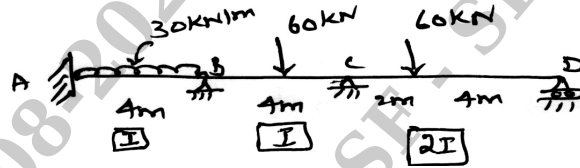


Fig Q1

(20 Marks)

OR

- 2 Analyse the frame shown in Fig Q2 by slope deflection method and draw BMD.

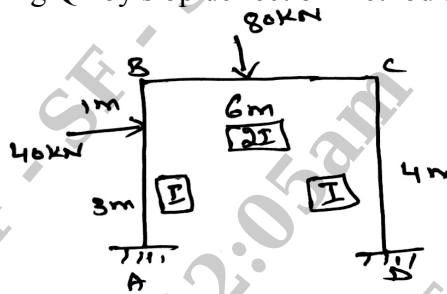


Fig Q2

(20 Marks)

### Module-2

- 3 Analyse the continuous beam shown in Fig Q3 by moment distribution method and draw BMD.

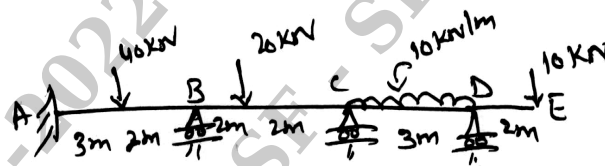


Fig Q3

(20 Marks)

OR

- 4 Analyse the frame shown in Fig Q4 by moment distribution method and draw BMD and SFD.

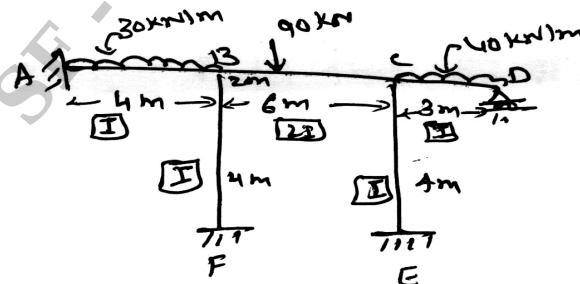


Fig Q4

(20 Marks)

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-3**

5 Analyse the beam shown in Kani's method in Fig Q5. Take  $EI = 1$ . Draw BMD.

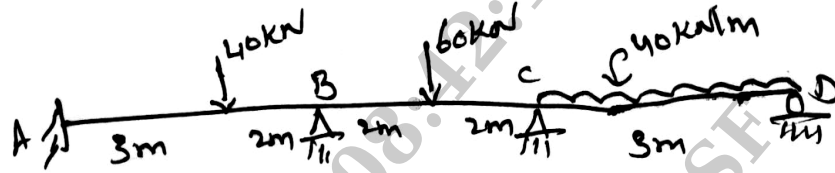


Fig Q 5

(20 Marks)

OR

6 Analyse the frame shown in By Kani's method in Fig Q6. Draw BMD.

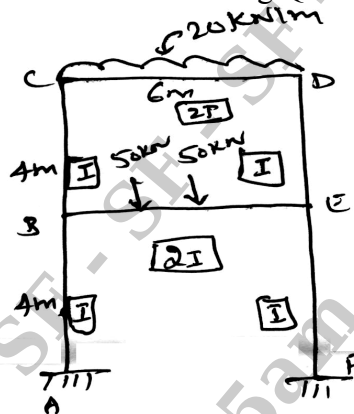


Fig Q 6

(20 Marks)

**Module-4**

7 Analyse the two spanned beam shown in Fig Q7, by flexibility matrix method. Draw BMD.

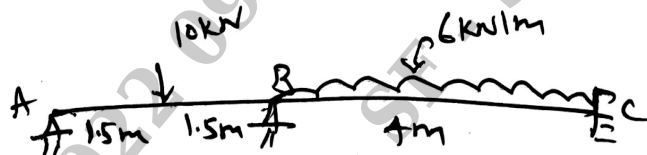


Fig Q7

(20 Marks)

OR

8 Analyse the frame shown in Fig Q8 by using flexibility matrix method.

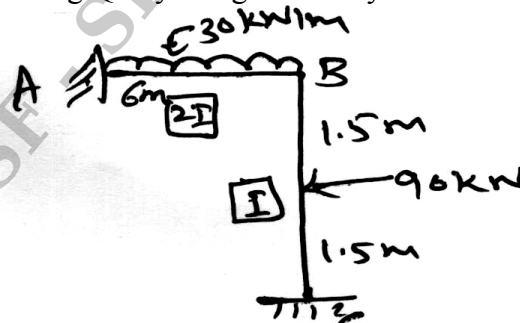


Fig Q8

(20 Marks)

**Module-5**

- 9 Analyse the portal frame shown in Fig Q9 by stiffness matrix method. Draw BMD.

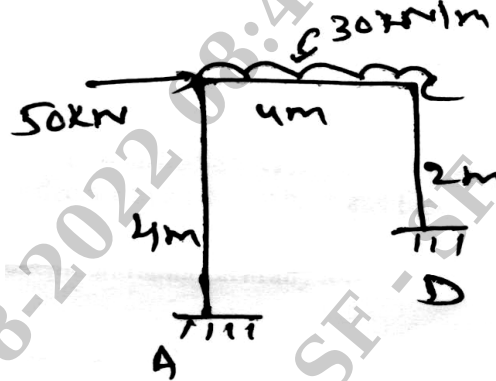


Fig Q9

(20 Marks)

OR

- 10 Analyse the pin jointed frame shown in Fig Q10, by stiffness matrix method. The area of member in sq mm shown in parentheses.

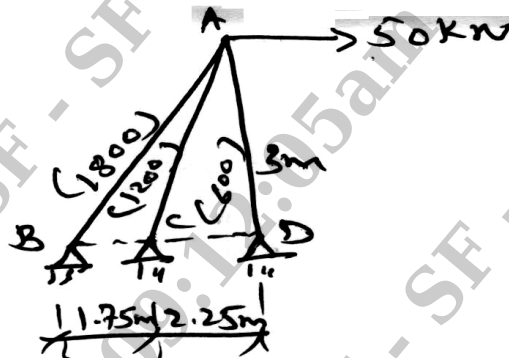


Fig Q10

(20 Marks)

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