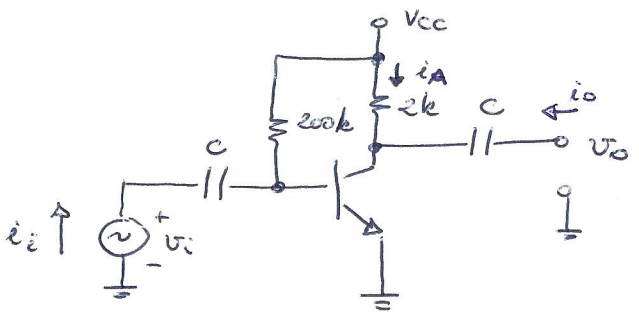
LISTA DE EXERCÍCIOS

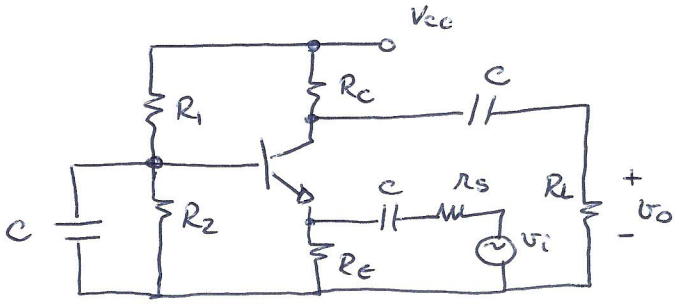
TBJ - 02

1) Dado o circuito a seguir, determine: $A_i = \frac{i_A}{i_i}$, $A_v = \frac{v_o}{v_i}$, $z_i = \frac{v_i}{i_i}$, $z_o = \frac{v_o}{i_o}$, sendo $h_{ie} = 1k\Omega$, $h_{re} = 2 \cdot 10^{-4}$, $h_{fe} = 50$, $h_{oe} = 20\mu$.



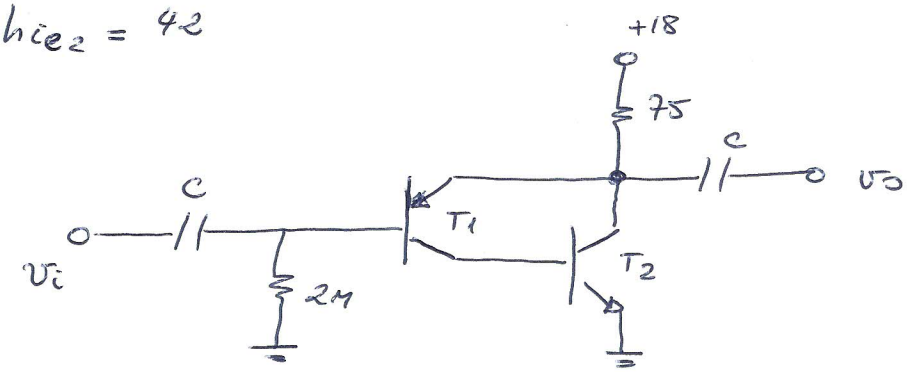
RTA: $A_i = 47,84$
$A_v = -98,04$
$z_i = 975,98$
$z_o = 1960,78$

2) Determine $A_v = \frac{v_o}{v_i}$

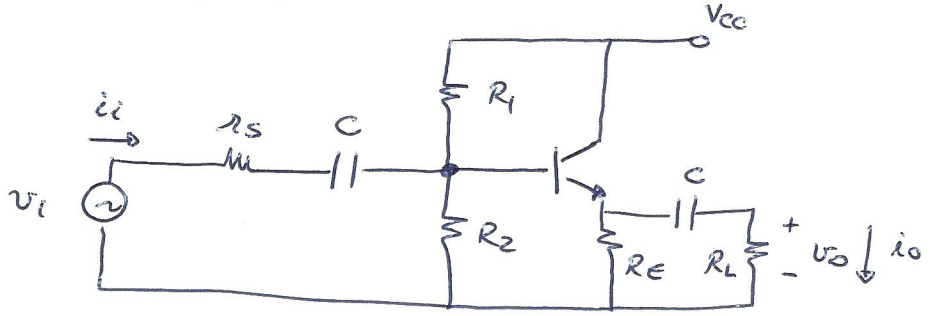


RTA: $A_v = +\frac{h_{fe}}{h_{ie}} (R_C // R_L)$

3) Determine: $A_v = \frac{v_o}{v_i}$, z_o, z_i, onde $\beta_1 = 140$, $\beta_2 = 180$, $h_{ie_1} = 5,8k$, $h_{ie_2} = 42$



4) Determine : A_V, z_o, z_i



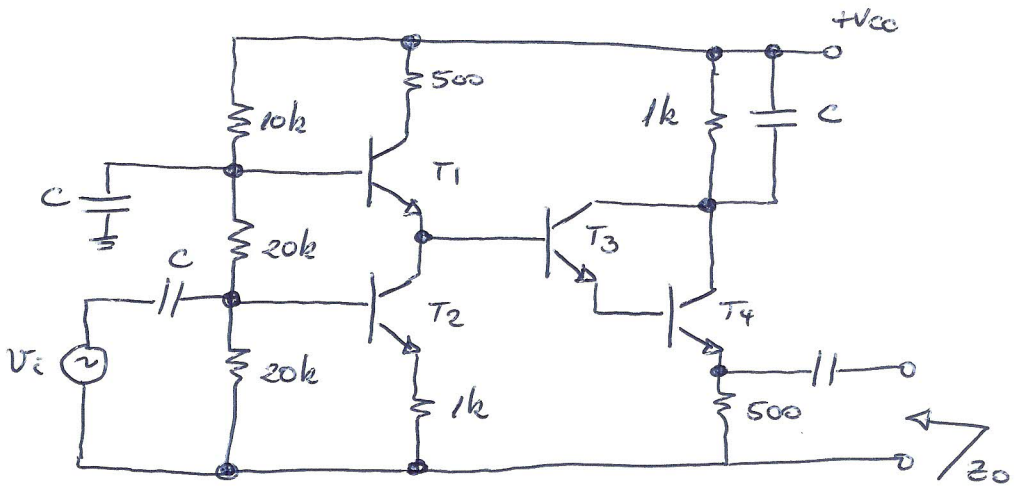
RTA :

$$A_V = \frac{V_o}{V_i} = \frac{R_S // R_B}{R_S}\left[1 - \frac{R_S // R_B + h_{ie}}{\frac{R_E R_L}{R_E + R_L} h_{fe} + (R_S // R_B) + h_{ie} + R_E // R_L}\right]$$

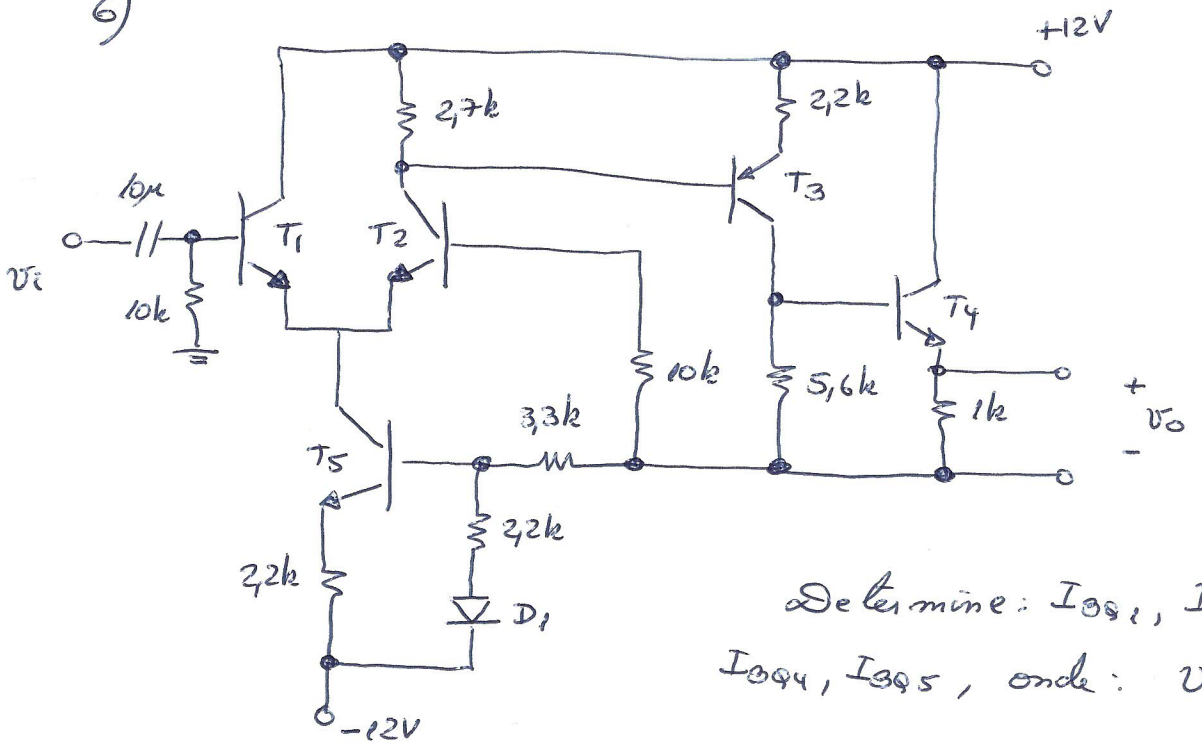
onde $R_B = R_1 // R_2$

$$z_o = \frac{(h_{fe}+1) R_E + h_{ie} + R_T}{R_E (h_{ie} + R_T)}$$ onde $R_T = R_S // R_1 // R_2$

5) Determine z_o, sendo $h_{ie_1} = 1k$, $h_{ie_2} = 2k$, $h_{ie_3} = 1{,}5k$, $h_{ie_4} = 2k$, $h_{fe} = 50$



6)



Determine: I_{BQ1}, I_{BQ2}, I_{BQ3}, I_{BQ4}, I_{BQ5}, onde: $V_{BEi} = V_D = (\pm) 0,7$ e $\beta_i = 200$ para $i = 1, 2, \ldots, 5$