ARQUITECTURA

RESISTENCIA DE MATERIALES DE CONSTRUCCIÓN

ARQUITECTO PEDRO

NÉSTOR IVÁN GUILLÉN VELASCO

4TO CUATRIMESTRE

15 DE OCTUBRE 2023

UDS
Mi Universidad

1.1586 t/m

3.18m

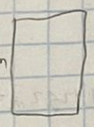
5.70

Concreto reforzado
muro de block = 270 Kg/m

$h = \frac{l}{12} \rightarrow \frac{5.70m}{12} = 0.475$

$b = 0.5(h) \rightarrow 0.5(0.50m) = 0.25m$

P.P trabe $\rightarrow 0.50m \times 0.25m \times 2,400\ Kg/m^3 = 300\ Kg/m$

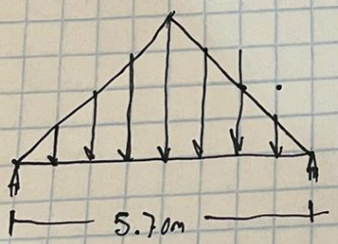


0.50m

0.25m

P.P muro $\rightarrow 3.18m\ (270\ Kg/m) = 858.6\ Kg/m$

858.6 Kg/m
+ 300 Kg/m
1158.6 Kg/m $\rightarrow$ 1.1586 ton/m



5.70m

$M = \frac{q \times l^2}{12} = \frac{1.1586\ ton/m\ (5.70)^2}{12} = 3.135\ ton/m$

$RA = RB = \frac{ql}{4} = \frac{1.1586\ ton/m\ (5.70)}{4} = 1.651\ ton$

$E = 3,100,000 \ ton/m^2$

$I_A = \frac{bh^3}{12} = \frac{0.25m\,(0.50)^3}{12} = 0.002604\ m^4$

$\theta A = \theta B = \frac{5qL^3}{196.E.I} = \frac{5(1.1586\ ton/m)(5.70)^3}{196(3,100,000\ ton/m^2)(0.002604m^4)}$

$= \frac{1072.823049}{1582140.24} = 0.000678$

$F = \frac{qL^4}{120\,EI} \rightarrow \frac{1.1586\ ton/m\,(5.70m)^4}{120(3.100,000\ ton/m^2)(0.002604m^2)} = 0.001252m = 12.52\ Cm$