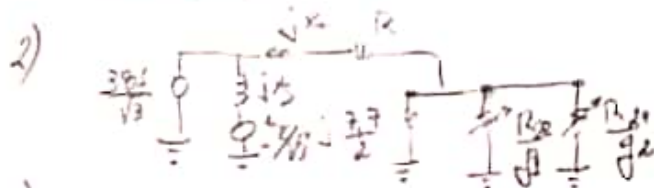


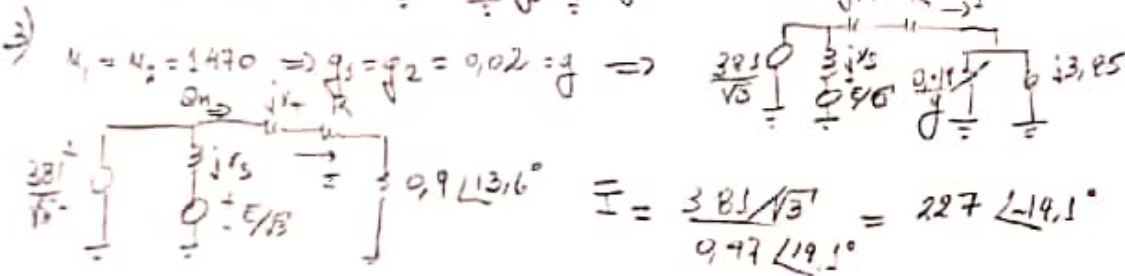
Problemas 1

1) Valor $I_0 = 30 \text{ A}$ $P = 0$ $X_0 = \frac{400/\sqrt{3}}{30} = 7,7 \Omega$

$M_D = 1455 \text{ rpm} \rightarrow g_D = 0,03 \Rightarrow P_D = g_D(1-g_D) \frac{U_D^2}{R_{2e}} \quad P_{11} = 125 \times 10^2 \text{ W}$
 $U_D = 400 \text{ V}$
 $\rightarrow R_{2e} = 0,037 \Omega$



$R = 0,07 \Omega$
 $X_T = 0,027 \Omega$
 $X_S = 92 \cdot \frac{400^2}{5 \times 10^6} = 0,032 \Omega$



$\frac{0,019}{0,02} = 0,95$

$U_1 = U_2 = 1470 \Rightarrow g_1 = g_2 = 0,02 = g \Rightarrow$

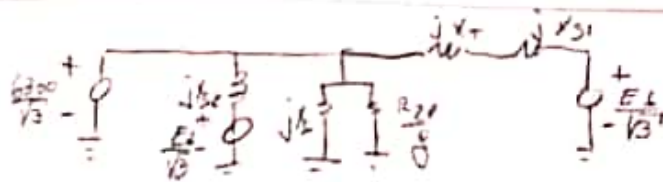
$\Rightarrow I_{N3} = 55,4 \text{ A} \Rightarrow$

$E = 381 + 0,032 \times \sqrt{3} \times 55,4 = 384,1 \text{ V}$
 $E^{L3} = 6049,6 \text{ V} \Rightarrow I = 3 \text{ A}$

4) $U_H = \sqrt{3} / 99 \times 227 = 353,4 \text{ V}$

$P_{\text{red}} = \sqrt{3} \times 381 \times I_{\text{red}} = \sqrt{3} \times 381 \times 227 \cos 14,1 \Rightarrow I_{\text{red}} = 220,1 \text{ A}$

Problem 2c.



$\eta = \begin{cases} g_{D1} = 0,02 \\ R_{2e} = 9,52 \Omega \\ X_0 = 69,6 \Omega \end{cases}$

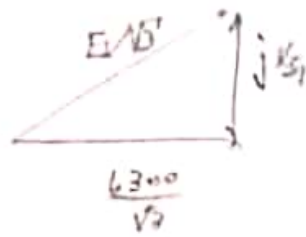
$X_T = 0,08 \times \frac{6300^2}{2 \times 10^6} = 1,54 \Omega$
 $X_{S1} = 0,15 \times \frac{6,3^2}{2} = 3,97 \Omega$
 $X_{S2} = 0,2 \times \frac{6,3^2}{2} = 7,94 \Omega$

2) $\frac{6300^2}{9052} \times g = 8085 \Rightarrow g = 0,0165$

$P_{HI} = \frac{6300^2}{952} \times 0,0165 = 1,26 \text{ MW}$

$Q_{HI} = \frac{6300^2}{69,6} = 655 \text{ KVAR}$

$$3) P_{MSI} = 11W$$



Mínimo
conector de línea

$$E_1 = 6361,4V \Rightarrow E_f^{2000} = 2019,5$$

$$\Rightarrow \underline{i_f = 2,14A}$$

$$4) P_{red} = 260kW$$

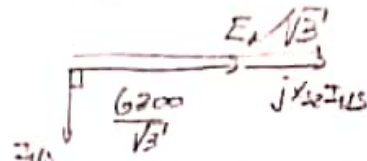
$$Q_{HT} = 655kVAR$$

$$P_{red} = A \cos 99,5 = 18,2^\circ$$

$$Q_{red} = \tan 18,2 \times 260 = 85,5kVAR$$

$$\Rightarrow Q_{HD} = 655 - 85,5 = 569,5kVAR$$

$$I_{HS} = \frac{569,5 \times 10^3}{\sqrt{3} \times 6300} = 52,5A$$



$$E_2 = 6300 + \sqrt{3} \times X_{s2} I_{HS} = 7021V \Rightarrow \underline{i_{HS} \approx 7A}$$