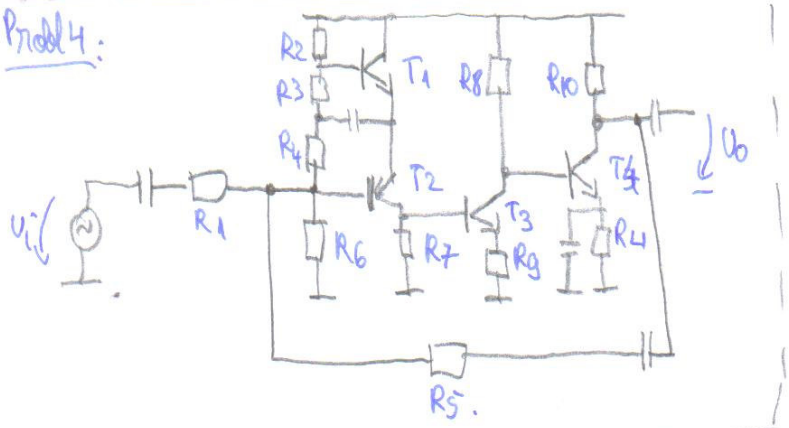
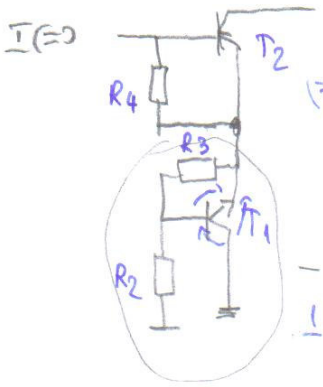
Probl 4:



Se cere A_u, 2int, 2ieș.



$\Leftrightarrow T_2' = (R_2, R_4)$

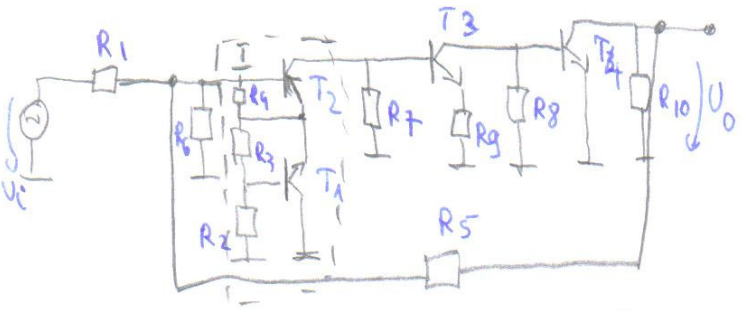
$\begin{cases} h_{11}' = \frac{R_4 h_{11}}{R_4 + h_{11}} \\ h_{21}' = \frac{R_4 h_{21}}{R_4 + h_{11}} \end{cases}$

– se neglijează:

1. se echiv cu o imped ∞

$\Leftrightarrow \infty$.

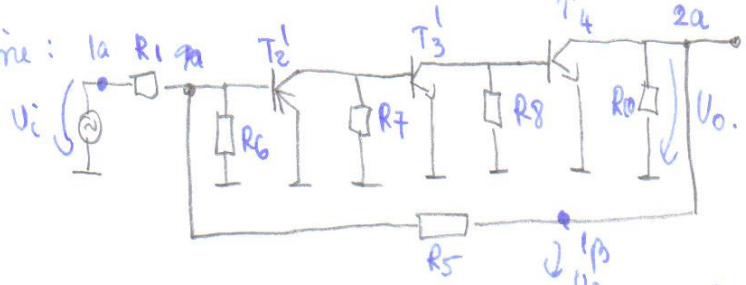
2. este blocat; $I_C = 0, \dots$;



echivalăm $T_3' = (T_3, R_9)$.

$\begin{cases} h_{11}' T_3 = h_{11} T_3 \\ h_{21} T_3 = h_{21} T_3 \end{cases}$

schema devine:



Calc. mai întâi h_{11a}, $h_{11\beta}$, 2ieș 2a

$h_{11a} = Z_{int\,1a} \Big|_{\substack{U_o=0 \\ U_\beta=0}}$ (sch 1) =

$= R_1 + R_6 \| R_5 \| Z_{int\,T_2'}$.

$\hookrightarrow h_{11 T_2'}$.

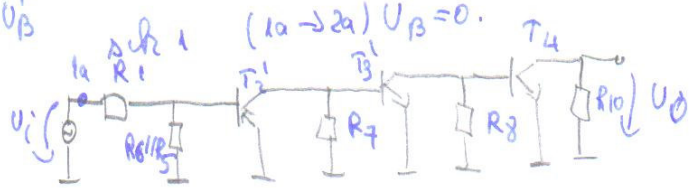
$h_{11\beta} = Z_{int\,1\beta} \Big|_{\substack{U_i=0 \\ U_o=0}}$ (sch 2) =

$= R_5 + R_1 \| R_6 \| Z_{int\,T_2'}$.

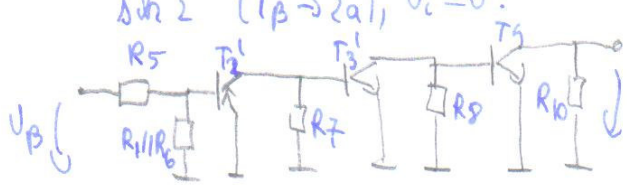
$Z_{ieș\,2a} \Big|_{\substack{U_i=0 \\ U_\beta=0}} \overset{sch\,1}{=} Z_{ieș\,T_4} \| R_{10} = R_{10}$

$\hookrightarrow \infty$.

sch 1 (1a → 2a) $U_\beta = 0$.



sch 2 (1β → 2a), $U_i = 0$:



calculăm $A_a = \frac{A_a (h_{11\beta} \| Z_S)}{1 - A_\beta (h_{11\beta} \| Z_S)}$.

unde $A_a (h_{11\beta} \| Z_S) = A_{U\,1a \to 2a} \Big|_{\substack{U_\beta=0 \\ Z_{sarcină} = h_{11\beta} \| Z_S}}$

$\overset{sch\,1}{=} A_R \cdot A_{T_2'} \cdot A_{T_3'} \cdot A_{T_4} = \frac{R_6 \| R_5 \| Z_{int\,T_2'}}{R_1 + R_5 \| R_6 \| Z_{int\,T_2'}} \cdot \left[-S_{T_2'} (R_7 \| Z_{int\,T_3'})\right] \cdot \left[-S_{T_3'} (R_8 \| Z_{int\,T_4})\right] \cdot \left[-S_{T_4} \left(R_{10} \| h_{11\beta}\right)\right]$

$\hookrightarrow h_{11 T_3'}$ $\qquad$ $\hookrightarrow h_{11 T_4}$

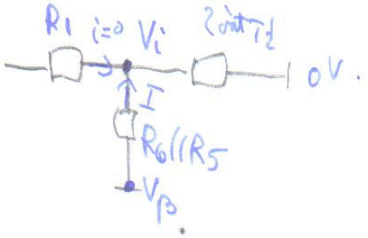
$A_\beta = A_{U_{\beta}}\Big|_{1_\beta \to 2a} \Big|_{\substack{U_i=0 \\ Z_{sarc}=Z_y/h_{11\beta}}} \overset{sch2}{=} A_R \cdot A_{T_2}' \cdot A_{T_3}' \cdot A_{T_4} = \frac{R_1 \| R_6 \| Z_{int\,T_2}'}{R_5 + R_1 \| R_6 \| Z_{int\,T_2}'} \cdot \left[-S_{T_2}\left(R_7 \| Z_{int\,T_3}'\right)\right] \cdot$

$\cdot \left[-S_{T_3}' \cdot R_8 \| Z_{int\,T_4}\right] \cdot \left[-S_{T_4} \cdot R_{10} \| h_{11\beta}\right].$

$Z_{ies} = \frac{Z_{ies\,2a} \| h_{11\beta}}{1 - A_{\beta\infty}(h_{11\beta})}$; $Z_{ies\,2a}$ - s-a calc ; la pol $h_{11\beta}$;

$A_\beta(h_{11\beta}) = A_\beta(h_{11\beta} \| Z_5)\Big|_{Z_5 \to \infty}$ = formula de sus, dar cu loc de $\underline{R_{10} = \infty}$.

$Z_{int} = \frac{h_{11a}}{1 - h_{12}^* A_u}$. ; $h_{12}^* = \frac{U_i}{U_\beta}\Big|_{\substack{U_0=0 \\ i_i=0}}$ sch. devine:



$h_{12}^* = \frac{Z_{int\,T_2} + \cancel{R_6 \| R_5}}{Z_{int\,T_2}' + R_6 \| R_5}$.