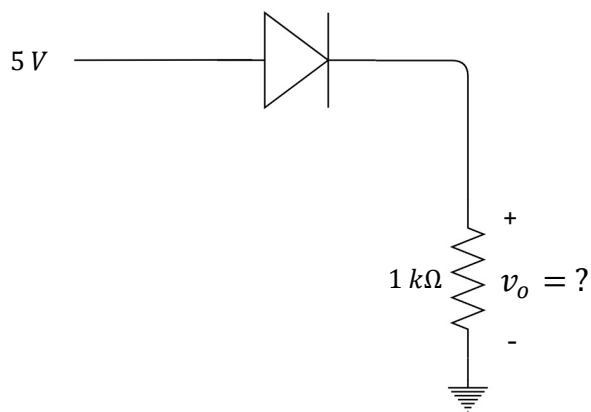
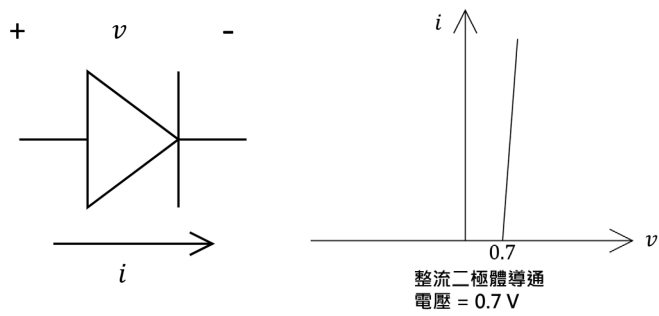


國立陽明交通大學 數位教學中心 開放式課程
 (高中生專區) 電子學 小考試題 第三章 (含解答)

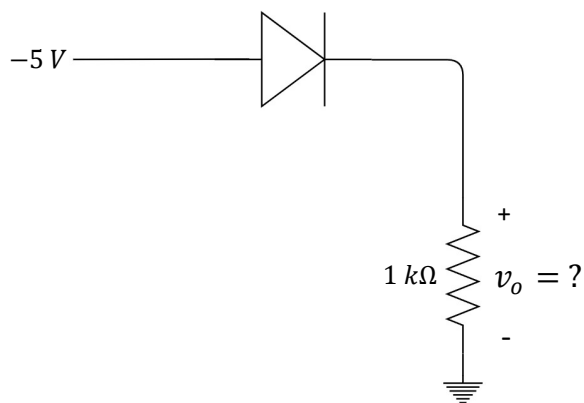
3.1



求 $v_o = ?$

(sol) $v_o = 5 - 0.7 = 4.3 \text{ V}$

3.2

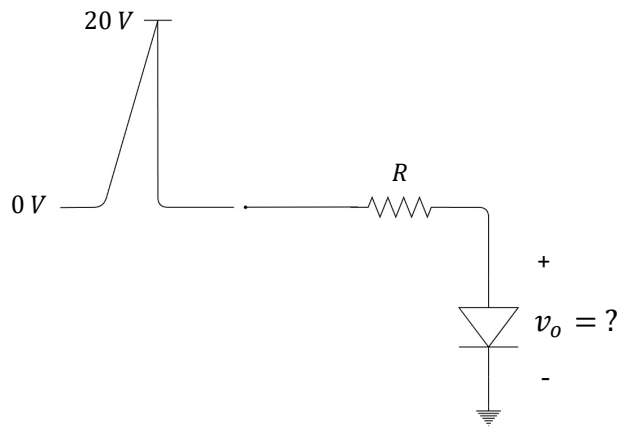


求 $v_o = ?$

(sol) $v_o = 0 \text{ V}$

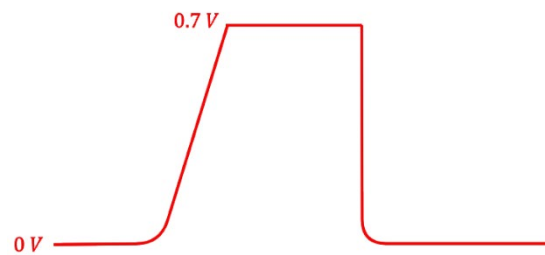
Diode "off", no i

3.3

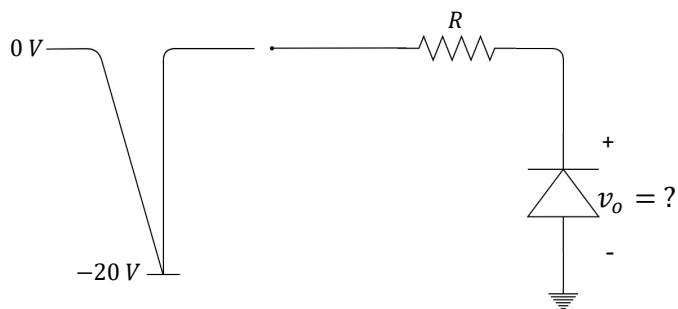


draw v_o waveform

(sol)

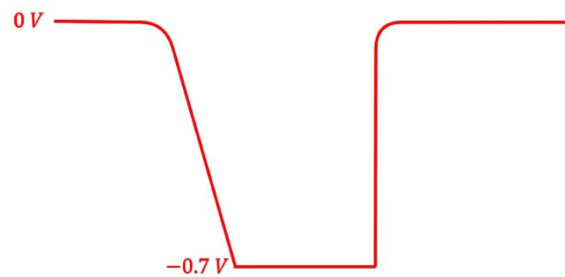


3.4

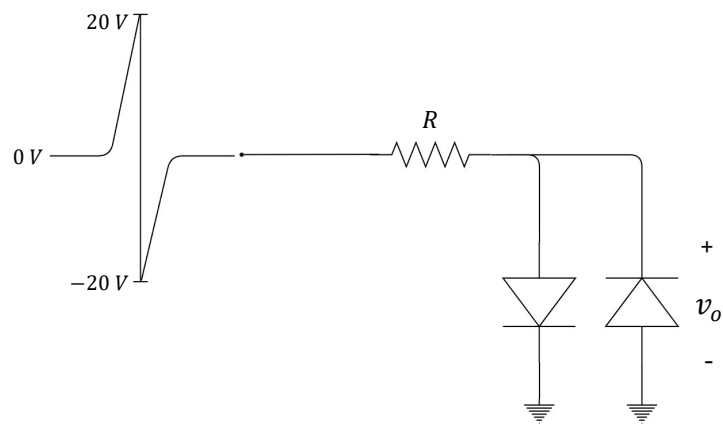


draw v_o waveform

(sol)

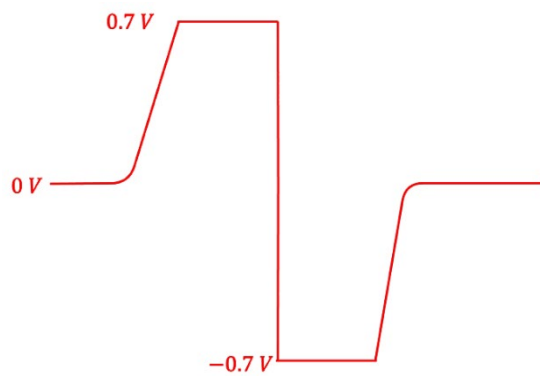


3.5

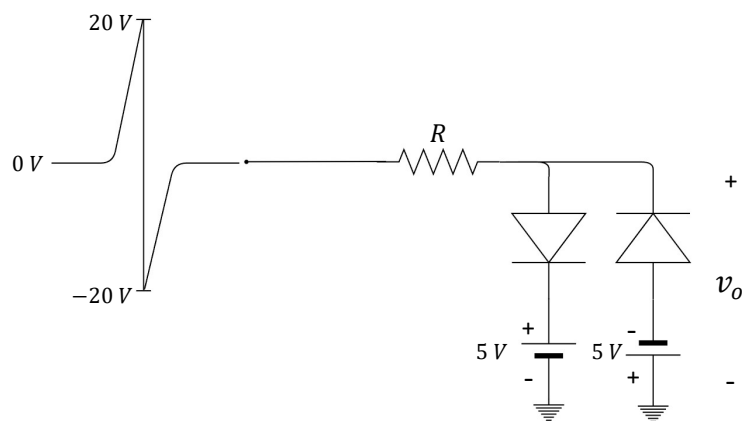


draw v_o waveform

(sol)

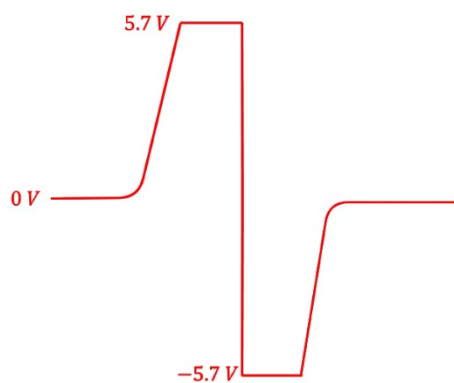


3.6

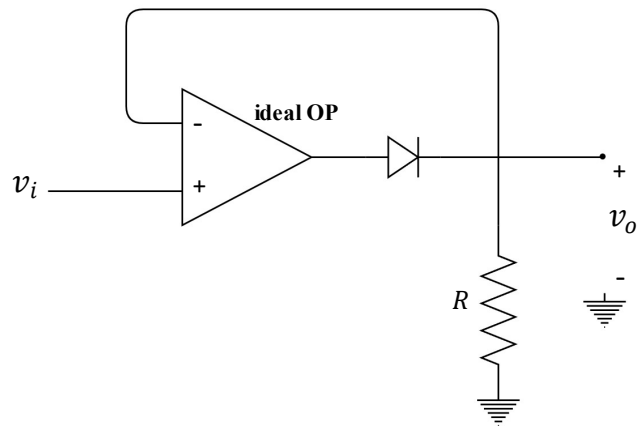


draw v_o waveform

(sol)



3.7



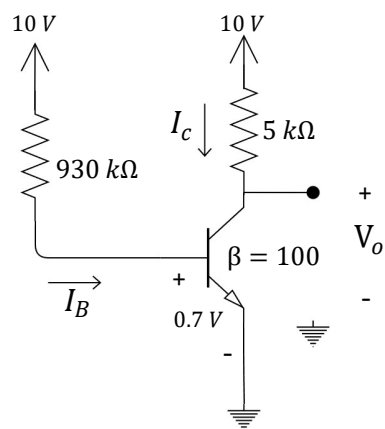
求 $v_o = ?$ for (a) $v_i = 5\text{ V}$ (b) $v_i = -5\text{ V}$

(sol)

(a) $v_i \geq 0$, Diode on $\Rightarrow$ 亦步亦趨 $\Rightarrow v_o = 5\text{ V}$

(b) $v_i < 0$, Diode off $\Rightarrow i_o = 0$, $v_o = 0\text{ V}$

3.8



求 $I_B = ?$, $I_c = ?$, $v_o = ?$

(sol)

$$I_B = \frac{10 - 0.7}{930} = 0.01\text{ mA}$$

$$I_c = \beta I_B = 100 \times 0.01\text{ mA} = 1\text{ mA}$$

$$V_o = 10 - I_c \times 5 = 5\text{ V}$$