

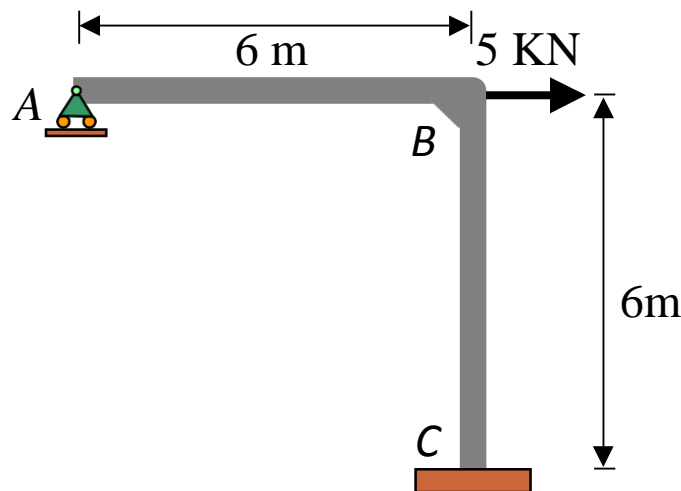
Note: Attempt all questions. Answer of the given questions must be uploaded within 06 hours after uploading of question paper. No answer sheet will be considered after given time period.

Q No 1: (15)

For the frame shown, use the stiffness method to:

- Determine the deflection and rotation at *B*.
- Determine all the reactions at supports.
- Draw the quantitative shear and bending moment diagrams.

$E = 200 \text{ GPa}$, $I = 60 \cdot (10^6) \text{ mm}^4$, $A = 600 \text{ mm}^2$

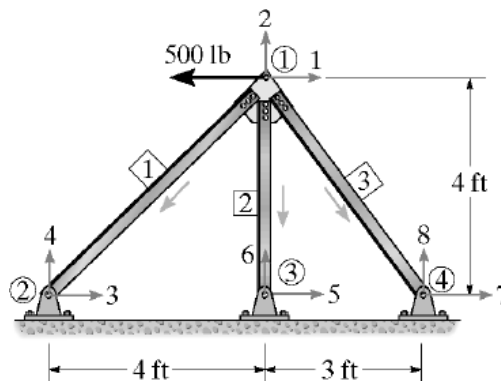


Q No 2: (10)

Describe in detail the steps involved in Direct Stiffness Method (Computer based stiffness method).

Q No 3: (15)

Determine the horizontal displacement of joint No. 1 and the force in member No. 2. Take $A = 0.75 \text{ in}^2$ and $E = 29 \times 10^3 \text{ ksi}$.



Q No 4:

(05)

Differentiate between flexibility and stiffness method.

“Good Luck”
