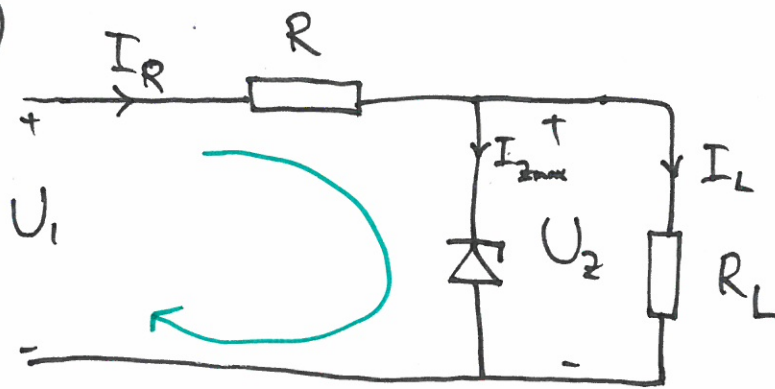


D.6)



$$R_L = 1.0 \text{ k}\Omega$$

$$U_Z = 20 \text{ V}$$

$$I_{Z_{\max}} = 60 \text{ mA}$$

I_R som störst när $U_1 = 28 \text{ V}$

$$\text{KVL} \Rightarrow U_1 - I_R \cdot R - U_Z = 0 \quad (*)$$

$$\begin{aligned} \text{KCL} \Rightarrow I_R &= I_L + I_{Z_{\max}} = \frac{U_Z}{R_L} + I_{Z_{\max}} \\ &= \frac{20 \text{ V}}{1 \text{ k}} + 60 \text{ mA} = 80 \text{ mA} \end{aligned}$$

$I_R = 80 \text{ mA}$ insatt i (*) ger:

$$R = \frac{U_1 - U_Z}{I_R} = \frac{28 - 20}{80 \text{ mA}} = 100 \Omega$$

$$\boxed{R = 100 \Omega}$$

$U_1 = 23 \text{ V}$ insatt i (*) ger

$$I_R = \frac{U_1 - U_Z}{R} = \frac{23 - 20}{100} = 30 \text{ mA}$$

$$I_Z = I_R - \frac{U_Z}{R_L} = 30 \text{ mA} - 20 \text{ mA} = 10 \text{ mA}$$

$$\boxed{I_Z = 10 \text{ mA}}$$