USN										Course Code	2	1	C	V	5	2

Fifth Semester B.E. Degree Examinations, September/October 2024
STRUCTURAL ANALYSIS-II

Duration: 3 hrs   **Max. Marks: 100**

Note: *1. Answer any **FIVE** full questions choosing ONE full Question from each Module.*
    2. Missing data, if any, may be suitably assumed.

Q. No	*Question*	*Marks*	*(RBTL:CO:PI)*

Module-1

1. Analyze the beam as shown in Fig. Q1 using slope deflection method. Draw SFD and BMD.   **20**   **(3 :1: 2.2.1)**
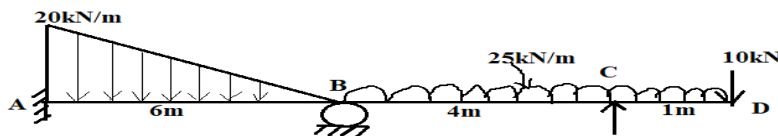
Fig. Q1

(OR)

2. Analyze the frame as shown in Fig. Q2 using slope deflection method. Draw SFD and BMD.   **20**   **(3 :1: 2.2.1)**
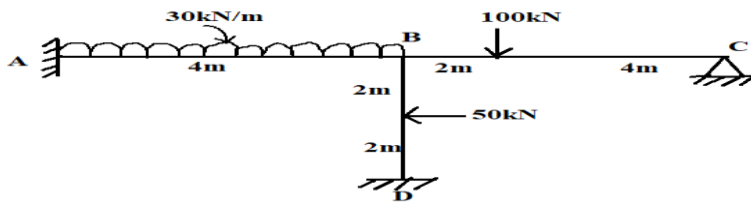
Fig. Q2

Module-2

3.   **a.** Define (i) Distribution factor (ii) Relative stiffness (iii) Bending moment diagram (iv) Shear force diagram (v) Sway and non-sway frames.   **10**   **(1 :2: 2.2.1)**

   b. Analyze the beam as shown in Fig. Q3b using moment distribution method.   **10**   **(3 :2: 2.2.1)**
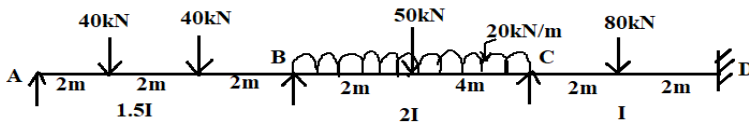

Fig. Q3(b)

(OR)

4. Analyze the portal frame shown in Fig. Q4 using moment distribution method. Draw BMD.   **20**   **(3 :2: 2.2.1)**
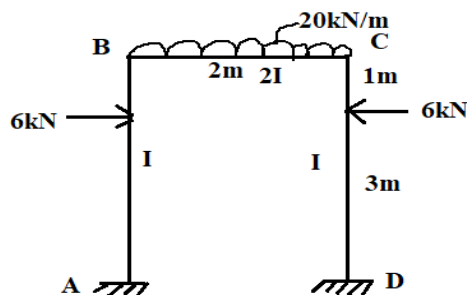

Fig. Q4

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI– Performance Indicator)

Module-3

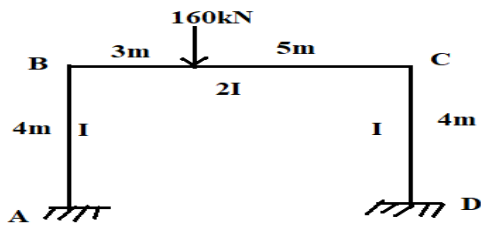**5.** Determine the moments at A, B, C and D for portal frame shown in the Figure Q5 using Kani's method.   **20**   **(3 :3: 2.2.1)**

Fig. Q5

(OR)

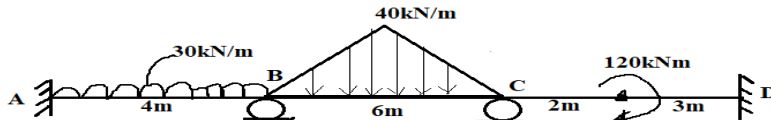**6.** Analyze the beam as shown in Fig. Q6 using Kani's method. Draw BMD.   **20**   **(3 :3: 2.2.1)**

Fig. Q6

Module-4

7. Analyse the continuous beam shown in Fig. Q7 using force method.   **20**   **(3 :4: 2.2.1)**

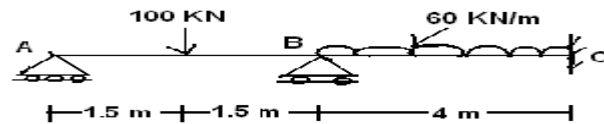Fig. Q7

(OR)

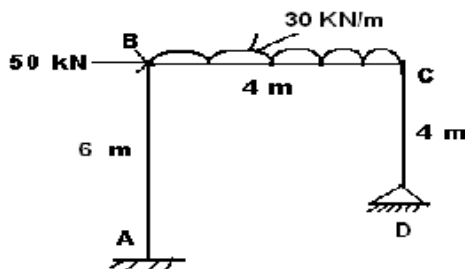**8.** Analyse the portal frame ABCD shown in Fig. Q8 using force method.   **20**   **(3 :4: 2.2.1)**

Fig. Q8

Module-5

9. Analyze the beam as shown in Fig. Q9 using stiffness matrix method. Draw BMD.   **20**   **(3 :5: 2.2.1)**
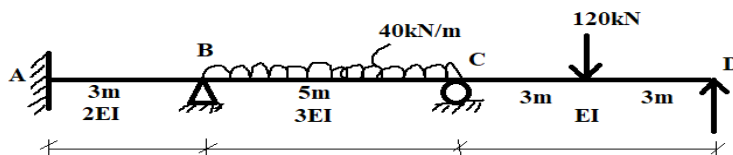

Fig. Q4

(OR)

10 Analyze the frame shown in Fig. Q10 using stiffness matrix method.   **20**   **(3 :5: 2.2.1)**
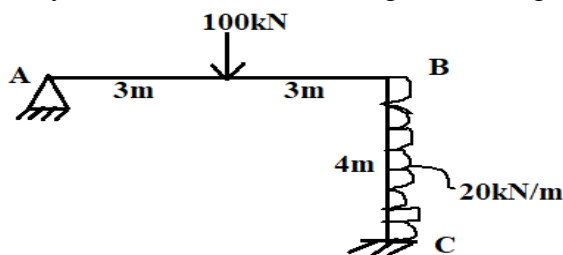

Fig. Q10

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Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI– Performance Indicator)