

ASSIGNMENT NO: 21

1. A three hinged parabolic arch of 20 m span and 4 m central rise as shown in figure carries a point load of 40 kN at 4 m horizontally from left support. Compute BM, SF and AF at load point. Also determine maximum positive and negative bending moments in the arch and plot the bending moment diagram.
2. A two hinged parabolic arch of span 15m and a point load of 20 KN at a distance of 4m from L.H.S. Find the BM,RS,NT 4m from L.H.S and 3m from R.H.S. since $r=5m$
3. A 3-hinged arch has a span of 30m and a rise of 10m. The arch carries UDL of 0.6 kN/m on the left half of the span. It also carries 2 concentrated loads of 1.6 kN and 1 kN at 5 m and 10 m from the 'rt' end. Determine the reactions at the support.