Lab Final-EEE241

Name: ID: Section:

Q-1: Draw the I-V characteristics curve for both circuits: [3+3]

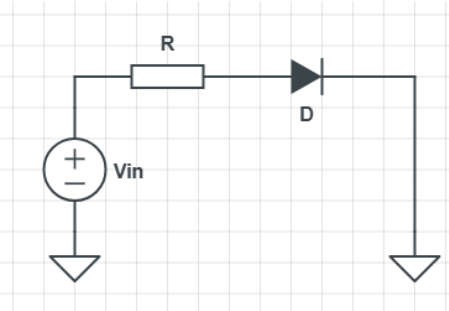


Figure 1

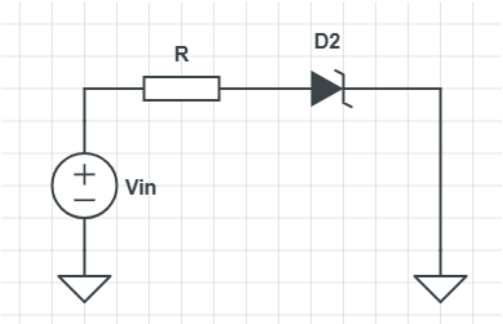
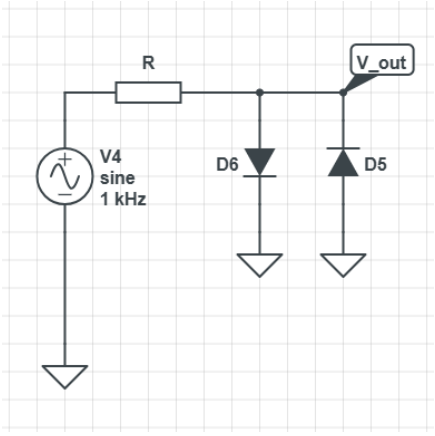


Figure 2

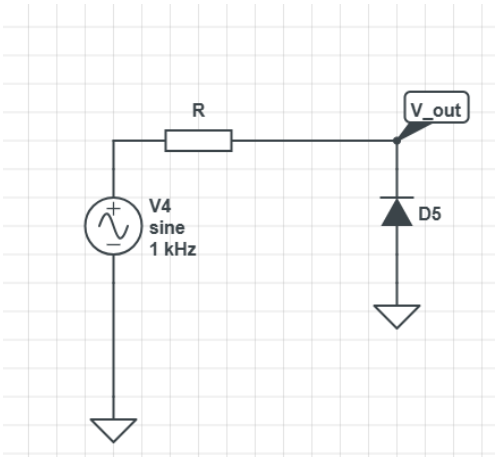
Q-2: Answer the following questions-

i. Draw V_out (Input: 10V sinusoidal AC) [4+4+5+4]

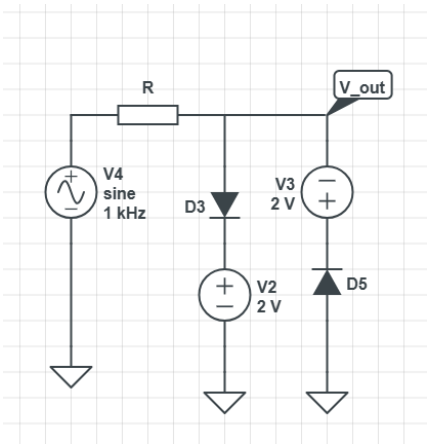
a.



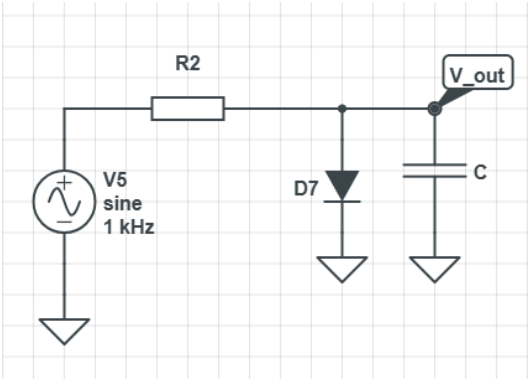
b.



c.



d.

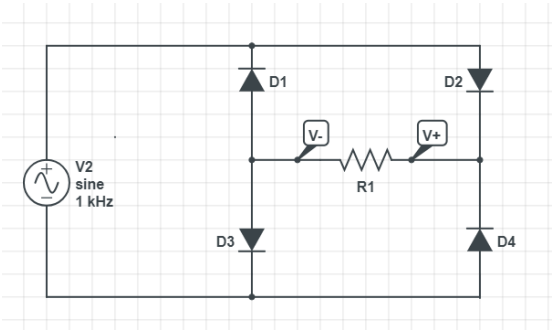


ii. For the circuit of problem- (i.d), what impact does capacitor value have on the circuit? [3]

Q-3: For the full wave rectifier circuit, the values of diode voltages when in forward are: [5]

V_{D1}=0.76V, V_{D2}=0.7V, V_{D3}=0.80V and V_{D4}=0.72V.

Calculate the maximum output voltage (across the resistor) for both positive and negative half cycle.



Q-4: [9]

a) If an input single has 1000Hz frequency and the time per division of the digital oscilloscope was set at .25ms/div, how many horizontal unit/divisions will be required to display a full cycle of the signal?

b) What do you mean by 20p-p sine AC wave?

c) How many types of AC wave can be generated by using function generator?

d) When you are provided a Zener diode from a box written V_Z=5.6V on it, what do you understand by the value of V_Z?

e) If volt/div= 1V/div, then how many vertical divisions will be needed to display a full cycle of 16V p-p square wave?

f) What is the minimum number of diodes needed to build a both-sided clipper circuit?