KATHMANDU UNIVERSITY
End Semester Examination [C]
November/December, 2023

26 NOV 2023

Level : B.E.
Year : III
Time : 2 hrs. 30 mins.

Course : CIEG 308
Semester : II
F. M. : 40

SECTION "B"

Attempt *ALL* the questions.

1. A uniformly distributed load of 30 kN/m covers the left hand of the span of a parabolic arch, a span of 18 m and a central rise of 6 m as shown in Figure 1. Determine the position and magnitude of maximum bending moment. Also, find the shear force and normal thrust at the section. Assume that the moment of inertia at a section varies as secant of slope at the section. Neglect effect of rib shortening. [6]

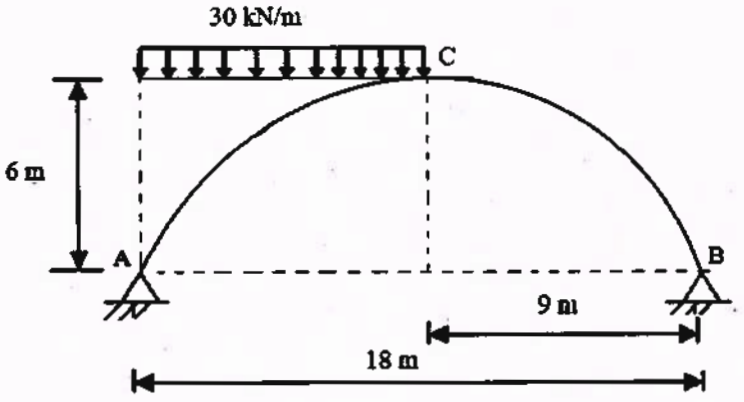

Figure 1

2. Draw the influence lines for the vertical reactions at support D and the shear force at point C of the two-span continuous beam as shown in Figure 2. [6]

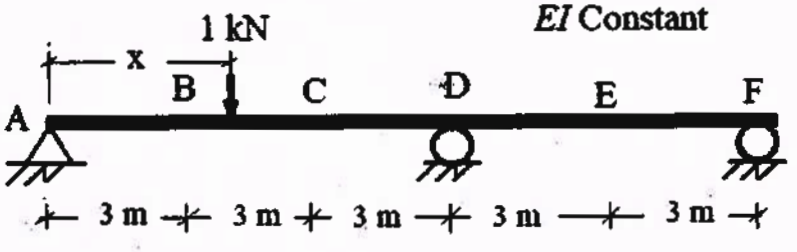

Figure 2

3. Construct the final shear and moment diagram for the structure and loading given. The quantity EI is the same for each span.Use the Consistent deformation method. [8]

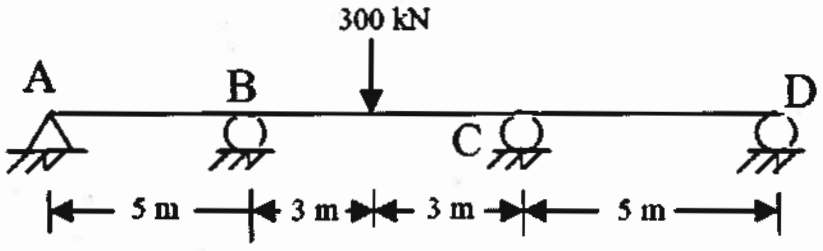

Figure 3

4. Determine the end moment and construct the shear and moment diagram for the structure shown below by slope deflection method. [8]

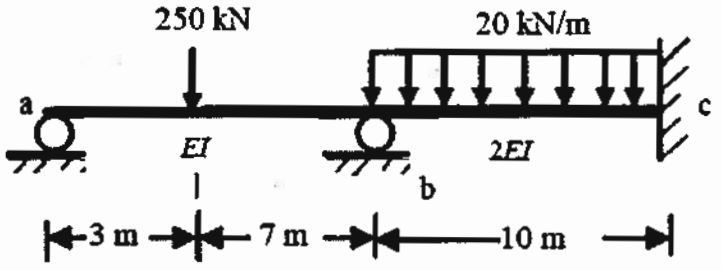

Figure 4

5. Determine the end moments for each member and the support reactions for the frame given below in Figure 5. Use Moment distribution method. [12]

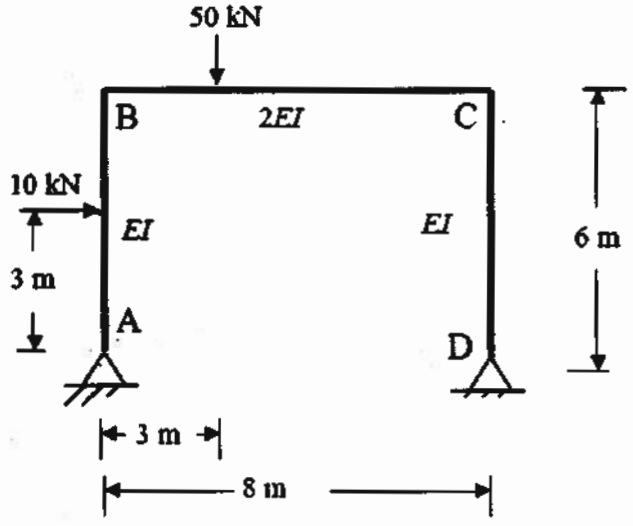

Figure 5