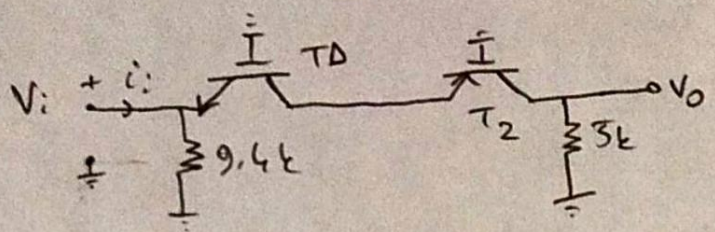
1)

a)



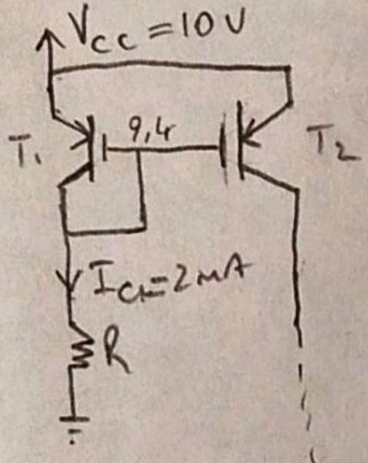
$$r_{bi_D} = \frac{\beta_{TD}}{\frac{g_{m_{T_{D2}}}}{2}} \qquad g_{m_{T_{D2}}} \cong \frac{1\,mA}{26\,mV} = 38,5\,mS$$

$$\cong 2,08\,M\Omega$$

$$i_i = \frac{V_i}{r_i} \qquad r_i = r_{bi_D} // 9,4\,k = 9,35\,k\Omega$$

$$= \frac{10\,mV}{9,35\,k\Omega} = 1,07\,\mu A$$

b)



T_1 and T_2 are identical.

$|V_{BE}|=0,6V$, $\beta = 200$

$$R = \frac{9,4\,V}{2\,mA} = 4,7\,k\Omega$$