Total No. of Questions :8]

SEAT No. :

P3919

[Total No. of Pages :3

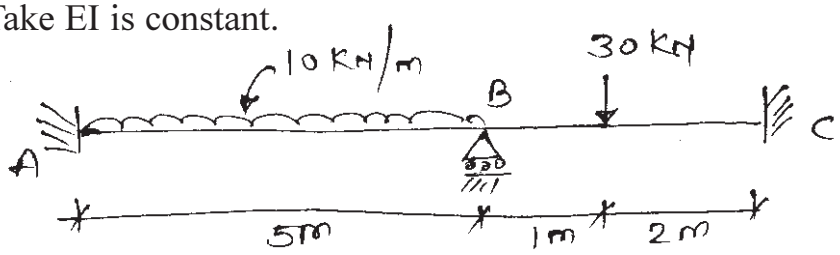
[4958]-1002
T.E. (Civil)
STRUCTURAL ANALYSIS - II
(2012 Pattern) (Semester - I)

Time : 2½ Hours *[Max. Marks :70]*

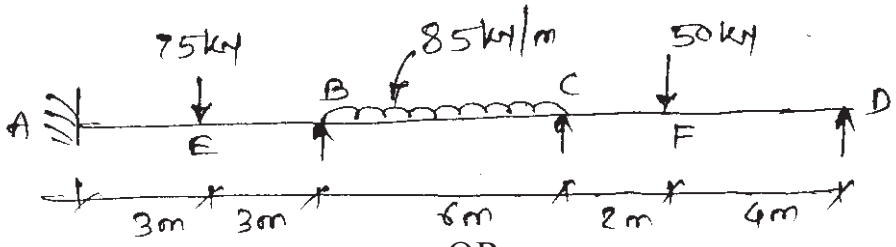
Instructions to the candidates:

1) *Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or 6, Q.7 or Q.8.*
2) *Figures to the right indicate full marks.*
3) *If necessary, assume suitable data & indicate clearly.*
4) *Use of electronic pocket calculator is allowed.*

Q1) a) Analyse the beam by slope deflection method. Draw BMD & SFD. Take EI is constant. **[10]**

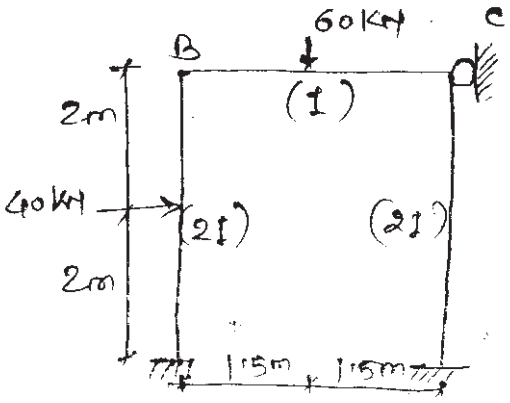


b) Analyse the continuous beam shown in figure using flexibility method & draw the bending moment diagram. **[10]**



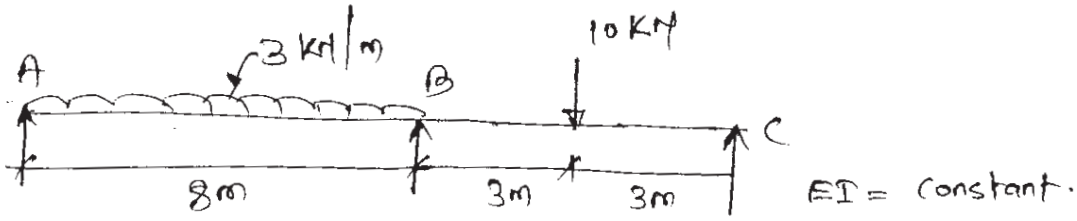
OR

Q2) a) Analyze the frame as shown in figure. The relative value of 'I' of each member are indicated in figure. 'E' is constant. Use slope deflection method. **[10]**

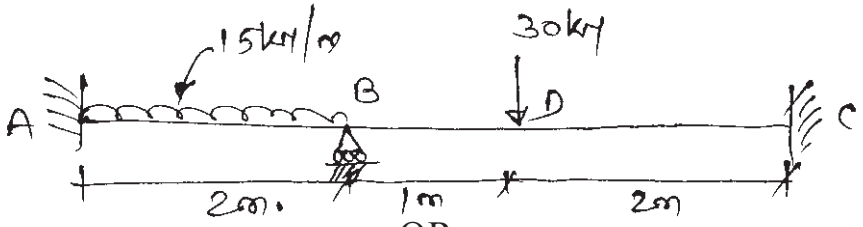


P.T.O.

b) Analyse the continuous beam shown in figure below by moment distribution method. Draw BMD & SFD. **[10]**

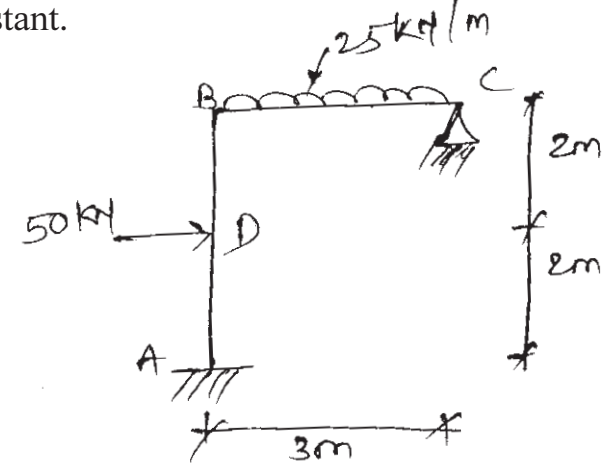


Q3) Analyse the beam shown by stiffness matrix method. Draw BMD & elastic curve. EI = Constant. **[16]**

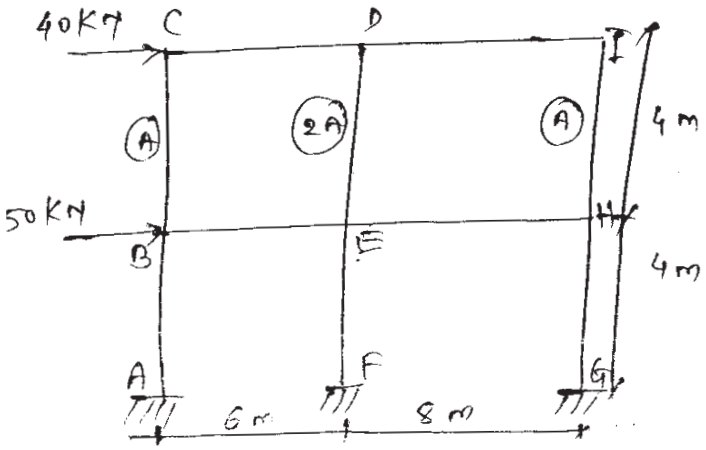


OR

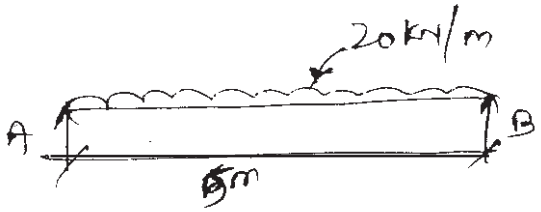
Q4) Analyse the frame by stiffness Matrix Method & Sketch BMD. Take EI = Constant. **[16]**



Q5) a) Analyse the frame by using cantilever Method. Area of each exterior column is one half area interior column. **[12]**



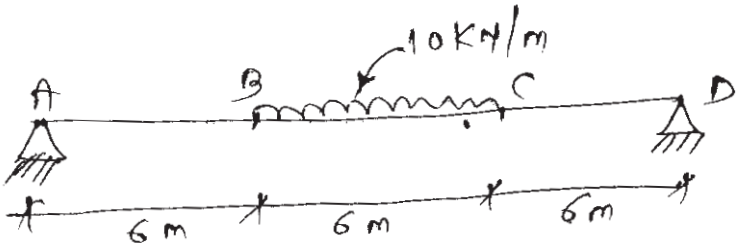
b) A simply supported beam of length 5m is loaded as shown in figure. Determine the maximum deflection. **[6]**



OR

Q6) a) Analyse the frame as shown in Q.5 (a) by portal method. **[10]**

b) The beam is loaded & supported as shown in figure. Determine deflection at nodal points. Take 3 nodes. **[8]**



Q7) a) Explain. **[8]**

i) Nodes.

ii) CST.

iii) LST

iv) QST.

b) Explain plain stress & plain strain problem. **[8]**

Q8) a) Differentiate between Axisymmetric & Isoparametric element. **[8]**

b) Explain shape function & state properties of shape function. **[8]**