

# CBCS Scheme

USN

--	--	--	--	--	--	--	--

15CV52

**Fifth Semester B.E. Degree Examination, Dec.2017/Jan.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 shown in Fig.Q1 by slope deflection method. Draw BMD and EC.

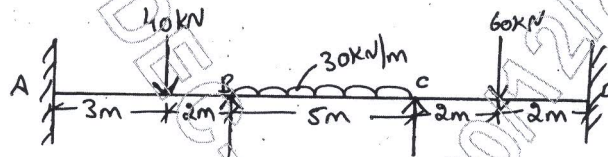


Fig.Q1 (16 Marks)

OR

- 2 Analyze the portal frame shown in Fig.Q2 by slope deflection method. Draw BMD.

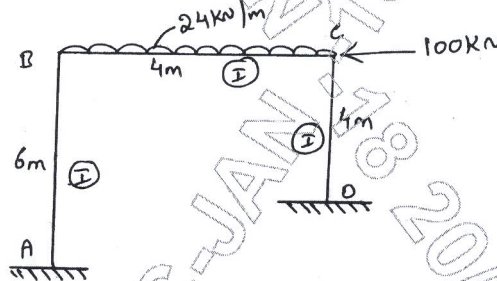


Fig.Q2 (16 Marks)

### Module-2

- 3 Analyze the continuous beam by moment distribution method shown in Fig.Q3. The support 'B' sinks by 10 mm. Take  $EI = 4000 \text{ kN-m}^2$ . Draw BMD and EC.

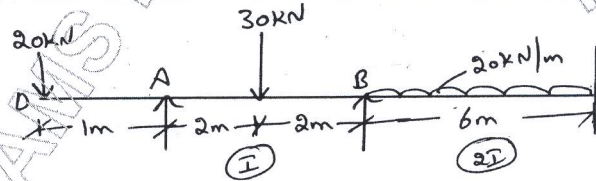


Fig.Q3 (16 Marks)

OR

- 4 Analyze the frame shown in Fig.Q4 by moment distribution method. Draw BMD.

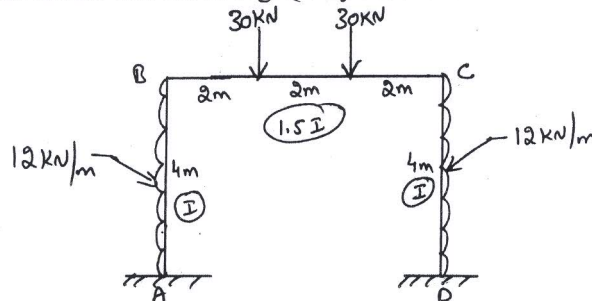


Fig.Q4 (16 Marks)

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 Analyze the continuous beam by Kani's method. Shown in Fig.Q5. Draw BMD.

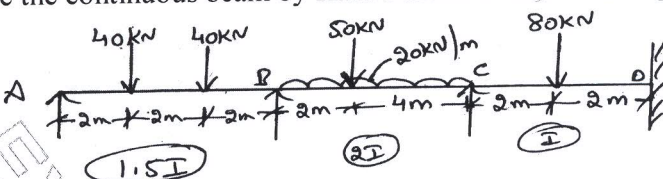


Fig.Q5 (16 Marks)

OR

6 Analyze the frame shown in Fig.Q6 by Kani's method. Draw BMD.

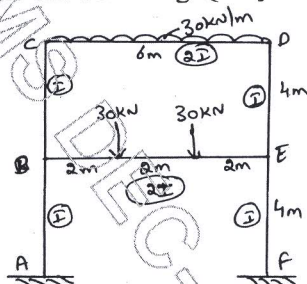


Fig.Q6 (16 Marks)

**Module-4**

7 Analyze the beam shown by flexibility matrix method. Draw BMD.

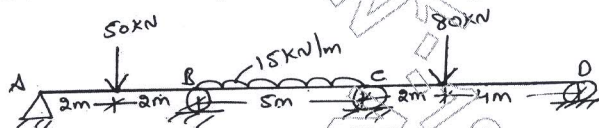


Fig.Q7 (16 Marks)

OR

8 Analyze the beam shown in Fig.Q8 by flexibility matrix method. Draw BMD.

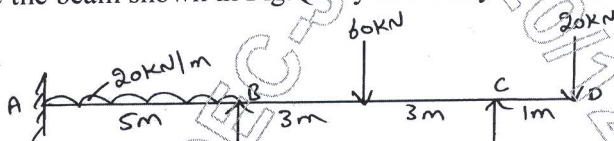


Fig.Q8 (16 Marks)

**Module-5**

9 Analyze the continuous beam shown in Fig.Q9 by stiffness matrix method. Draw BMD.

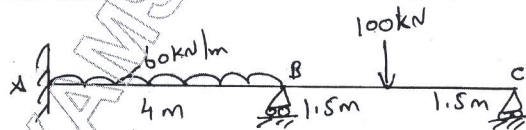


Fig.Q9 (16 Marks)

OR

10 Analyze the portal frame shown in Fig.Q10 by stiffness matrix method. Draw BMD.

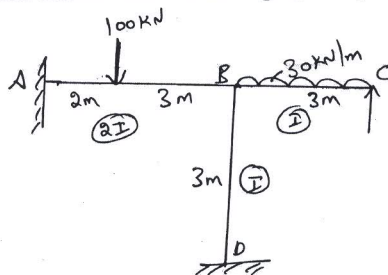


Fig.Q10 (16 Marks)

\*\*\*\*\*