

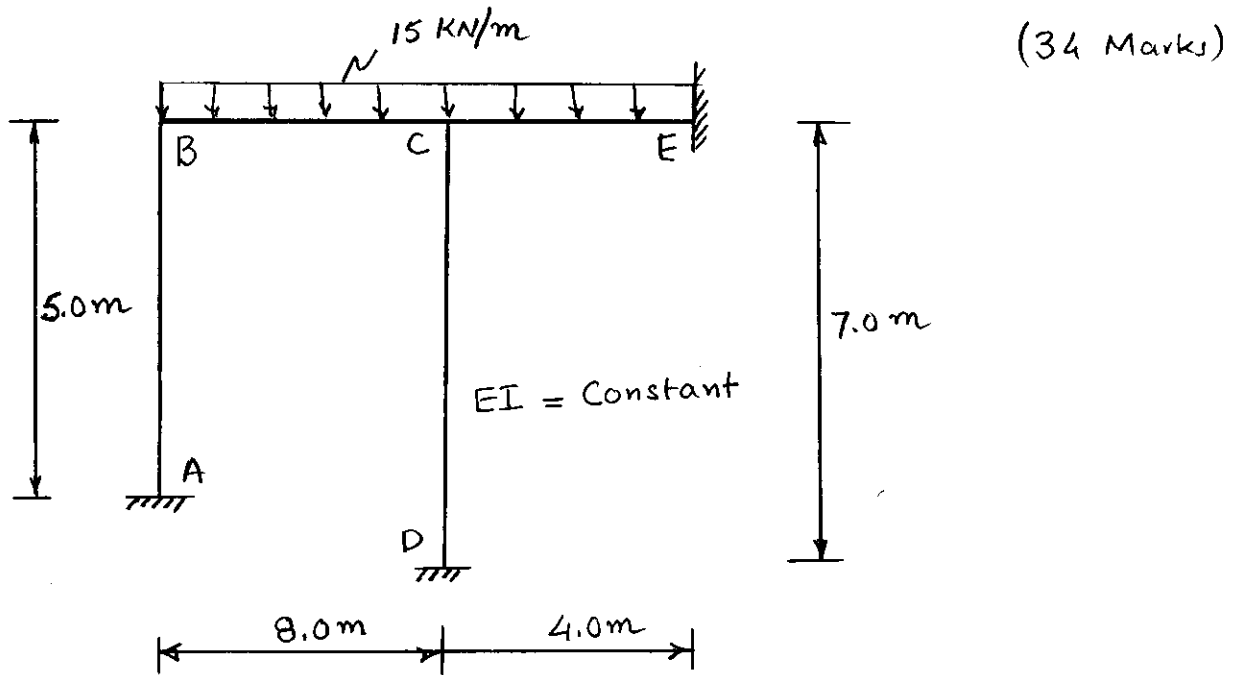
Advanced Structural Analysis-1 CE-5111

Midterm Exam December, 2008

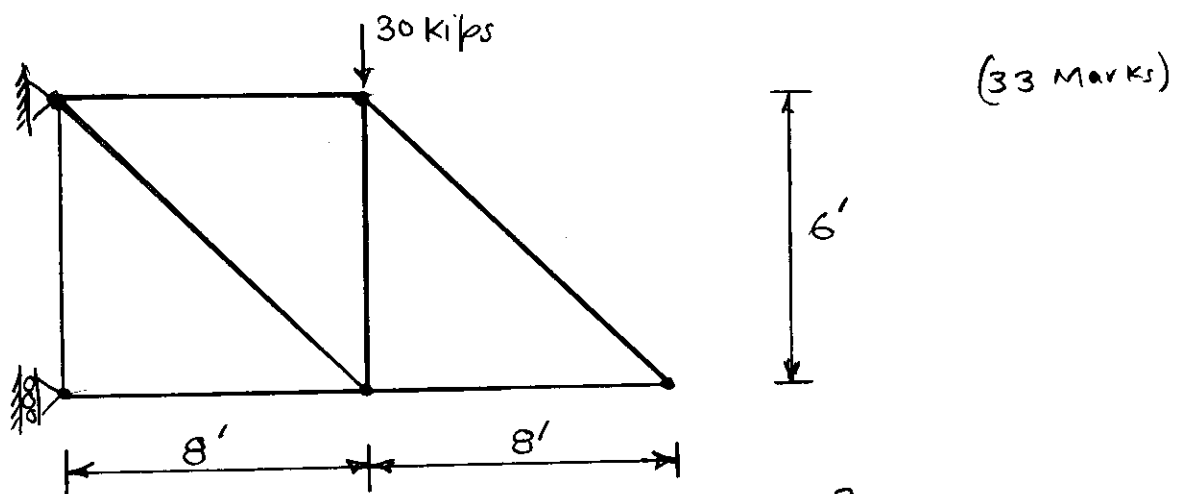
Closed Book-Closed Notes.

Time Allowed: $2\frac{1}{2}$ hrs

Q No. 1 Determine the moments in the portal frame shown below using moment distribution method



Q No. 2 Find the vertical deflection at pt E in the Truss shown below using method of virtual work.

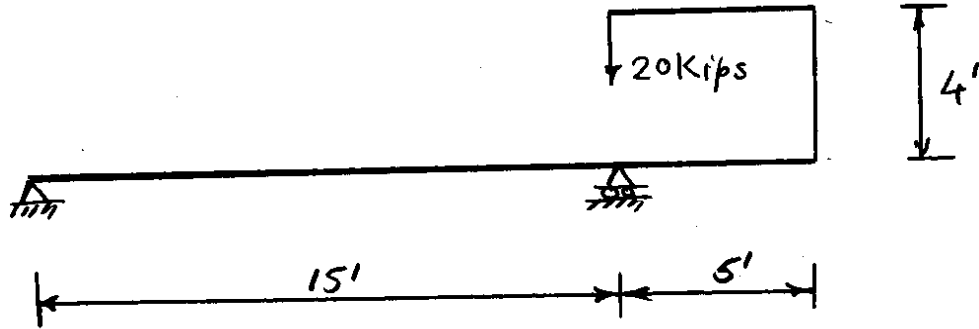


Area of each bar = 2.5 in^2 , $E = 29 \times 10^3 \text{ ksi}$

(PTO)

QNo. 3

Calculate the vertical deflection at pt f of the beam shown below. Use method of virtual work. (33 Marks)



$$I = 1000 \text{ in}^4 ; E = 29 \times 10^3 \text{ ksi}$$