

Formule iz Osnova Elektrotehnike
koje se mogu koristiti na međuispitima – II dio

$$R_1 = \frac{R_{12}R_{31}}{(R_{12} + R_{23} + R_{31})}$$

$$R_2 = \frac{R_{23}R_{12}}{(R_{12} + R_{23} + R_{31})}$$

$$R_3 = \frac{R_{31}R_{23}}{(R_{12} + R_{23} + R_{31})}$$

$$R_{12} = R_1 + R_2 + \frac{R_1R_2}{R_3}$$

$$R_{23} = R_2 + R_3 + \frac{R_2R_3}{R_1}$$

$$R_{31} = R_3 + R_1 + \frac{R_3R_1}{R_2}$$

$$C_{uk} = \frac{C_1C_2}{(C_1 + C_2)} \quad (\text{ser.})$$

$$C_{uk} = C_1 + C_2 \quad (\text{par.})$$

$$Y_{ef} = \sqrt{\frac{1}{T} \int_0^T y(t)^2 dt}$$

$$Y_{sr} = \frac{1}{T} \int_0^T y(t) dt$$

$$\xi = \frac{Y_{ef}}{Y_{sr}}$$

$$\sigma = \frac{Y_m}{Y_{ef}}$$

$$Y_{ef} = \sqrt{Y_0^2 + Y_{1ef}^2}$$

$$Y_{sr} = Y_{sr0} \frac{T_i}{T}$$

$$Y_{ef} = \sqrt{Y_{ef0} \frac{T_i}{T}}$$

$$\underline{a} = b + jc = Ae^{j\alpha} = A\angle\alpha$$

$$b = \Re\{\underline{a}\} = A \cos \alpha$$

$$c = \Im\{\underline{a}\} = A \sin \alpha$$

$$A = \sqrt{b^2 + c^2}$$

$$\alpha = \arctan\left(\frac{c}{b}\right)$$

$$u(t) = U_m \sin(\omega t + \alpha)$$

$$\underline{u} = U_m e^{j(\omega t + \alpha)}$$

$$\underline{U}_m = U_m e^{j\alpha}$$

$$\underline{U} = U e^{j\alpha} = \dot{U}$$

$$u(t) = \Im\{\underline{u}\}$$

$$X_L = \omega L \quad B_L = \frac{1}{\omega L}$$

$$X_C = \frac{1}{\omega C} \quad B_C = \omega C$$

$$\underline{Z} = R + jX$$

$$\varphi = \arctan\left(\frac{X}{R}\right)$$

$$\underline{Y} = G + jB$$

$$\psi = \arctan\left(\frac{B}{G}\right)$$

$$\varphi = -\psi$$