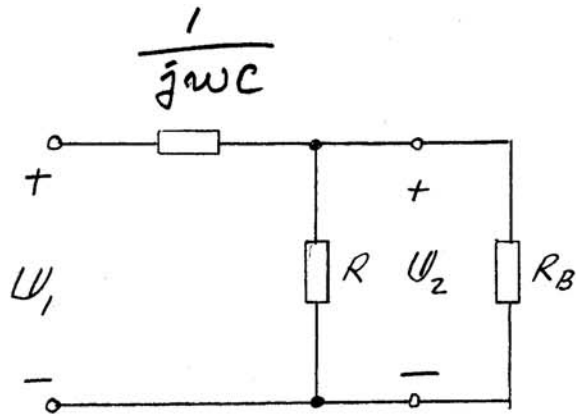


B1.7



$$C = 0,10 \mu\text{F} \quad R = 20 \text{ k}\Omega \quad R_B = 20 \text{ k}\Omega$$

$$U_1 = 10 \text{ V} \Rightarrow \hat{U}_1 = 10\sqrt{2} \text{ V}$$

$$f = 100 \text{ Hz} \Rightarrow \omega = 2\pi \cdot 100 \text{ RAD/s}$$

$$\Rightarrow u_1(t) = 10\sqrt{2} \sin(2\pi \cdot 100 + \varphi) \text{ V}$$

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$$\Rightarrow U_1 = 10\sqrt{2} \cdot e^{j\varphi} \text{ V}$$

$$U_2 = U_1 \cdot \frac{\frac{R \cdot R_B}{R + R_B}}{\frac{1}{j\omega C} + \frac{R \cdot R_B}{R + R_B}} \Rightarrow$$

$$U_2 = 10\sqrt{2} e^{j\varphi} \cdot \frac{10000}{-j15915,5 + 10000} =$$

$$= \frac{100000\sqrt{2} e^{j\varphi}}{18796,4 \cdot e^{-j57,9^\circ}} \approx 5,3\sqrt{2} e^{j(\varphi + 57,9^\circ)} \text{ V}$$

$$\hat{U}_2 = 5,3\sqrt{2} \text{ V}$$

$$U_2 = \frac{\hat{U}_2}{\sqrt{2}} \Rightarrow \underline{U_2 = 5,3 \text{ V}}$$

$$\arg U_2 - \arg U_1 = (\varphi + 57,9^\circ) - \varphi = 57,9^\circ$$

u_2 LIGGER $57,9^\circ$ FÖRE u_1

VISARDIAGRAM :

