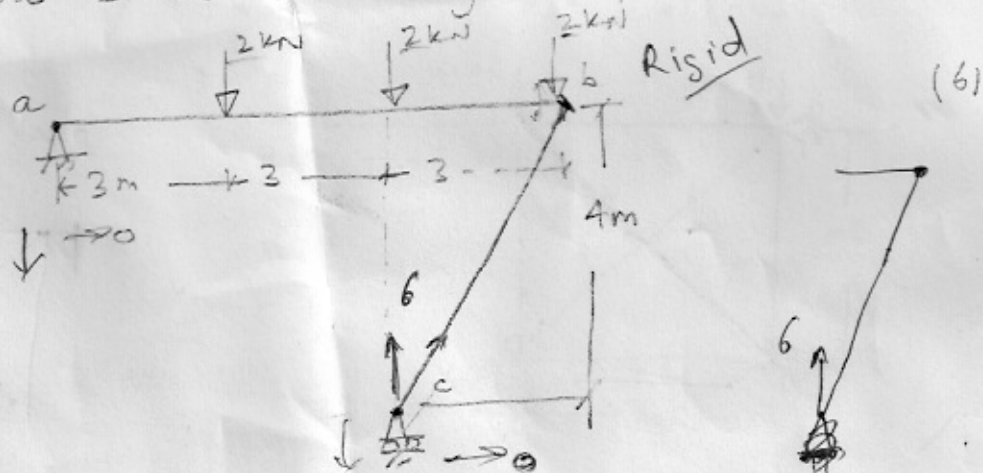
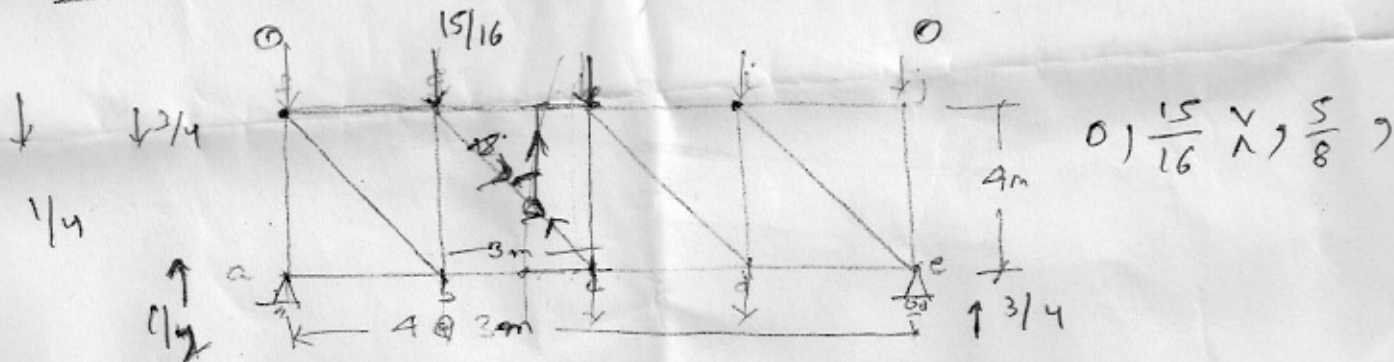


Q1

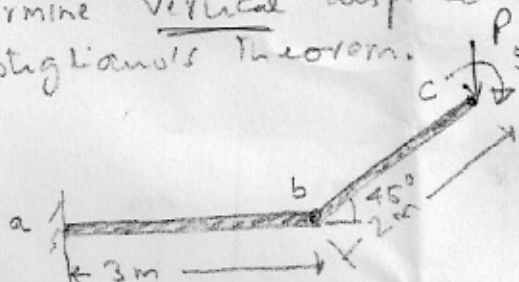
Draw SF and BM diagram for frame abc



Q2 Draw ILD for force in member 'gc'.



Q3 Determine vertical displacement at C using Castigliano's Theorem.



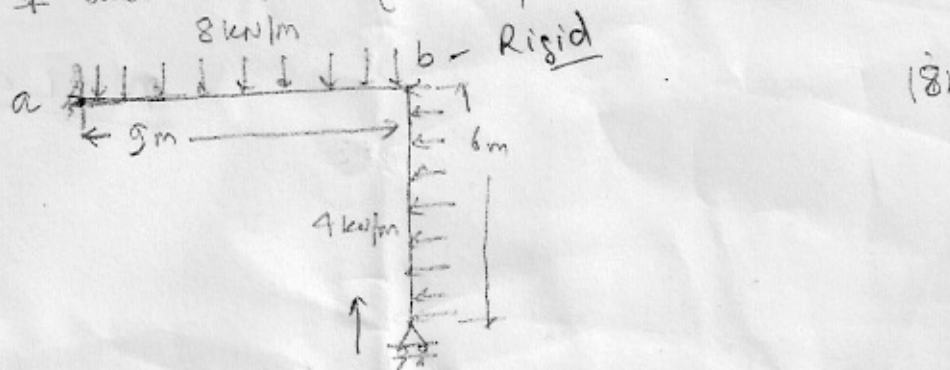
$I_{ab} = 400 \times 10^6 \text{ mm}^4$

$I_{bc} = 100 \times 10^6 \text{ mm}^4$

$E = 200 \text{ GPa}$

$\int \frac{m(\partial m)}{\partial P} \frac{dx}{EI}$

Q4 Draw SF and BM diagrams for the frame abc



$(\frac{3}{4}) \frac{5}{4}$   
 $(\frac{15}{16})$