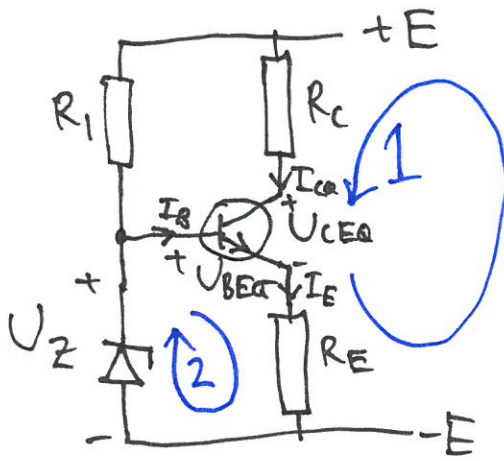


4-6)



$$E = 6 \text{ V}$$

$$U_Z = 5 \text{ V}$$

$$R_1 = 10 \text{ k}\Omega$$

$$R_c = 220 \Omega$$

$$R_E = 1 \text{ k}\Omega$$

$$\beta = 100$$

$$U_{BEQ} = 0,6 \text{ V}$$

KVL 1:

$$2E - R_c I_{CQ} - U_{CEQ} - R_E \cdot I_E = 0 \quad (1)$$

KVL 2:

$$U_Z - U_{BEQ} - I_E \cdot R_E = 0 \quad (2)$$

(2) \Rightarrow

$$I_E = \frac{U_Z - U_{BEQ}}{R_E} = 4,40 \text{ mA}$$

$$I_{CQ} = I_E - I_B = I_E - I_{CQ}/\beta \Leftrightarrow I_{CQ} = \frac{I_E}{1 + \frac{1}{\beta}} = 4,36 \text{ mA}$$

$$(1) \Rightarrow U_{CEQ} = 2E - R_c I_{CQ} - R_E \cdot I_E = 6,64 \text{ V}$$

$$I_{CQ} = 4,36 \text{ mA}$$

$$U_{CEQ} = 6,64 \text{ V}$$