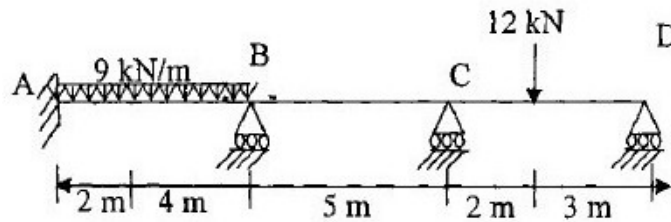
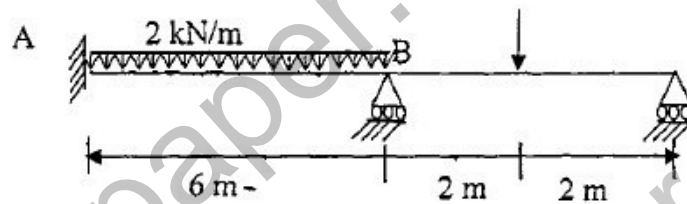


SECTION-B

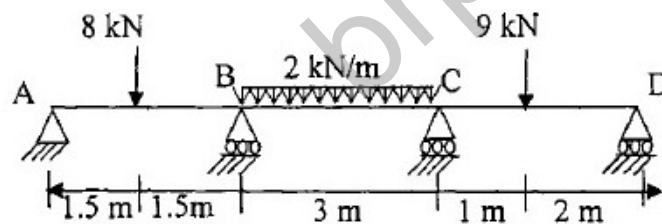
- 2) A cantilever beam AB of uniform stiffness is propped at end B. The span of the beam is L and it carries a udl of W kN/m. Calculate the deflection at the point where B.M is maximum on the span by the method of Consistent Deformation.
- 3) Using clapeyron's theorem, solve the continuous beam ABCD, 16 m long is continuous over three spans. Span AB = 6 m; BC = 5 m and CD = 5 m. EI is constant throughout.



- 4) A 2-hinged parabolic arch has a span of 100 m and a rise of 25 m. It carries a uniformly distributed load of 20 kN/m intensity of the horizontal span over its left half span. Determine the reactions and draw bending moment diagram. Take $I = I_0 \sec \theta$.
- 5) A beam ABC 10 m long is shown below. Use Slope Deflection method to compute the end moments and plot the bending moment diagram. The beam has constant EI for both the spans.

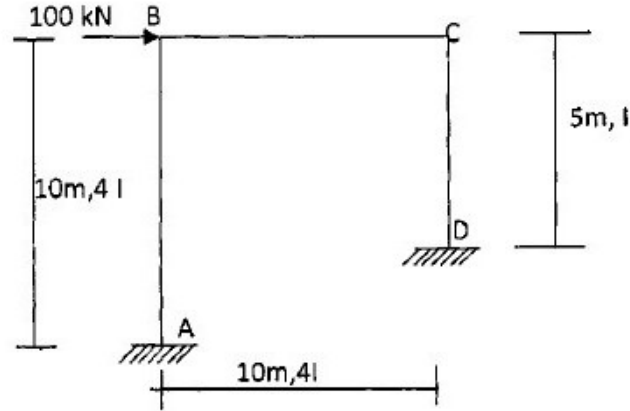


- 6) A horizontal beam ABCD is carried on simply supports and is continuous over three equal spans of 3 m. All the supports are initially at the same level. The loading on the beam is shown below. Analyse the beam using moment distribution method if the settlement of support A, B and C are 10mm, 30 mm and 20mm respectively. The moment of inertia of whole beam is $2.4 \times 10^6 \text{ mm}^4$. Take $E = 2 \times 10^5 \text{ N/mm}^2$.

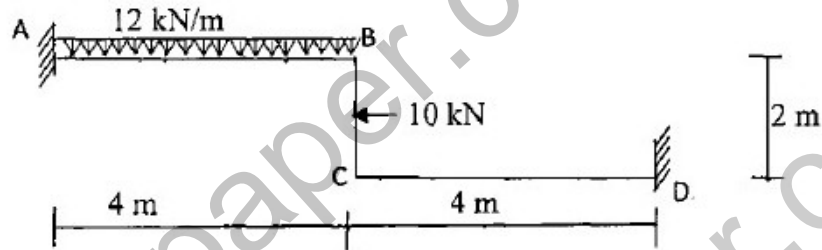


SECTION-C

- 7) A portal frame ABCD is fixed at A and D and has rigid joints at B and C. The frame is loaded as shown below. Analyse the frame using Slope Deflection method and draw bending moment diagram. Take EI constant.



- 8) A portal frame ABCD is fixed at A and D. The frame is loaded as shown below. It carries a point load of 10 kN at centre of BC. Analyse the frame using Moment Distribution method and draw bending moment diagram.



- 9) Analyse the building frame subjected to horizontal forces by using Portal Method.

