

III B. Tech I Semester Supplementary Examinations, May - 2016
STRUCTURAL ANALYSIS – II
 (Civil Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answering the question in **Part-A** is compulsory
 3. Answer any **THREE** Questions from **Part-B**

PART -A

- 1 a) Explain about Eddy's Theorem. [4M]
- b) State the assumptions in Portal method. [3M]
- c) What are the important characteristics of a cable? [3M]
- d) What is distribution theorem? [4M]
- e) What is the moment generated when any support sinks by an amount of δ in any fixed beam of span L and flexural rigidity EI ? [4M]
- f) Differentiate between Degree of static and kinematic indeterminacies. [4M]

PART -B

- 2 Calculate the reactions and Maximum Bending Moment for the given three hinged parabolic arch as shown in fig.1 [16M]

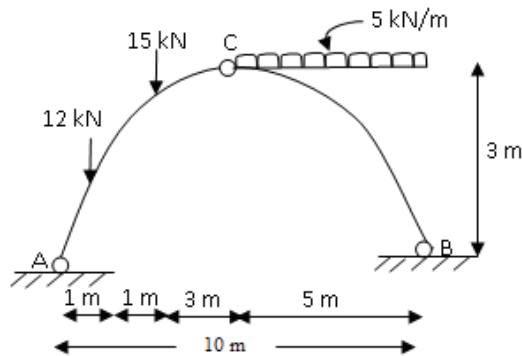


Fig.1

- 3 Analyse the frame shown in fig.2 by using Portal method. [16M]

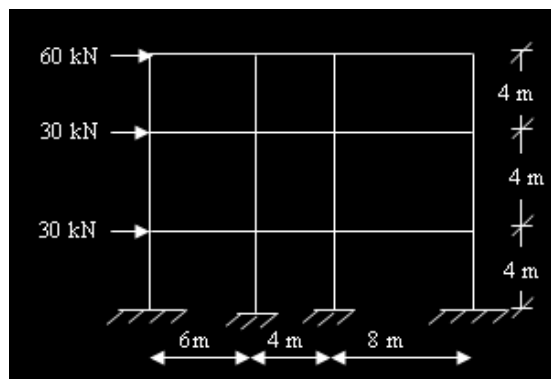


Fig.2



- 4 A suspension bridge of 120 m span has two girders supported by two cables having a central dip of 12 m. The road way has a width of 6 m. The dead load on the bridge is 5 kN/m^2 while the live load is 10 kN/m^2 which acts on the left half of the span. Determine the shear force and bending moment in the girder at 30 m from the left end. Find also the maximum tension in the cable for the position of live load. [16M]
- 5 Draw BMD for the Continuous beam shown in fig.3 by using Moment Distribution method. [16M]

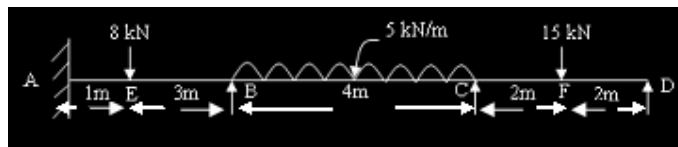


Fig.3

- 6 Analyse the frame shown in fig.4 by using Kani's method. [16M]

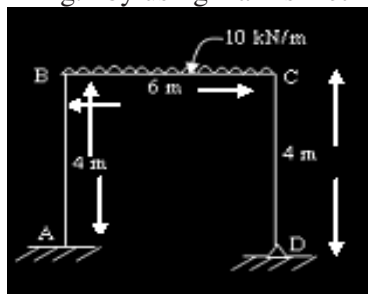


Fig.4

- 7 Draw BMD for the beam shown in fig.5 by using Flexibility method. [16M]

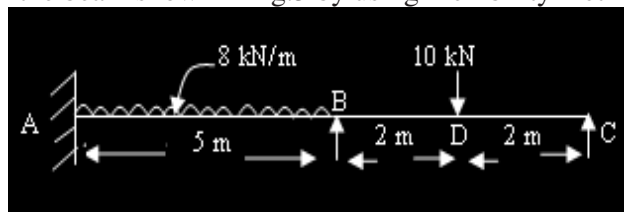


Fig.5

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