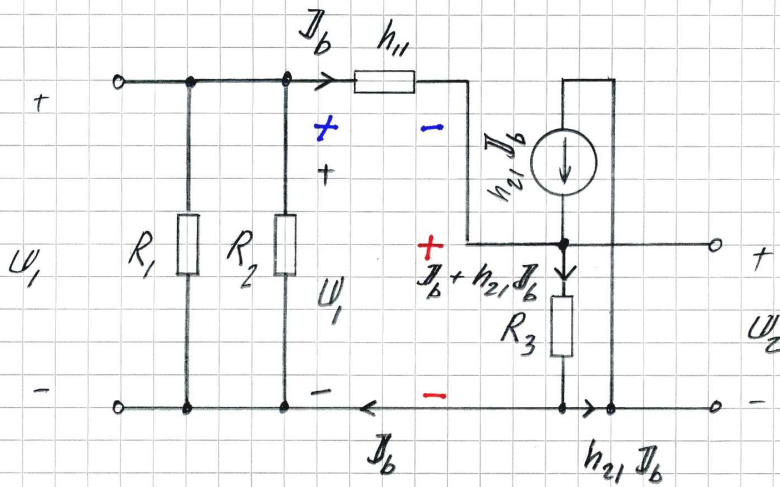


E16



$$F = \frac{U_2}{U_1} \dots (1)$$

$$U_2 = R_3 (I_b + h_{21} I_b) \dots (2)$$

$$U_1 = R_3 (I_b + h_{21} I_b) + h_{11} I_b \dots (3)$$

(2) & (3) into (1) →

$$F = \frac{R_3 (I_b + h_{21} I_b)}{R_3 (I_b + h_{21} I_b) + h_{11} I_b} \rightarrow \underline{\underline{F \approx 0,98}}$$

$$Z_{in} = R_1 \parallel R_2 \parallel \left(\frac{U_1}{I_b} \right)$$

$$(3) \rightarrow \frac{U_1}{I_b} = R_3 (1 + h_{21}) + h_{11} \rightarrow$$

$$Z_{in} = \left(\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3 (1 + h_{21}) + h_{11}} \right)^{-1} \Rightarrow \underline{\underline{Z_{in} = 9,2 \text{ k}\Omega}}$$