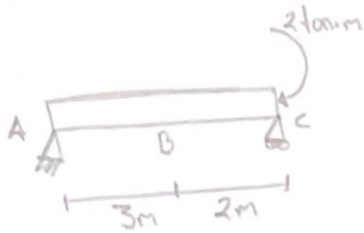


ANÁLISIS DE ESTRUCTURAS



$$\sum M_0 = 0$$

$$C_y(5m) - 2 \text{ ton}\cdot\text{m} - P(3m) = 0$$

$$C_y = 2 \text{ ton}\cdot\text{m} / 5m - P(3m/5m)$$

$$C_y = 0.4 \text{ ton} - 0.6P$$

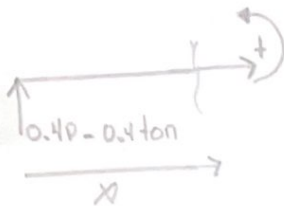
$$A_y - P \downarrow C_y = 0$$

$$A_y = P \downarrow (0.4 \text{ ton} - 0.6P)$$

$$A_y = 0.4P - 0.4P \text{ ton}$$

CORTE 1

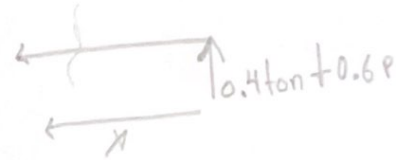
$$0 \leq x \leq 3$$



$$M_1 = 0.4Px - 0.4 \text{ ton}(x)$$

CORTE 2

$$0 \leq x \leq 2$$



$$M_2 = 0.4 \text{ ton}(x) + 0.6P(x) - 2$$

$$\frac{\Delta M}{\Delta P} M_1 = 0.4x$$

$$\frac{\Delta M}{P} M_2 = 0.6x$$

$$\Delta = \int_0^L \frac{(M) \left(\frac{\Delta M}{\Delta P} \right) dx}{EI}$$

$$\Delta = \int_0^3 \frac{(-0.4x)(0.4x) dx}{EI}$$

$$\Delta = \int_0^2 \frac{(0.4x - 2)(0.6x) dx}{EI}$$

$$\Delta = \int_0^3 (-0.16x^2) \int_0^3 \frac{(-0.16x^{2+1})}{2+1} \int_0^3 \frac{[0.16x^3]}{3} \int_0^3 \frac{0.0533(3)^3}{EI} = \frac{0.0533(27)}{EI}$$

$$\frac{-1.4391}{EI}$$

$$\Delta = \int_0^2 (0.24x^2) \int_0^2 \frac{(0.24x^{2+1})}{2+1} \int_0^2 \frac{[0.24x^3]}{3} \int_0^2 \frac{0.08(9)}{EI} = \frac{0.72}{EI}$$

$$\Delta = \int_0^2 (-1.2x) \int_0^2 \frac{(-1.2x^{1+1})}{1+1} \int_0^2 \frac{[-1.2x^2]}{2} \int_0^2 \frac{0.6(x)^2}{EI} = \frac{-2.4}{EI}$$

$$\frac{-1.4391}{EI} + \frac{0.72}{EI} - \frac{2.4}{EI} = \frac{-3.1191}{EI}$$