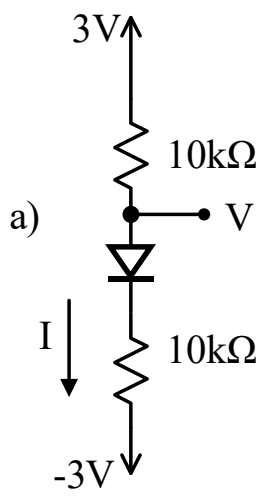
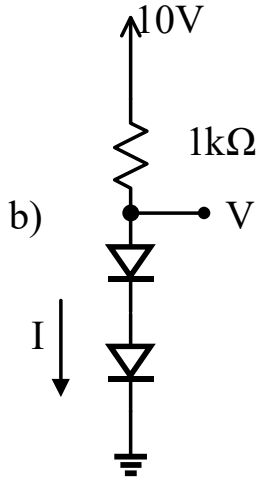
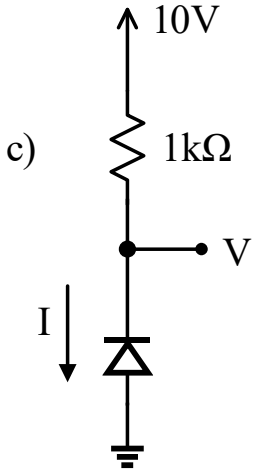
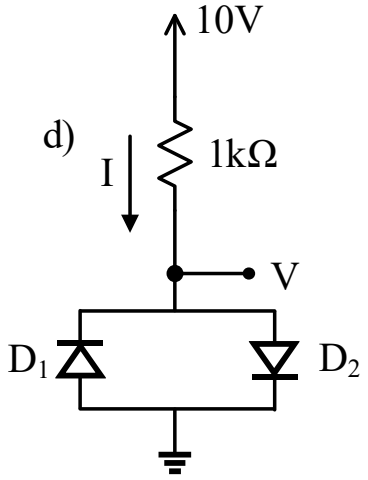
ECE 322 HW#1

1. Assuming the diodes are ideal, calculate I,V in the following circuits

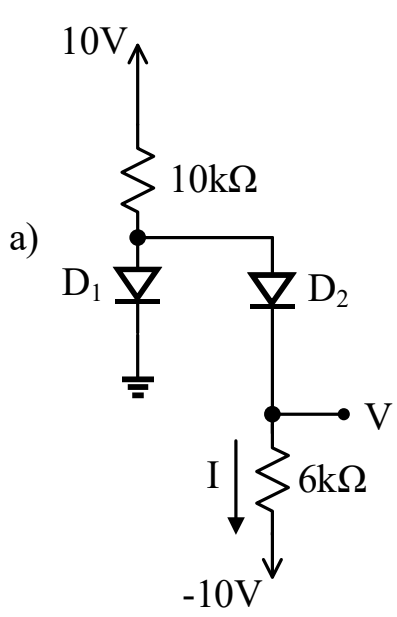


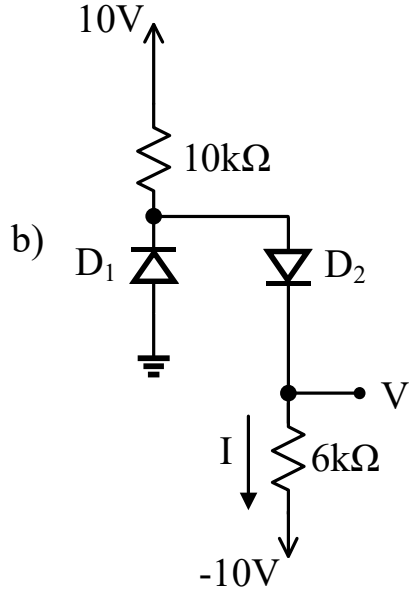




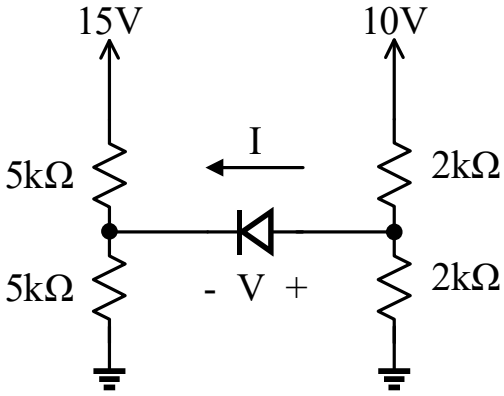


2. Assuming the diodes are ideal, calculate I,V in the following circuits



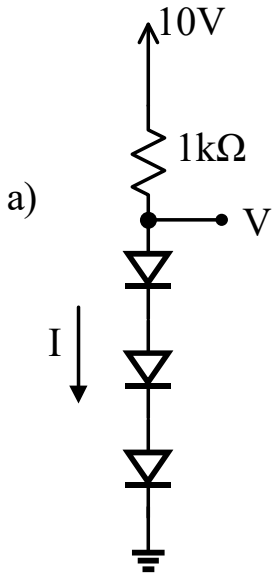


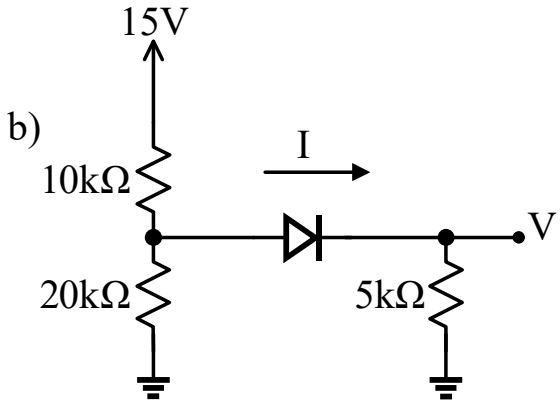
3. Assuming the diodes are ideal, use thevenin's theorem to simplify the circuit and find V & I



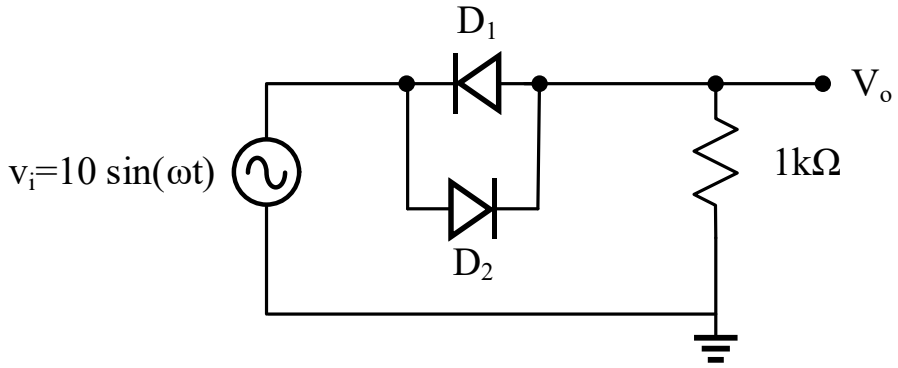
4. Assume real diode model in this question (V_{th}=25mV). A diode is conducting in forward bias region with a current of 1mA and voltage across the diode is 0.7V. If the current is changed to 10mA, what is the new voltage across the diode?

5. Assuming the constant voltage drop model (V_D=0.7V), Calculate V & I in the following circuits.





6. For the circuit shown below answer the following questions: (assume constant voltage drop model $V_D = 0.7$)



a) Sketch the waveform V_o.
b) Draw the input output characterisitics.
c) What is the average value of V_o?