

**BT-5/D-19**  
**STRUCTURE ANALYSIS-III**  
**Paper-CE-301 N**

Time allowed : 3 hours]

[Maximum marks : 75

**Note :** Attempt any five questions, selecting at least one from each unit out of eight questions. All questions carry equal marks.

**Unit-I**

1. Using the Muller Breslau principle, draw the I.I.D for B.M and S.F at mid span E and at point B. Also plot the coordinate for span BC at suitable interval.



2. Draw the ILD for horizontal thrust, bending moment, normal thrust and radial shear for a three hinged parabolic arch.

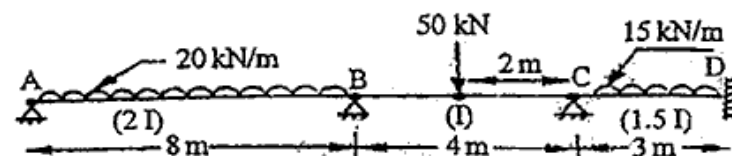
**Unit-II**

3. The load system move on the span from left to right of beam 10 m span. Find the maximum bending moment which can occur under the chosen load of 80 KN. The loads are 100 KN, 100 KN, 80 KN, and 120 KN which are spaced 0.8 m, 1.2 m, and 1 m apart are moving on the beam.

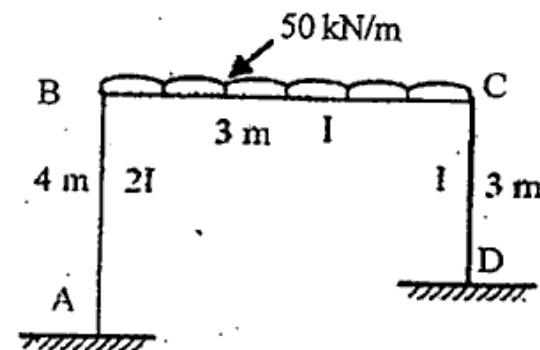
4. A two hinge parabolic arch has span  $L = 30$  m and rise  $h = 6$  m. Construct the ILD for
- Horizontal Reaction
  - B.M., S.F. and N.T at 7.5 m from left end side

**Unit-III**

5. Analyse the continuous beam as shown in fig by Kani's Method.

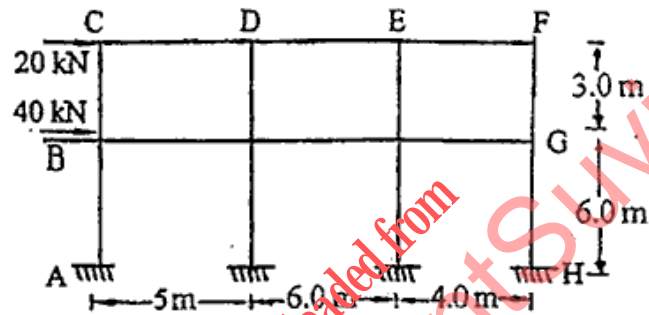


6. Analyse the rigid Portal frame as shown in fig. by Kani Method and draw B.M.D.



# Unit-IV

7. Using Portal Method Analyse the frame as shown in fig. Also draw the B.M. Diagram for entire frame.



8. Analyse the continuous beam as shown in Fig. by stiffness matrix method and plot B.M.D.

