Birzeit University
Faculty of Engineering
Department of Civil and Environmental Engineering

ENCE 3331, Structural Analysis I

Homework assignment #7

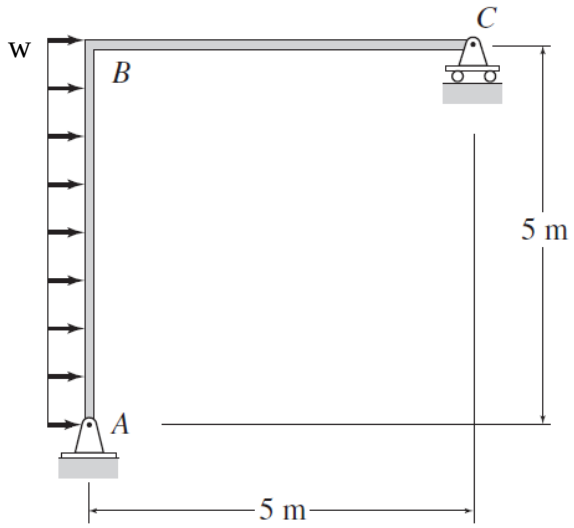
Due on Thursday, May 7th , 2020 @ 8:30 AM.

Question 1: Using Virtual work method, Answer the following questions

For the following Frame: Determine the maximum uniform load that can be applied to the frame so that the maximum horizontal drift of point C does not exceed 9 mm.

(ignore Axial and shear effects)

E= 200 GPa. I=2000x10^6 mm^4

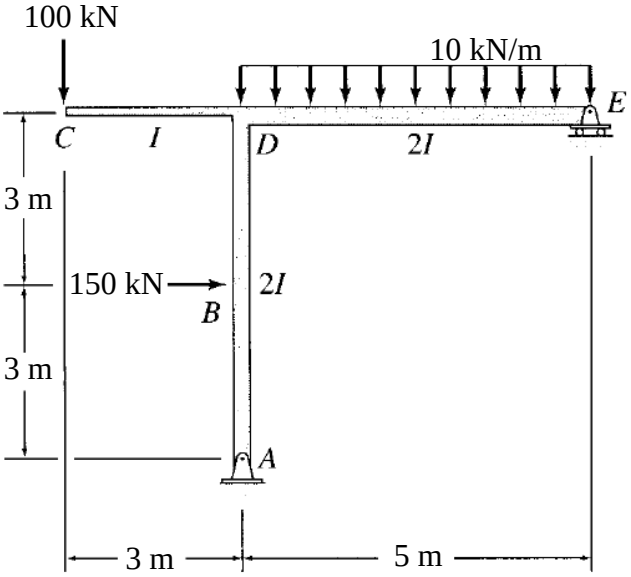


For the given Frame Determine:

- The horizontal Deflection of point E
- The vertical deflection of point C.

(ignore Axial and shear effects)

E = 200 GPa, I=500x10^6 mm^4



Question 2:

Given the following frame. Calculate the vertical deflection of Point C. the frame is made from concrete E= 25 GPa. The cross section is rectangular with B = 25 cm and H = 40 cm.

Include bending, shear, and axial effects.