

IV B.Tech I Semester Supplementary Examinations, November 2005
ADVANCED STRUCTURAL ANALYSIS
(Civil Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. Analyse the following frame by cantilever method. (figure1)

[16]

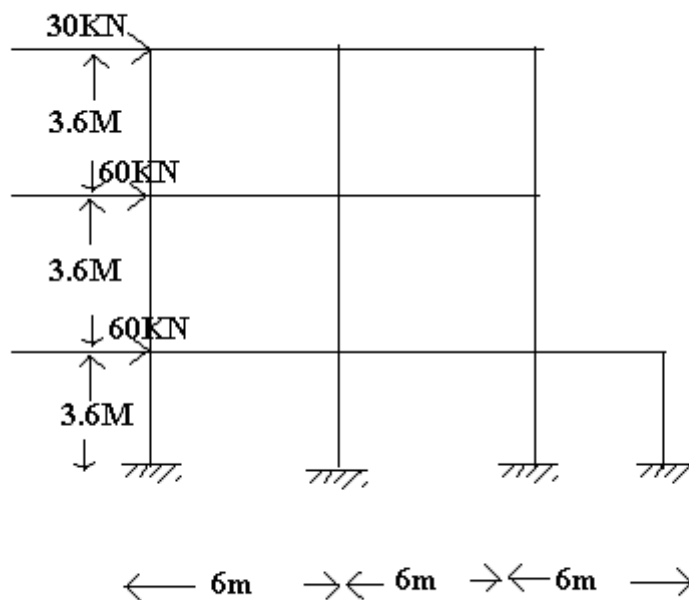


Figure 1:

2. Analyse the portal frame shown in figure 2. The end A is fixed and D is hinged . The beam BC is loaded with a UDL of 5 kN/m. [16]
3. Analyse the following frame using stiffness method. EI constant. (figure 3) [16]
4. Draw the influence line diagram for shear force at D plotting ordinates at 1m interval for the following beam with constant moment of inertia through out. (figure4) [16]
5. Obtain the shape factors for
- (a) Circular section [8]
 - (b) Triangular section? [8]

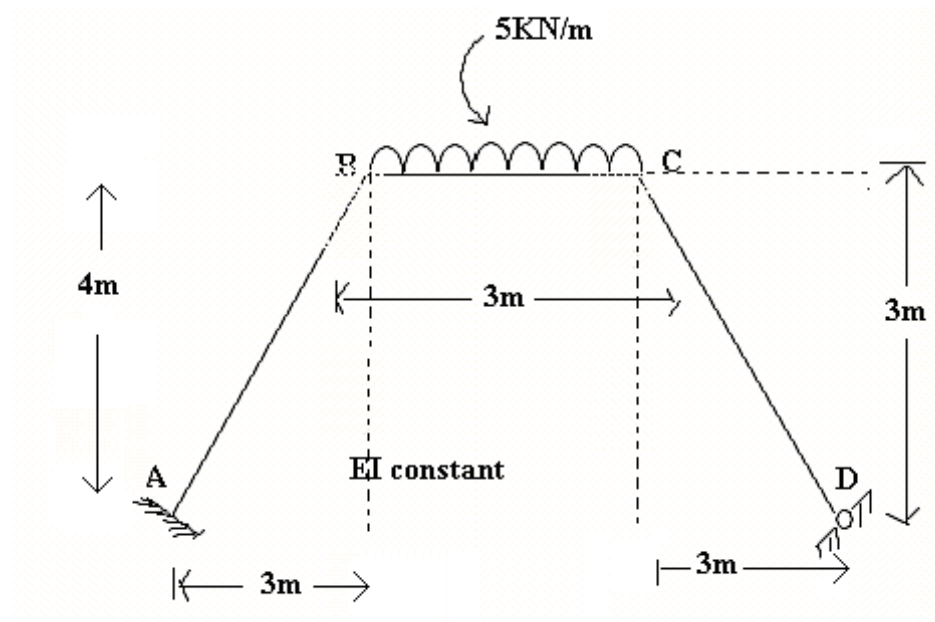


Figure 2:

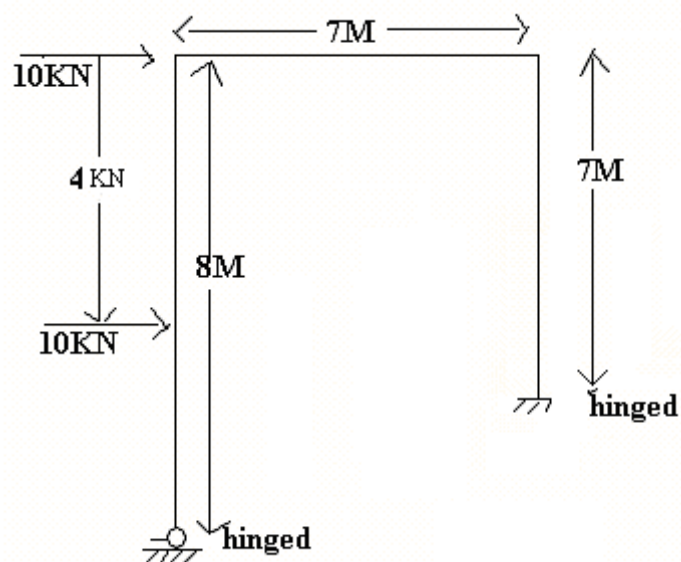


Figure 3:

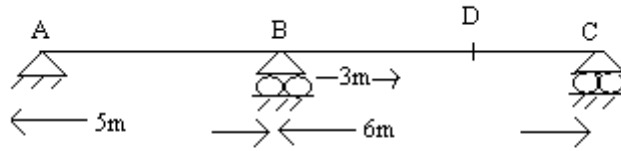


Figure 4:

6. Determine the collapse load for a fixed beam of span L carrying UDL of w/m length intensity for the left half span. The plastic moment capacity is M_p through out . [16]
7. Give step wise procedure of classical solution of Beams on elastic foundation. [16]
8. Explain the following? [3x51/3=16]
 - (a) Modulus of subgrade reaction
 - (b) Transformation of coordinates in stiffness Method
 - (c) Generation of load- vector Boundary conditions .
