SEAT No. :

P2915

[5669]-504

T.E. (Civil) (Semester - I)
STRUCTURAL ANALYSIS - II
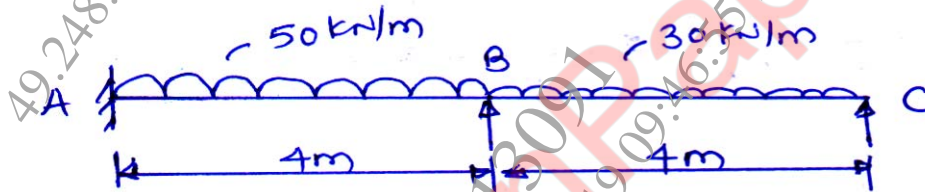## (2015 Pattern)

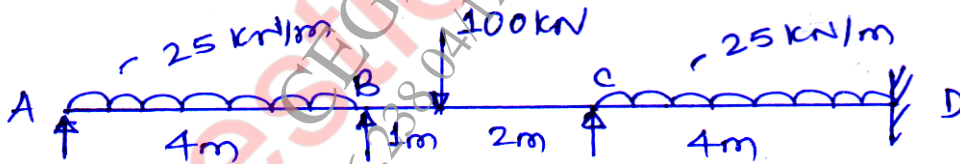*Time : 2½ Hours]*　　　　　　　　　　　　　　　　　　*[Max. Marks : 70*

Instructions to the candidates:

1) *Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6., Q.7 or Q.8.*
2) *Figures to the right indicate full marks.*
3) *Use of non-programmable calculator is allowed.*
4) *Assume suitable data, if necessary.*

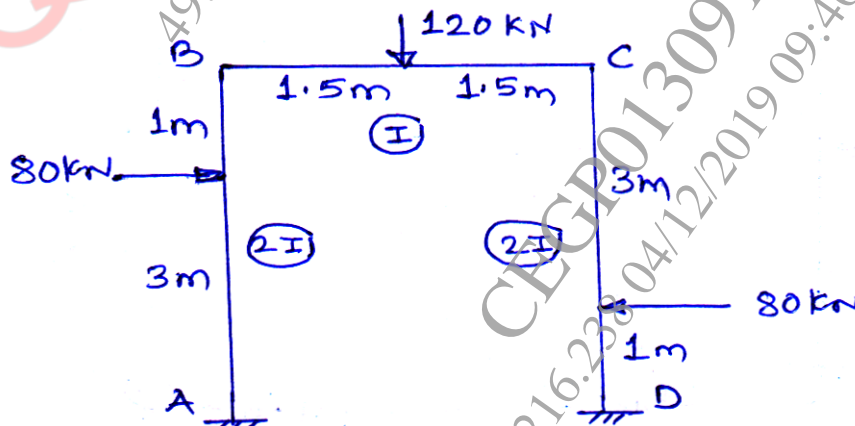*Q1)* a) Analyze the beam by Slope Deflection Method. Draw BMD　　**[10]**

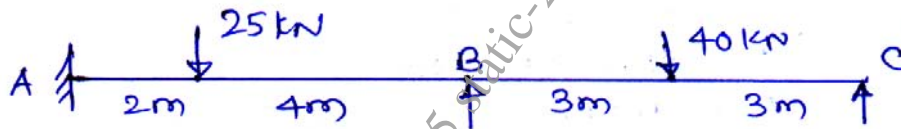b) Analyze the beam by Moment Distribution Method. Draw BMD.　　**[10]**

OR

Q2) a) Analyze the frame by slope deflection method. Draw BMD.　　**[10]**
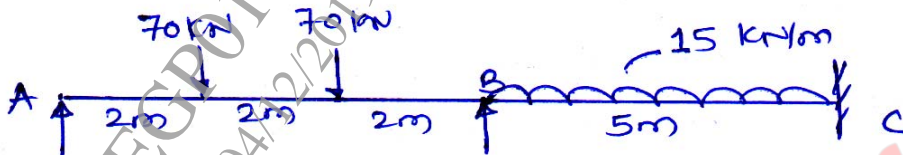

P.T.O.
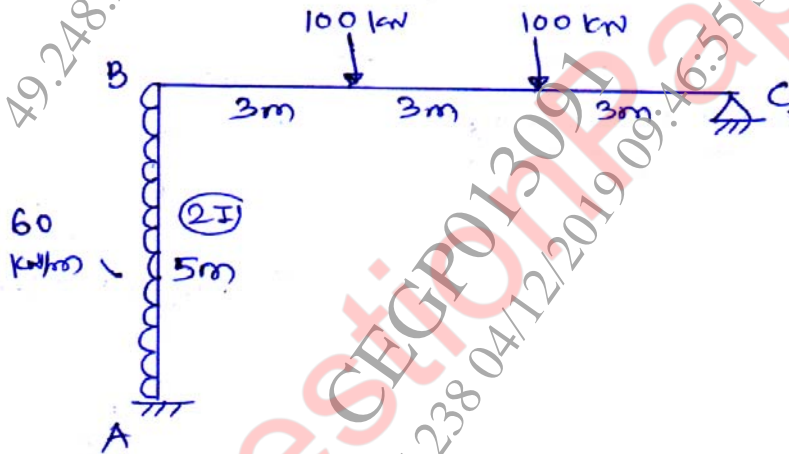
b) Analyze the beam by Flexibility method. **[10]**

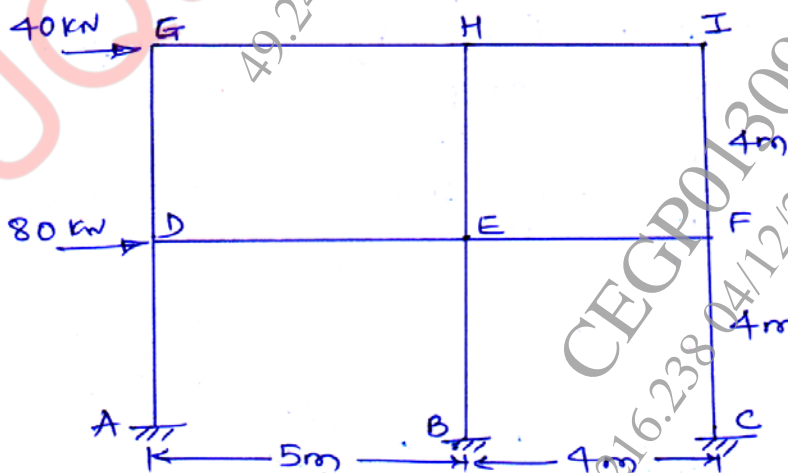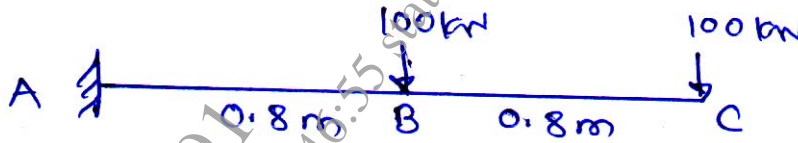*Q3)* Analyze the beam by stiffness matrix method. Draw BMD. **[16]**

OR

Q4) Analyze the portal frame by stiffness matrix method. Draw BMD. **[16]**

Q5) a) Analyze the frame by Portal Frame method. **[10]**

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b) A cantilever beam is loaded as shown. Find deflection under point loads. Take 5 nodes. **[8]**

OR

Q6) a) Analyze the frame given in Q.5 a) by cantilever method. **[10]**

b) A simply supported beam is loaded with central point load of 110 kN. Span of the beam is 5m. Find deflection at nodes. (Take 5 nodes) **[8]**

Q7) a) Explain following terms : **[8]**

    i) Isoparametric element

    ii) Co-ordinate systems

    iii) Subparametric element

    iv) Nodes

b) Explain rectangular elements. **[8]**

OR

Q8) a) Explain CST & LST. **[8]**

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

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