4.) Urdte A_U ; A_I ; $R_L \ll R_3$, $\boxed{A_2 = \frac{R_L}{h_{11}} h_{21}}$

$$I_b = \frac{U_1}{h_{11}} \qquad U_2 = (R_3 \| R_L) \cdot h_{21} \cdot I_b \Rightarrow \frac{U_2}{U_1} = \frac{(R_3 \| R_L)}{h_{11}} h_{21} = A_U$$

$$\frac{I_b}{I_1} = \frac{\frac{1}{h_{11}}}{\frac{1}{R_1} + \frac{1}{R_1} + \frac{1}{h_{11}}} = \frac{0{,}256\ mS}{0{,}0408 + 0{,}011 + 0{,}256} = D = 0{,}847$$

$$\frac{I_2}{I_c} = \frac{\frac{1}{R_L}}{\frac{1}{R_L} + \frac{1}{R_3}} = \frac{1}{2} \Rightarrow I_2 = \frac{R_3}{R_L + R_3} \cdot h_{21} \cdot I_b = \frac{R_3}{R_L + R_3} h_{21} \cdot D \cdot I_1$$

Preco^2.

$$\boxed{A_I = \frac{R_3}{R_L + R_3} D \cdot h_{21} \doteq h_{21}}$$

$R_L \ll R_3$

$h_{11} \ll R_2$

5.)

Vstopni odpor

$$\boxed{R_{vst} = R_1 \| R_2 \| h_{11} \approx h_{11}}$$

Vizhodni odpor

$$\boxed{R_{vyst} = R_3 \| \frac{1}{h_{22}} \approx R_3}$$