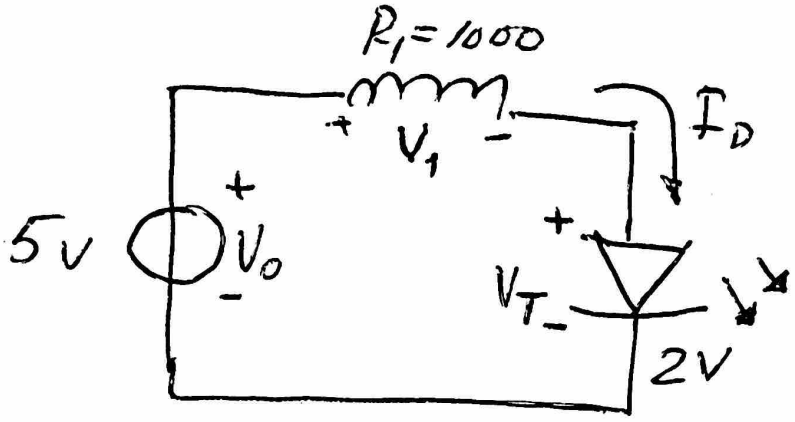
PROBLEM 4



$V_1 < V_T \Rightarrow I_D = 0 \Rightarrow V_1 = V_0$

$V_1 > V_T \Rightarrow I_D > 0$ AND $V_D = V_T \Rightarrow V_T = V_1$

$V_1 = V_0 \Rightarrow V_1 = 5\,V$ THAT IS $> V_T = V_1 = 2\,V$

$$I_1 = \frac{V_1}{R_1} = \frac{2}{1000} = 0{,}002\,A$$

$I_1 = I_D \qquad V_D = V_T$

$P_D = V_D \cdot I_D = 2 \cdot 0{,}002 = 0{,}004\,W = 4\,mW$