

SECTION-B

2. The quadrantal ring AB shown in Fig. 1 is of radius r . It supports a concentrated load P at the free end A. Find the vertical and horizontal deflections of A. Assume uniform flexural rigidity.

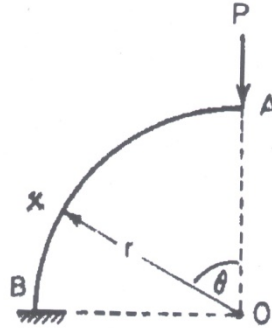


Fig.1

3. A suspension cable is supported at two points 25 m apart. The left support is 2.5 m above the right support. The cable is loaded with a uniformly distributed load of 10 kN/m throughout the span. The maximum dip in the cable from the left support is 4 m. Find the maximum and minimum tensions in the cable.
4. A three hinged symmetric circular arch is loaded as shown in Fig. 2. Determine the bending moment, normal thrust and radial shear at 9 m from the left support.

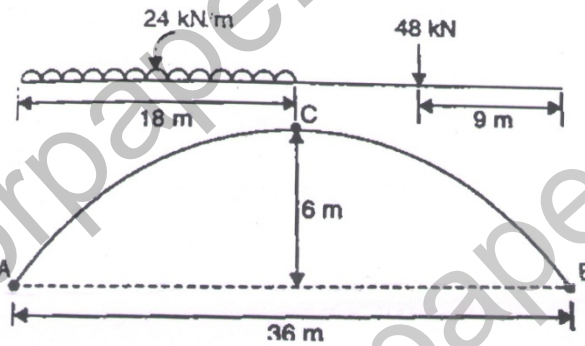


Fig.2

5. Draw influence lines for
- Reaction at A (R_A)
 - Reaction at B (R_B)
 - Shear force at D (F_D)
 - Bending moment at D (M_D)
 - Shear force at E (F_E) and
 - Bending moment at E (M_E)

9. A girder having a span of 18 m is simply supported at the ends. It is traversed by a train of loads as shown in Fig. 6. The 50 kN load is leading. Find the maximum bending moment which can occur
- Under the load 200 kN load.
 - Under 50 kN load.

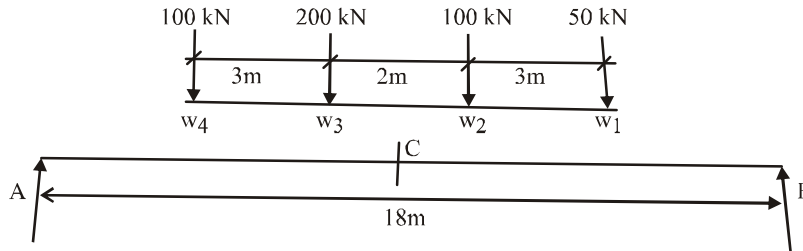


Fig.6