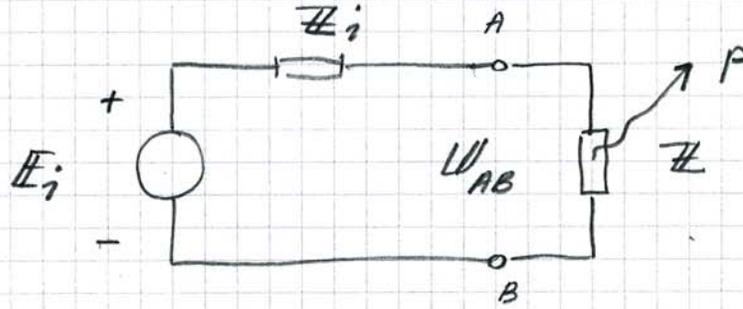**EFFEKTANPASSNING**

ERSÄTT DEN BEFINTLIGA KRETSEN MED EN EKVIVALENT TVÅPOL

$$P = P_{MAX} \quad OM \quad Z = Z_i^* \quad \dots (1)$$

$$Z_i = \frac{1}{j\omega c} \parallel R_3 \parallel R_2$$

$$\rightarrow \quad Z_i = (0{,}25 - j0{,}25) \; \Omega$$

$$(1) \rightarrow \quad P = P_{MAX} \quad OM$$

$$Z = (0{,}25 + j0{,}25) \; \Omega$$

$$P_{MAX} = \frac{E_i^2}{4 \, Re \, Z_i} \quad \dots (2)$$

$$E_i = U_{ABO} \quad \rightarrow$$

$$\underline{E}_i = U \cdot \frac{R_3 \, // \, \frac{1}{j\omega c}}{R_2 + R_3 \, // \, \frac{1}{j\omega c}} \quad \Rightarrow$$

$$\underline{E}_i = 10\sqrt{2} \cdot e^{j0°} \cdot \frac{0{,}2 - j0{,}4}{1 + 0{,}2 - j0{,}4} =$$

$$= 5 \cdot e^{-j45°} \quad V$$

$$\hat{E}_i \quad \rightarrow \quad E_i = \frac{5}{\sqrt{2}} \quad V$$

$$(2) \rightarrow \quad P_{MAX} = \frac{\left(\frac{5}{\sqrt{2}}\right)^2}{4 \cdot 0{,}25} = \underline{12{,}5 \, W}$$