



**NOMBRE DE ALUMNO: JULIO ALBERTO AGUILAR  
VERA**

**NOMBRE DEL PROFESOR: PEDRO ALBERTO GARCIA**

**NOMBRE DEL TRABAJO: EXAMEN DE UNIDAD**

**MATERIA: ESTÁTICA**

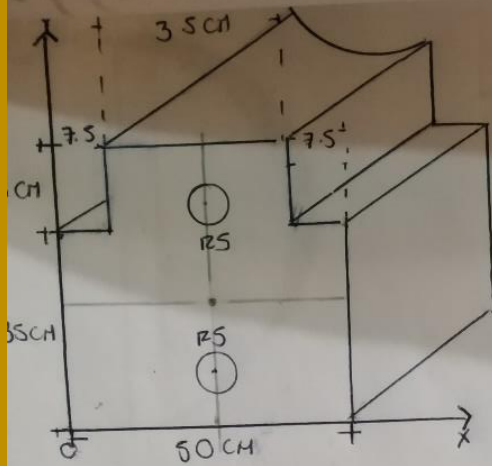
**GRADO: TERCER CUATRIMESTRE**

**GRUPO: "A"**

COMITÁN DE DOMÍNGUEZ CHIAPAS A 17 DE JUNIO DE 2021.

- UNIVERSIDAD DEL SURESTE
- ALUMNO: JULIO ALBERTO AGUILAR V.
- PROFESOR: PEDRO ALBERTO GARCÍA
- ACTIVIDAD: EXAMEN DE UNIDAD
- TERCER CUATRIMESTRE 'A'
- COMITÁN DE DOMÍNGUEZ

• FECHA: 17-06-21



$$A = 1750 \text{ cm}^2 + 78.54 \text{ cm}^2 + 525 \text{ cm}^2 - 78.54 \text{ cm}^2 = 2117.92 \text{ cm}^2$$

$$A_1 = B \cdot H = 35(50) = 1750 \text{ cm}^2$$

$$\bar{x}_1 = B/2 = 50/2 = 25 \text{ cm}$$

$$\bar{y}_1 = H/2 = 35/2 = 17.5 \text{ cm}$$

$$A_2 = \pi R^2 = 3.1416(5)^2 = 78.54 \text{ cm}^2$$

$$\bar{x}_2 = R = 5$$

$$\bar{y}_2 = R = 5$$

$$A_3 = B \cdot H = 35(15) = 525 \text{ cm}^2$$

$$\bar{x}_3 = B/2 = 35/2 = 17.5 \text{ cm}$$

$$\bar{y}_3 = H/2 = 15/2 = 7.5 \text{ cm}$$

$$A_4 = \pi R^2 = 3.1416(5)^2 = 78.54 \text{ cm}^2$$

$$\bar{x}_4 = R = 5$$

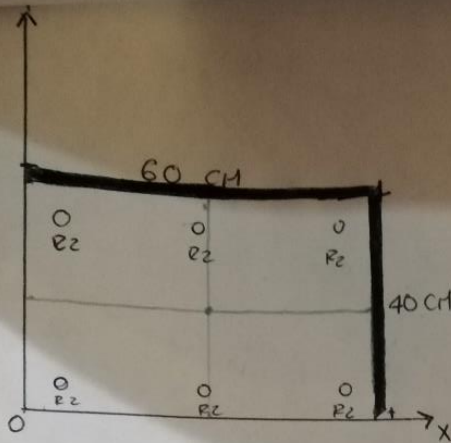
$$\bar{y}_4 = R = 5$$

$$C_{EX} = \frac{1750 \text{ cm}^2(25 \text{ cm}) - 78.54 \text{ cm}^2(5) + 525 \text{ cm}^2(17.5 \text{ cm}) - 78.54 \text{ cm}^2(5 \text{ cm})}{1750 \text{ cm}^2 - 78.54 \text{ cm}^2 + 525 \text{ cm}^2 - 78.54 \text{ cm}^2}$$

$$C_{EX} = \frac{56,089.6 \text{ cm}^3}{2,117.92 \text{ cm}^2} = 26.483 \text{ cm}$$

$$C_{EY} = \frac{1750 \text{ cm}^2(17.5 \text{ cm}) - 78.54 \text{ cm}^2(5) + 525 \text{ cm}^2(7.5 \text{ cm}) - 78.54 \text{ cm}^2(5)}{1750 \text{ cm}^2 - 78.54 \text{ cm}^2 + 525 \text{ cm}^2 - 78.54 \text{ cm}^2}$$

$$C_{EY} = \frac{32,902.1 \text{ cm}^3}{2117.92 \text{ cm}^2} = 15.53 \text{ cm}$$



$$A_1 = B \cdot H = 60(40) = 2400 \text{ cm}^2$$

$$x_1 = B/2 = 60/2 = 30 \text{ cm}$$

$$y_1 = H/2 = 40/2 = 20 \text{ cm}$$

$$A_2 = \pi R^2 = 3.14(12)^2 = 452.390$$

$$x_2 = R = 12$$

$$y_2 = R = 12$$

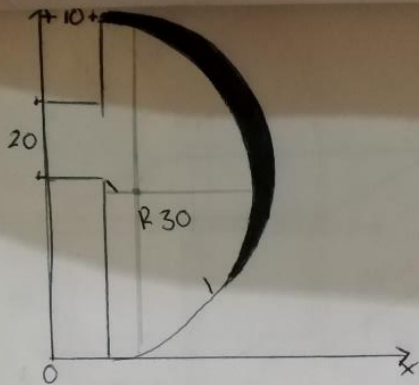
$$CE_x = \frac{2400 \text{ cm}^2 (30 \text{ cm}) - 452.390 (12)}{2400 \text{ cm}^2 - 452.390 \text{ cm}^2}$$

$$CE_x = \frac{66,571.32 \text{ cm}^3}{1947.61 \text{ cm}^2} = 34.181 \text{ cm}$$

$$CE_y = \frac{2400 \text{ cm}^2 (20 \text{ cm}) - 452.390 (12)}{2400 \text{ cm}^2 - 452.390 \text{ cm}^2}$$

$$CE_y = \frac{42,895.32 \text{ cm}^3}{1,947.61 \text{ cm}^2} = 22.024$$

$$A = 2400 \text{ cm}^2 - 452.390 = 1947.61 \text{ cm}^2$$



$$A_1 = \pi r^2 / 2 = 3.1416 (30)^2 / 2 = -1413.72 \text{ cm}^2$$

$$x_1 = 4r / 3\pi = 4(30) / 3(3.1416) = 12.732 \text{ cm}$$

$$y_1 = R = 30$$

$$A_2 = B \cdot H = 10(20) = 200 \text{ cm}^2$$

$$x_2 = B/2 = 10/2 = 5 \text{ cm}$$

$$y_2 = H/2 = 20/2 = 10 \text{ cm}$$

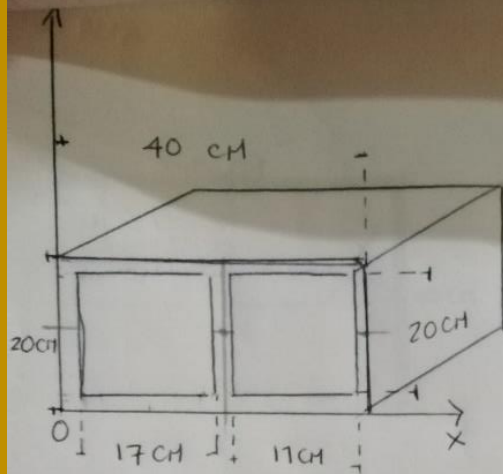
$$CE_x = \frac{-1413.72 \text{ cm}^2 (12.732 \text{ cm}) + 200 \text{ cm}^2 (5 \text{ cm})}{-1413.72 \text{ cm}^2 + 200 \text{ cm}^2}$$

$$CE_x = \frac{-16,999.483 \text{ cm}^3}{-1,213.72 \text{ cm}^2} = 14.006 \text{ cm}$$

$$CE_y = \frac{-1413.72 \text{ cm}^2 (30 \text{ cm}) + 200 \text{ cm}^2 (10 \text{ cm})}{-1413.72 \text{ cm}^2 + 200 \text{ cm}^2}$$

$$CE_y = \frac{-40,411.6 \text{ cm}^3}{-1,213.72 \text{ cm}^2} = 33.295 \text{ cm}$$

$$A = -1413.72 \text{ cm}^2 + 200 \text{ cm}^2 = -1,213.72 \text{ cm}^2$$



$$A_1 = B \cdot H = 40(20) = 800 \text{ cm}^2$$

$$x_1 = B/2 = 40/2 = 20 \text{ cm}$$

$$y_1 = H/2 = 20/2 = 10 \text{ cm}$$

$$A_2 = B \cdot H = 17(16) = 272 \text{ cm}^2$$

$$x_2 = B/2 = 17/2 = 8.5 \text{ cm}$$

$$y_2 = H/2 = 16/2 = 8 \text{ cm}$$

$$A_3 = B \cdot H = 17(16) = 272 \text{ cm}^2$$

$$x_3 = B/2 = 17/2 = 8.5 \text{ cm}$$

$$y_3 = H/2 = 16/2 = 8 \text{ cm}$$

$$CEx = \frac{800 \text{ cm}^2 (20 \text{ cm}) + 272 \text{ cm}^2 (8.5 \text{ cm}) + 272 \text{ cm}^2 (8.5 \text{ cm})}{800 \text{ cm}^2 + 272 \text{ cm}^2 + 272 \text{ cm}^2}$$

$$CEx = \frac{20,624 \text{ cm}^3}{1,344 \text{ cm}^2} = 15.345 \text{ cm}$$

$$CEy = \frac{800 \text{ cm}^2 (10 \text{ cm}) + 272 \text{ cm}^2 (8 \text{ cm}) + 272 \text{ cm}^2 (8.5 \text{ cm})}{800 \text{ cm}^2 + 272 \text{ cm}^2 + 272 \text{ cm}^2}$$

$$CEy = \frac{12,352 \text{ cm}^3}{1,344 \text{ cm}^2} = 9.190 \text{ cm}$$

$$A = 800 \text{ cm}^2 + 272 \text{ cm}^2 + 272 \text{ cm}^2 = 1,344 \text{ cm}^2$$