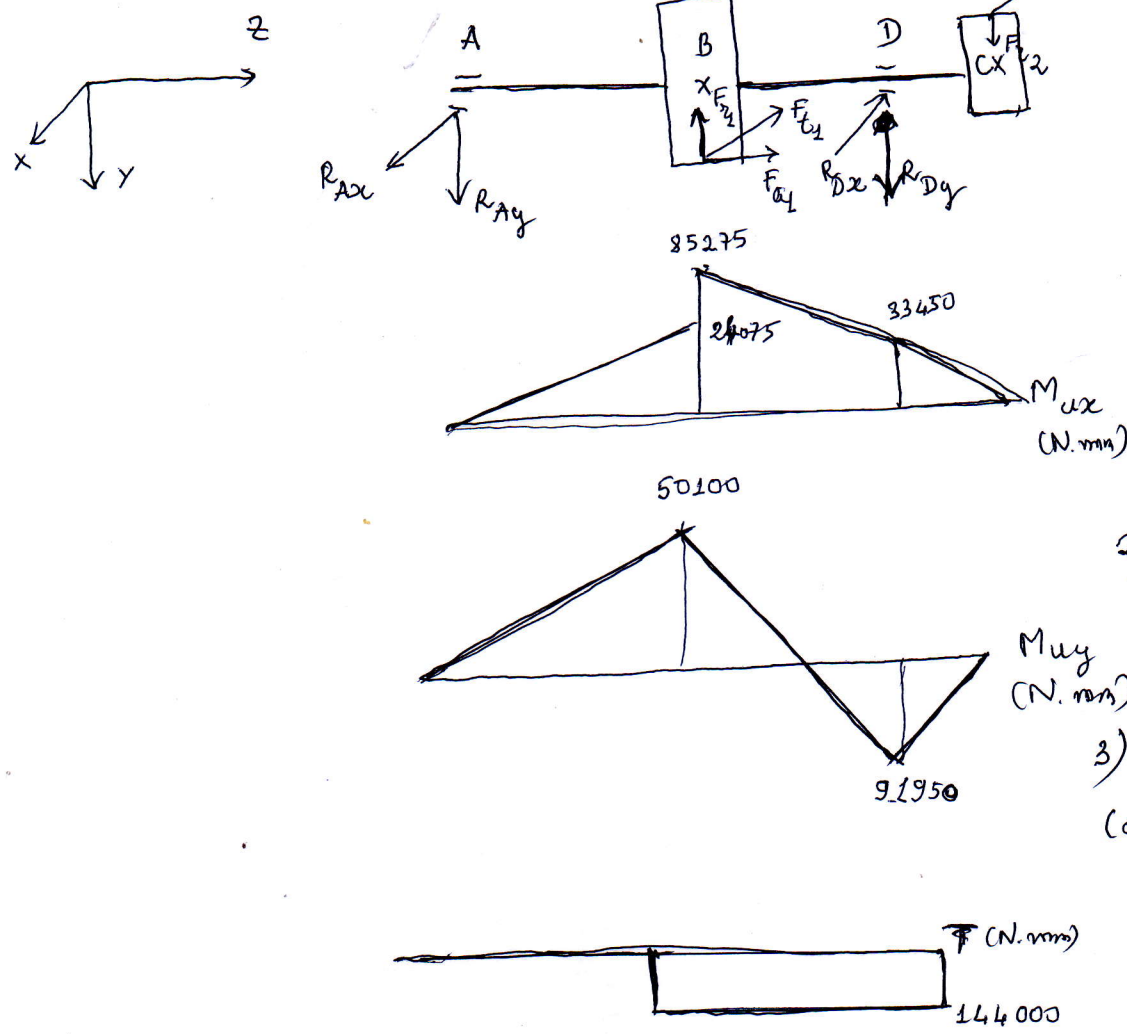


Câu 1:

- 1) (0,5 đ) $d_1 = \frac{25,4}{\sin\left(\frac{180^\circ}{25}\right)} = 202,6 \text{ mm}$ $d_2 = \frac{25,4}{\sin\left(\frac{180^\circ}{75}\right)} = 606,6 \text{ mm}$
- 2) (1 đ) $X = 0,5(z_2 + z_1) + \frac{2a}{p} + \frac{0,25(z_2 - z_1)^2 \cdot p}{\pi^2 \cdot a} = 50 + 100 + 1,27 = 151,27$
 Chọn $X = 152$
- 3) (1 đ) $K_z = \frac{25}{25} = 1; K_m = \frac{400}{420} = 0,95; K = K_d \cdot K_a \cdot K_o \cdot K_{dc} \cdot K_{bt} \cdot K_c = 1 \cdot 1 \cdot 1 \cdot 1 \cdot 0,8 \cdot 1,25 = 1$
 $\frac{P}{2} \leq \frac{[P_b]}{K \cdot K_z \cdot K_m} \cdot K_d = \frac{19}{0,95} = 20 \text{ kW} = P_{1\max}$

Câu 2 (2,5 đ) $a_{13}^c = \frac{\bar{n}_2 - \bar{n}_c}{\bar{n}_3 - \bar{n}_c} = - \frac{z_2 \cdot z_3}{z_1 \cdot z_2'} \Rightarrow \frac{300 - \bar{n}_c}{0 - \bar{n}_c} = - \frac{25 \cdot 40}{80 \cdot 50} = - \frac{1}{4}$
 $\Rightarrow 1200 - 4\bar{n}_c = 0 \Rightarrow \bar{n}_c = 300 \text{ v/phút}$

Câu 3



- 1) (1 đ)
 $\sum (\bar{m}_A)_x = 0$
 $\Rightarrow R_{Dx} = 1086 \text{ (N)}$
 $\sum X = 0 \Rightarrow R_{Ax} = 167 \text{ (N)}$
 $\sum (\bar{m}_A)_y = 0$
 $\Rightarrow R_{Dy} = 50,25 \text{ (N)}$
 $\sum Y = 0 \Rightarrow R_{Ay} = 80,25 \text{ (N)}$
- 2) (1 đ) - Biểu đồ
- 3) $d_B \geq \sqrt[3]{\frac{M_{td}}{0,1[\sigma]}}$

Chọn $d_B = 30 \text{ mm}$.

Câu 4 :

1) (1đ)

$$p = \frac{k_d \cdot F_a}{\pi d_2^2 \cdot \psi_R \cdot \psi_H} \leq [p] \Rightarrow F_a \leq 35052 \text{ (N)}$$

2) (1,5đ)

$$\tan \gamma = \frac{z \cdot p}{\pi d_2} = \frac{2 \cdot 3}{3,14 \cdot 395} \Rightarrow \gamma = 3,6$$

$$\varphi = \arctan f = 5,7$$

$$T = F_t \cdot l = F_a \cdot \frac{d_2}{2} \tan(\gamma + \varphi) \Rightarrow F_t = 438 \text{ (N)}$$

GV

Danh

Đường Đăng Danh

