Benha University
Faculty of Engineering- Shoubra
Electrical Engineering Dept.
CCE Credit Hours Program

Mid-Term Exam
Date: 18/11/2017
CCE 201: Solid State Elect. Devices
Duration : 1 Hour

[1] In the circuit of Fig. 1, let v_S have a peak value of 10 V and $R = 2.5$ kΩ. Find the peak value of i_D and the dc component of v_o. Use the ideal diode model where $V_D = 0$ V.
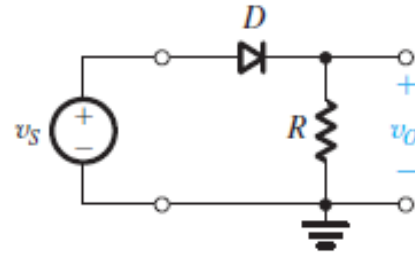
Fig. 1

[2] Find the values of I and V in the circuits shown in Fig. 2. Use the CVDM where $V_D = 0.7$ V.
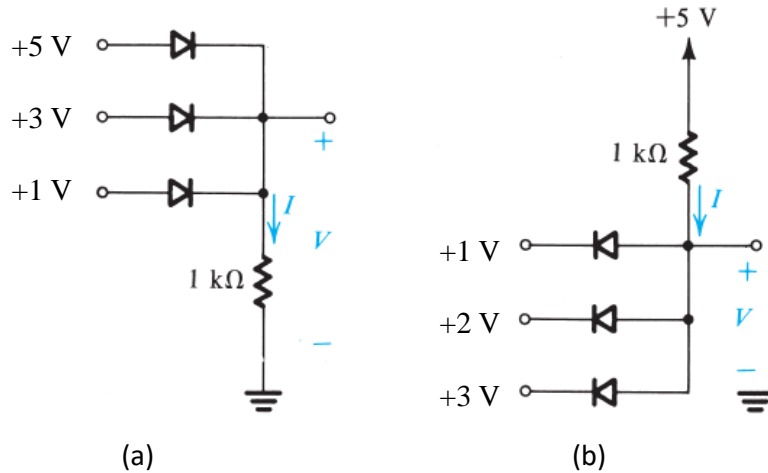
(a)

(b)

Fig. 2

[3] A red, a yellow and a green LED in series as shown in Fig. 3. Specify the following:
   (a) The supply voltage at least you should connect so that they are light on if each one needs a voltage drop of 2 V, 2.5 V, and 2.5 V respectively.
   (b) The value of resistor R to have current I = 20 mA.

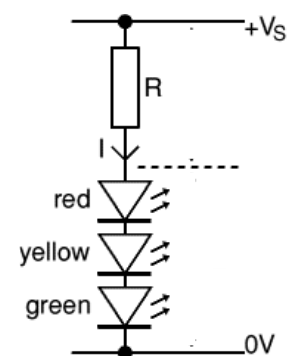Fig. 3