Code No: **R1631013**   (R16)   SET - 1

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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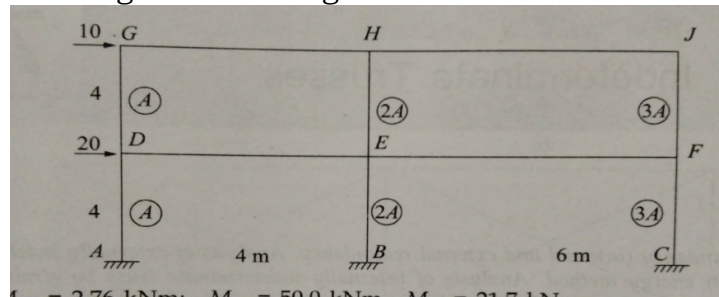**PART –A**   **(14 Marks)**
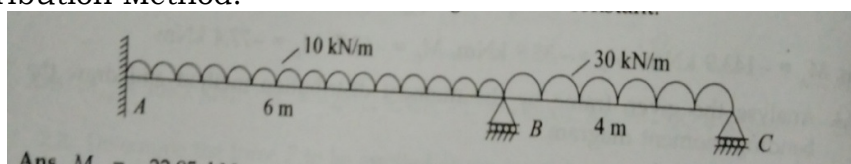
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1. a) Distinguish between two hinged and three hinged arches.   [2M]
   b) List the assumptions made in the Portal Method.   [3M]
   c) What is a suspension bridge?   [2M]
   d) List the advantages of Moment Distribution Method.   [3M]
   e) What is a rotational factor?   [2M]
   f) What are the unknowns to be determined in flexibility method? [2M]

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PART –B   **(56 Marks)**

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2. a) Determine the horizontal thrust, bending moment, normal thrust [10M]
      and radial shear of a two hinged arch.
   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   [14M]
   horizontally with a central dip of 8m. It supports a uniformly
   distributed load of 20 kN/m.
       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   [14M]
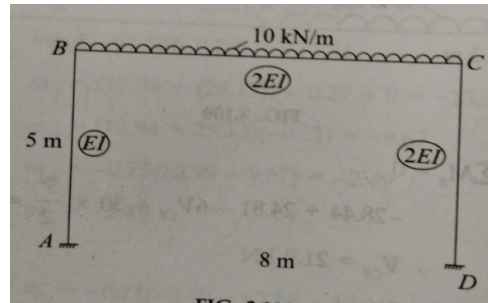   Distribution Method.

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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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