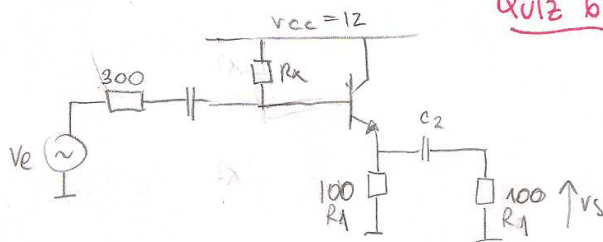


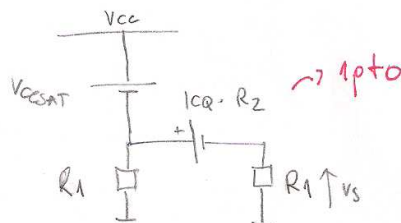
Quiz 6 Parla



Determinar \$R_x\$ para NSS de \$V_s\$, óptimo.
Calcular NSS óptima.

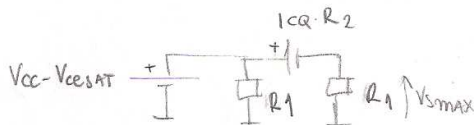
\$V_{SQ}=0\$
SAT \$\rightarrow V_{smax}\$
corte \$\rightarrow V_{smin}\$
1 pto

① \$V_{smax}\$



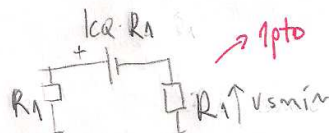
óptimo:

$$V_{smax} - V_{SQ} = V_{SQ} - V_{smin}$$



$$V_{smax} = V_{CC} - V_{CESAT} - I_{CQ} \cdot R_1 \rightarrow 1 \text{ pto}$$

② \$V_{smin}\$

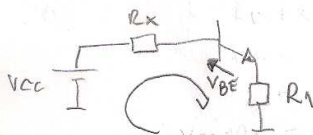


$$V_{smin} = -\frac{I_{CQ} \cdot R_1}{2} = -\frac{I_{CQ} \cdot R_1}{2} \rightarrow 1 \text{ pto}$$

óptimo: $V_{CC} - V_{CESAT} - I_{CQ} \cdot R_1 = \frac{I_{CQ} \cdot R_1}{2} \rightarrow 1 \text{ pto}$

$$I_{CQ} = \frac{2}{3} \cdot \frac{V_{CC} - V_{CESAT}}{R_1} \approx 78 \text{ mA} \rightarrow 1 \text{ pto}$$

$$\hookrightarrow V_{smax} = V_{s\text{óptimo}} = V_{CC} - V_{CESAT} - I_{CQ} \cdot R_1 \approx 4 \text{ (V)} \rightarrow 1 \text{ pto}$$



$$I_{CQ} = \frac{V_{CC} - V_{BE}}{R_x + R_1(h_{FE} + 1)} h_{FE}$$

1 pto

$$I_{CQ} \cdot R_x + I_{CQ} \cdot R_1(h_{FE} + 1) = (V_{CC} - V_{BE}) h_{FE}$$

$$R_x = \frac{(V_{CC} - V_{BE}) h_{FE} - I_{CQ} R_1(h_{FE} + 1)}{I_{CQ}} \rightarrow 1 \text{ pto}$$

$$R_x = \frac{342.2}{78 \text{ mA}} = 4 \text{ k}\Omega \rightarrow 1 \text{ pto}$$

puntaje máx 11 p.