IZRAZI ZA 1. MEĐUISPIT IZ PREDMETA
ELEKTROMEHANIČKI SUSTAVI

- ISTOSMJERNI STROJEVI

$$E = c_e\, n \qquad\qquad P_n = \eta\; I_{an}\, U_n \qquad\qquad E = U - I_a\, R_a$$

$$M = c_m\, I_a \qquad\qquad P_n = M_n\, \omega_n \qquad\qquad n = \frac{U - I_a\, R_a}{c_e} \qquad\qquad n = \frac{30}{\pi}\,\omega$$

- ASINKRONI STROJEVI

$$n_s = \frac{60 f_1}{p} \qquad s = \frac{n_s - n}{n_s} \qquad n = n_s\,(1 - s) \qquad f_2 = s\, f_1 \qquad E_2 = s\, E_{20}$$

$$P_1 = \sqrt{3}\, U_n\, I_n\, \cos\varphi \qquad\qquad \eta = \frac{P_2}{P_1} \qquad\qquad I_n = \frac{P_2}{\sqrt{3}\, U_n\, \eta\, \cos\varphi} \qquad\qquad E_{20} = s\, E_1$$

$$Q_1 = \sqrt{3}\, U_n\, I_n\, \sin\varphi \qquad (U_n\,, I_n\ \text{su linijske vrijednosti})$$

$$E_1 = U - I_1(R_1 + jX_\sigma) \qquad\qquad M \approx \left(\frac{U}{f}\right)^2 \qquad\qquad P_2 = M_2 \omega_n$$

ZVIJEZDA: $\quad I_l = I_f \qquad U_l = \sqrt{3}\, U_f \quad \rightarrow \quad U_{f_{zv}} = \frac{U_{f_{tr}}}{\sqrt{3}} \qquad U_{l_{zv}} = U_{l_{tr}}$

TROKUT: $\qquad I_l = \sqrt{3}\, I_f \qquad U_l = U_f \quad \rightarrow \quad I_{f_{zv}} = \frac{I_{f_{tr}}}{\sqrt{3}} \qquad I_{l_{zv}} = \frac{I_{l_{tr}}}{3}$

$$\frac{M_n}{M_{pr}} = \frac{2}{\dfrac{s_n}{s_{pr}} + \dfrac{s_{pr}}{s_n}} \qquad s_{pr} = \frac{R_2}{X_{\sigma 2}} \qquad I_2 = \frac{E_{20}}{\sqrt{3}\,\sqrt{\left(\dfrac{R_2}{s}\right)^2 + (X_{\sigma 2})^2}} \qquad R_2 = \frac{s_n\, E_{20}}{\sqrt{3}\, I_{2n}}$$

$$\frac{M_t}{s_t} = \frac{M_n}{s_n} \qquad\qquad \frac{R_2}{s_t} = \frac{R_2 + R_d}{s_{tRd}}$$