

III B. Tech I Semester Supplementary Examinations, August - 2021**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. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

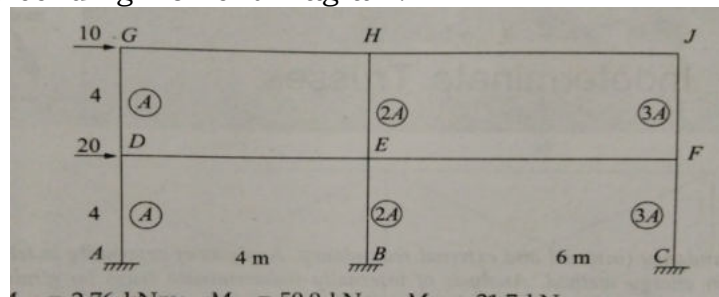
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**PART –A****(14 Marks)**

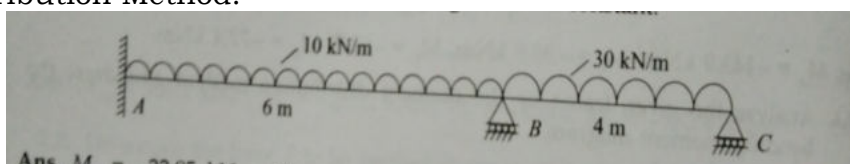
1. a) Distinguish between two hinged and three hinged arches. [2M]
- b) List the assumptions made in the Portal Method. [3M]
- c) What is a suspension bridge? [2M]
- d) List the advantages of Moment Distribution Method. [3M]
- e) What is a rotational factor? [2M]
- f) What are the unknowns to be determined in flexibility method? [2M]

**PART –B****(56 Marks)**

2. a) Determine the horizontal thrust, bending moment, normal thrust and radial shear of a two hinged arch. [10M]
- b) Write briefly about temperature effects on arches. [4M]
3. Analyze the frame shown in below figure by the Cantilever Method. [14M]  
Draw the bending Moment Diagram.



4. A cable is supported between two pints A and B 100 meters apart horizontally with a central dip of 8m. It supports a uniformly distributed load of 20 kN/m. [14M]
  - i) Compute the length of the cable
  - ii) Maximum and Minimum tension in the cable.
5. Analyze the continuous beam shown in the below figure by Moment Distribution Method. [14M]

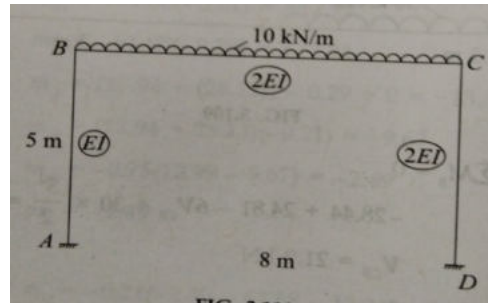


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6. Determine the end moments of the frame shown in the below figure [14M]  
by Kani's method. Draw bending moment diagram.



7. a) Define flexibility coefficient and static indeterminacy. [6M]  
b) Write the steps involved in stiffness method. [8M]

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**2 of 2**