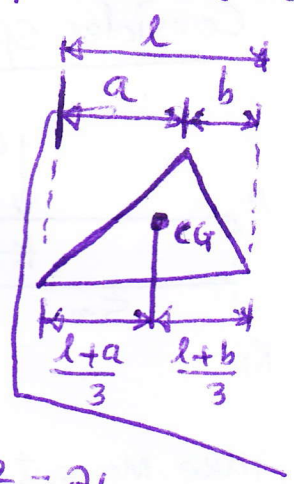
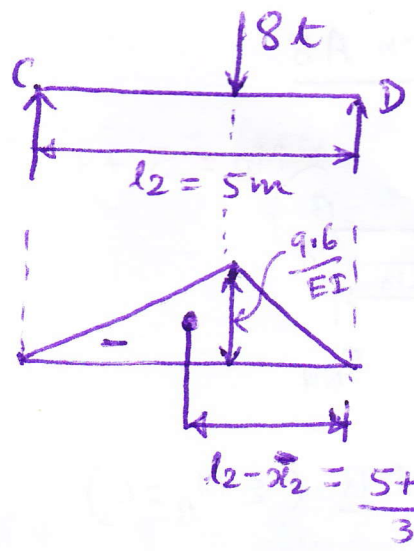
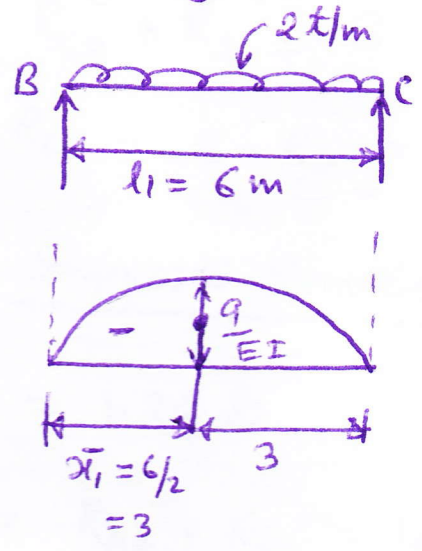


3) Applying 3 moment equation between spans BC & CD



$$M_B l_1 + 2 M_C (l_1 + l_2) + M_D l_2 = 6EI \left[\frac{A_1 \bar{x}_1}{l_1} + \frac{A_2 (l_2 - \bar{x}_2)}{l_2} \right]$$

at discontinuous support D, $M_D = 0$

$$M_B \times 6 + 2 M_C (6 + 5) + 0 = 6EI \left[\left(-\frac{2}{3} \times 6 \times \frac{9}{EI} \right) \times 3 \times \frac{1}{6} - \left(\frac{1}{2} \times 5 \times \frac{9.6}{EI} \right) \times \frac{7}{3} \times \frac{1}{5} \right]$$

$$6M_B + 22M_C = 6EI \left[-\frac{18}{EI} - \frac{9.6 \times 7}{6EI} \right]$$

Simplifying the above equation, we get

$$3M_B + 11M_C = -87.6 \quad \text{--- (2)}$$

and, equation ① is

$$11M_B + 3M_C = -82.8 \quad \text{--- (1)}$$

Solving equations ① & ② we get,

$$\left. \begin{aligned} M_B &= -5.79 \text{ t-m} \\ M_C &= -6.38 \text{ t-m} \end{aligned} \right\}$$