Iber Emanuel Vazquez Arguello

Arq. Pedro Alberto García

Momentos

Resistencia de materiales

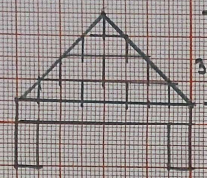
Cuarto Cuatrimestre

Comitán de Domínguez Chiapas a 29 de Enero de 2020.

Concreto reforzado 2400 kg/m³

Muro de block = 270 kg/m

$E = 3100000\ t/m^2$



$h = \frac{L}{12} = \frac{5.70m}{12} = 0.475 = 0.50\ m$

$b = 0.5(h) = 0.5(.50) = 0.237 = 0.25\ m$

$P.O = \gamma_{concr} = 0.5m(0.3m)(2400\ kg/m^3)$

$= 300\ kg/m$

$P.P.M_{.50} = 3.18(270\ kg/m)$

$= (658.6\ kg/m) = 1.1586\ ton/m$

$M = \frac{9 \cdot L^2}{128}$ $\quad R_A = R_B = \frac{9 \cdot L}{8}$ $\quad I_x = \frac{0.25m(0.50)^3}{12} = 0.00260416m^4$

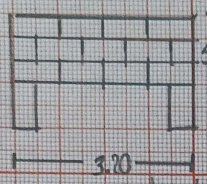
$\theta_A = \theta_B = \frac{5 \cdot 9 \cdot L^3}{1926 \cdot I}$ $\quad P = \frac{9 \cdot L^4}{120EI}$

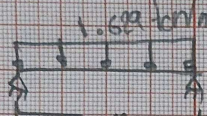
$M = \frac{1.158\ ton/m(6.70m)^2}{12} = 3.1357\ t/m$

$R_A = R_B = \frac{1.158\ t/m(5.70)}{2} = 1.650\ ton/m$

$\theta_A = \theta_B = \frac{5(1.1587\ t/m)(6.70m)^3}{1926(3100000)(0.00260416m^4)} = 0.000677m$

$f = \frac{(1.158\ t/m)(5.70m)^4}{120(3100000\ t/m^2)(0.00260416m^4)} = 0.001261\ m$





Concreto reforzado = 2400 kg/m²
Masa de block = 240 kg/m
E = 3100000 t/m²

$h = \frac{L}{12} = h = \frac{3.20}{12} = 0.266 = 0.25m$

$b = 0.5(h) = 0.5(0.25) = 0.13 = 0.15m$

P.D. Trabe = 0.25m(0.13m²)(2400kg/m³)
= 90kg/m

P.D Masa = 5.70m(240 kg/m) = 1539 kg/m

q = 1689 kg/m → 1.689 ton/m

$M = \frac{9L^2}{8}$ - $RA = RB = \frac{9 \cdot L}{2}$

$\theta A = \theta B = \frac{9 \cdot L^3}{24EI}$ - $F = \frac{5}{384} = \frac{9 \cdot L^4}{EI}$

$M = \frac{1689 \text{ ton/m}(3.20m)^2}{8} = 2.085$

$RA = RB = \frac{1.689 \text{ ton/m}(3.20)^3}{24(0.000193m^4)(3100000 t/m^2)} = 0.003673$

$f = \frac{0.013020583(1.689 \text{ ton/m})(3.20)^4}{3100000 t/m^2(0.000193 m^4}$

$= 0.00367363$