

Code: 1G651

III B.Tech. I Semester Supplementary Examinations November 2019

Structural Analysis-II

(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any **five** questions

All Questions carry equal marks (**14 Marks** each)

1. a) Determine the Horizontal Thrust for Three hinged arch which is subjected to effect of temperature.
 b) Derive the expression for Three Hinged Circular arch.
2. Determine the horizontal thrust in a semi-circular arch of radius "R", which is subjected to a uniformly distributed load of W KN/m over the entire span. Assume uniform flexural rigidity.
3. Analyze the given frame as shown in fig.1 by using Slope-Deflection method and assume uniform flexural rigidity.

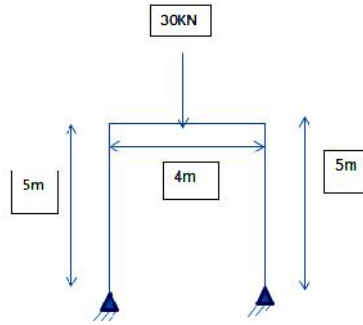


Fig .1

4. a) Analyze the given frame as shown in fig.8 by using Moment-Distribution Method method.

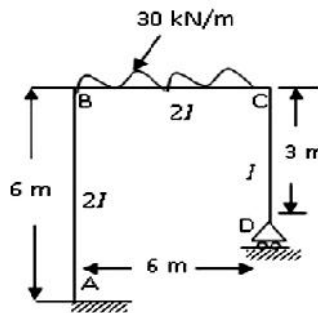


Fig .8

5. Analyze the given continuous beam by using Kani's Method in which the total span of the beam is 12m. The span AB = BC = CD = 4m. The load acting on the span AB=80kN which is acting at a distance of 3m from left end "A", the span BC = 50kN/m and CD=40kN which is acting at a distance of 2m from right end "D". For span AB and CD it is "I" and for BC it is 1.5 I. The ends "A" and "D" are fixed and the remaining are simply supported.
6. Detail the step by step procedure of analyzing a beam by flexibility method?
7. Analyze the given Continuous beam as shown in fig.15 by using Stiffness Method.

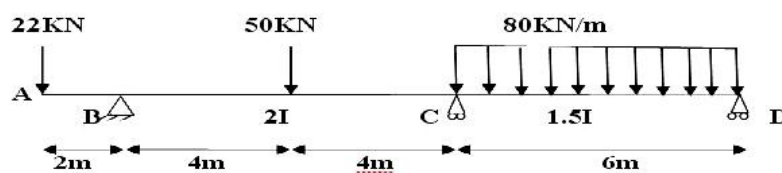


Fig .15

8. Illustrate the theorems of plastic collapse? Explain the idealized stress strain diagram in plastic analysis?
