

# RESISTENCIA DE MATERIALES DE CONSTRUCCION

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DIAGRAMA DE MOMENTOS FLEXIONANTES Y FUERZAS CORTANTES



**ROXANA GERALDINE HERNANDEZ GALVEZ**

**ARQ. PEDRO ALBERTO GARCIA LOPEZ**

**RESISTENCIA DE MATERIALES DE CONSTRUCCION**

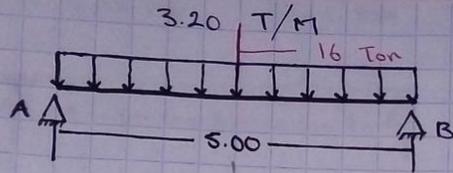
**DIAGRAMA DE MOMENTOS FLEXIONANTES Y FUERZAS CORTANTES**

**4° CUATRIMESTRE**

**LAR- LICENCIATURA EN ARQUITECTURA "A"**

**COMITAN DE DOMINGUEZ CHIAPAS DICIEMBRE 2021**

# Diagrama de momentos flexionantes y fuerzas cortantes

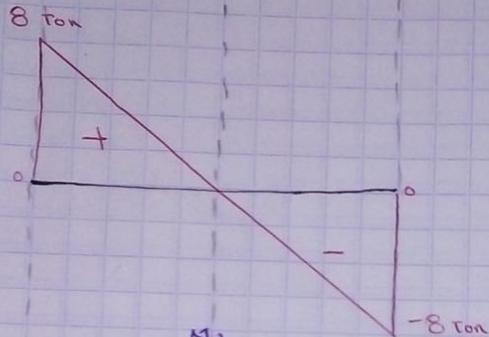


$$R_A = R_B = \frac{3.20 \text{ T/m} (5)}{2}$$

$$R_B = 8$$

$$(3.20)(5) = 16 \text{ Ton}$$

$$U = 5/2 = 2.5 \text{ m}$$



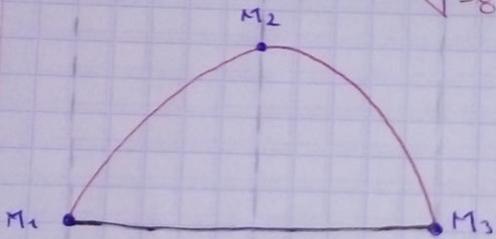
$$M_1 = 0$$

$$M_2 = 0 + \frac{(2.5 \text{ m} \cdot 8 \text{ Ton})}{2}$$

$$M_2 = 10$$

$$M_3 = \frac{10 + (2.5 \text{ m} \cdot -8 \text{ Ton})}{2}$$

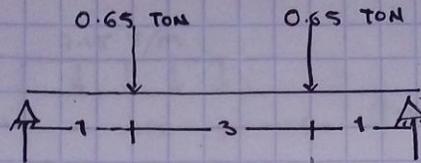
$$M_3 = 0$$



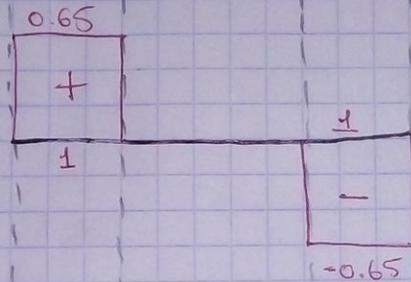
$$M_{\max} = \frac{1}{8} \cdot 7 \cdot l^2$$

$$M_{\max} = \frac{1}{8} (3.20)(5)^2$$

$$M_{\max} = 10$$



$$R_A = R_B = F \rightarrow 0.65 \text{ Ton}$$



$$M_1 = 0$$

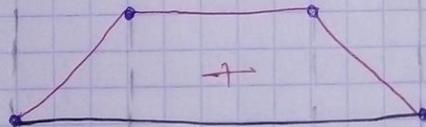
$$M_2 = (0.65)(0.65 - 1)$$

$$M_2 = -0.4225$$

$$M_3 = 0.4225(-0.65 - 0.65)$$

$$M_3 = -0.4225$$

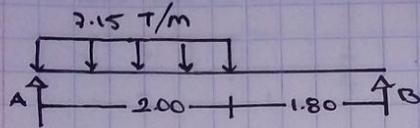
$$M_4 = 0$$



$$M_{\max} = F \cdot a$$

$$M_{\max} = 0.65 (0.65)$$

$$M_{\max} = 0.4225$$

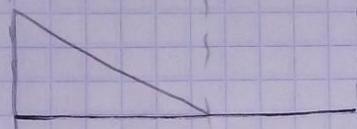


$$R_A = \frac{q a(L+b)}{2L}$$

$$R_A = \frac{7.15(2)(3.8+1.8)}{2(3.8)}$$

$$R_A = \frac{19.3(5.6)}{7.6}$$

$$R_A = 10.537$$

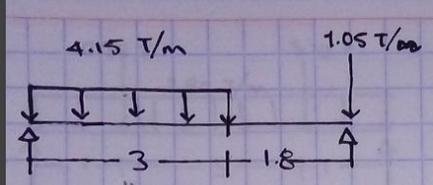
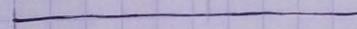


$$R_B = \frac{q a^2}{2L}$$

$$R_B = \frac{7.15(2)^2}{2(3.8)}$$

$$R_B = 28.6 / 7.6$$

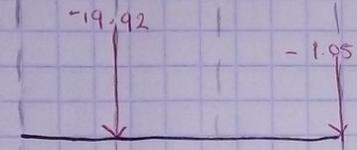
$$R_B = 3.763$$



$$4.15(4.80)$$

$$19.92 \text{ Ton}$$

$$U = 3/2 = 1.5 \text{ m}$$



$$-19.92(3) + (R_B \cdot 3) + (-1.05 \cdot 1.8) = 0$$

$$-59.76 + R_B \cdot 3 + (-5.04) = 0$$

$$-64.8 + 3R_B = 0$$

$$R_B = \frac{64.8}{3} = 21.6$$

$$R_A = -19.92 + 21.6 - 1.05$$

$$R_A = -0.63$$