

**23377**

**M.Tech Ist Sem. (Civil Engg.)**

**Examination-May, 2015**

**Advanced Structural Analysis**

**Paper-CE-611/MTSD-102**

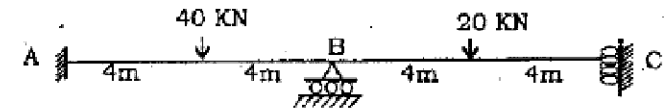
**Time : 3 hours**

**Max. Marks : 100**

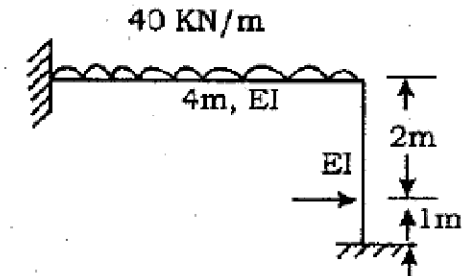
Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

**Note :** Attempt any **five** Questions. All questions carry equal marks.

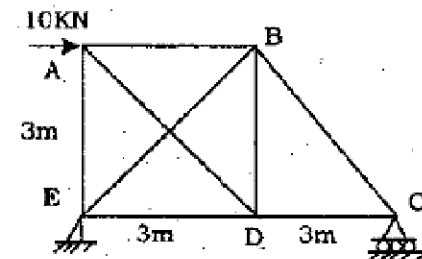
1. Discuss various steps to be followed while analyzing structure by stiffness method. [20]
2. A continuous beam ABCD is loaded as shown in figure. It has constant flexural rigidity. Fixed support at A, roller support at B & guided support at C. Analyze the beam using stiffness method. [20]



3. Portal frame ABC is loaded as shown in figure. It is subjected to UDL 4kN/m over span AB. Draw BMD taking EI constant for AB & BC. Use stiffness method for analysis. [20]

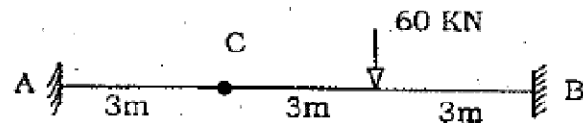


4. A pin jointed truss is shown in figure. Analyze the truss by stiffness method. [20]

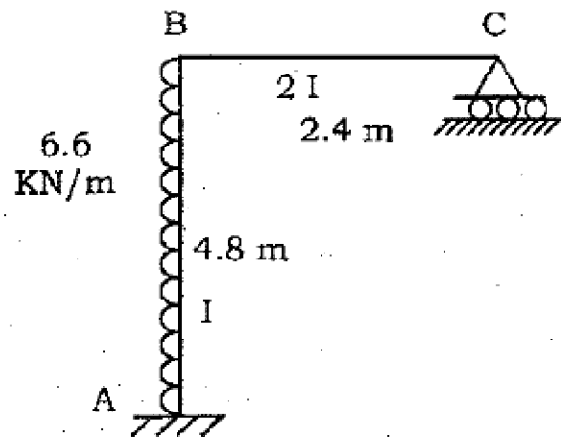


5. Differentiate between structure approach and member approach used in stiffness matrix method. Explain how support conditions are accounted in both approaches? <http://www.HaryanaPapers.com>

6. Analyze the beam AB having internal hinge at C. Use flexibility method. EI is uniform for all spans. [20]



7. Analyze and draw BMD for the portal frame. Use flexibility matrix method. [20]



8. (a) State Maxwell's reciprocal theorem & indicate where its effect is evident in matrix analysis of a structure. [10]

(b) Explain properties and special characteristics of flexibility matrix of a structure. [10]

<http://www.HaryanaPapers.com>

Whatsapp @ 9300930012

Your old paper & get 10/-

पुराने पेपर्स भेजे और 10 रुपये पायें,

Paytm or Google Pay से