BME 212 Electronics Laboratory

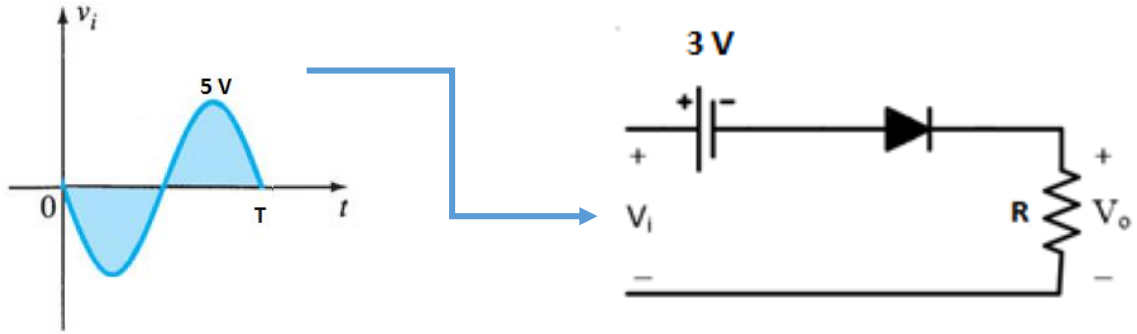
Experiment #2 Diode Applications

Objective

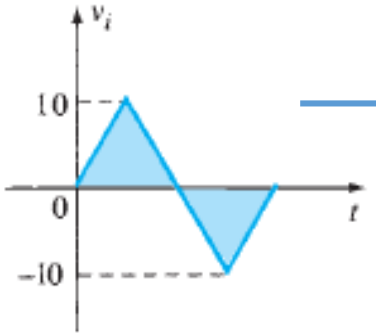
- In this experiment, most common diode applications such as rectifiers, clippers and clampers will be studied and basic operation of a zener diode will be examined.

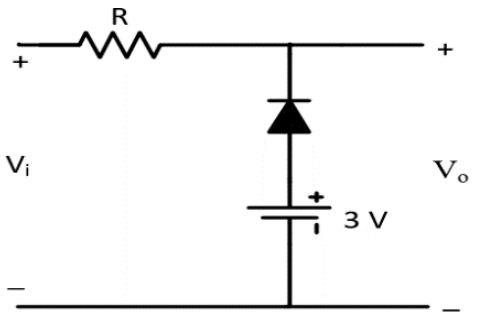
Preliminary Work

1- Plot the output voltage, V_0, for the given inputs (R = 220 Ω, F = 1KHz).



Output ??

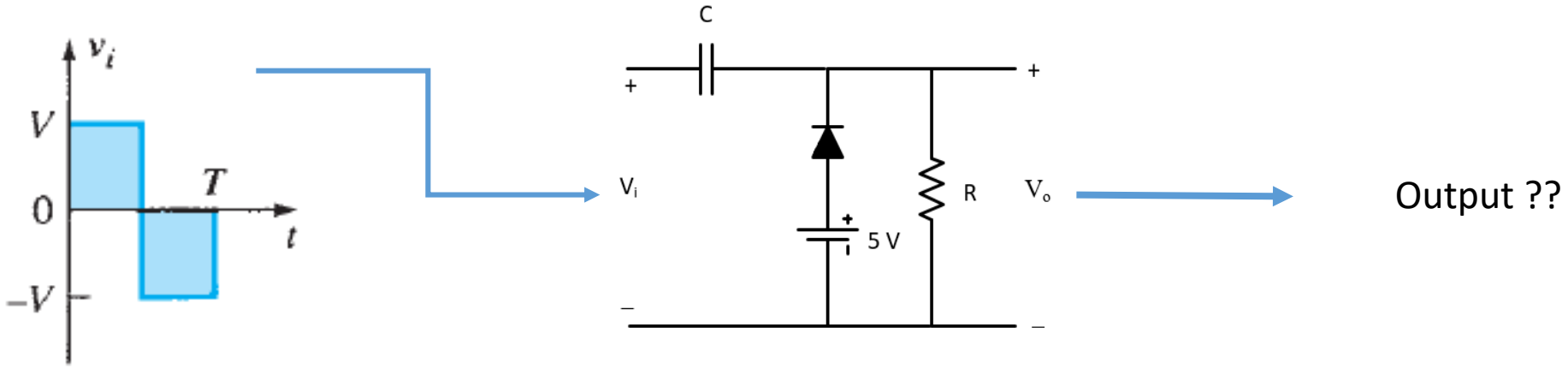




Output ??

Preliminary Work (Cont.)

2- Plot the output voltage, V_0,for the given input (R = 100 kΩ, C = 1 µF, V = 10 Vpp, T = 1 ms).

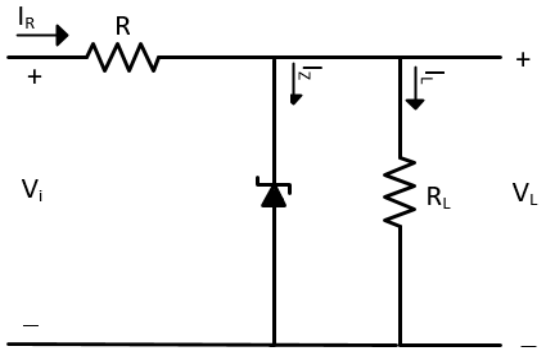


Output ??

Preliminary Work (Cont.)

3- Calculate the V_L , I_L, I_Z and I_R values for the given circuit if the input is given as: V_i = 5 V and V_i =12 V.

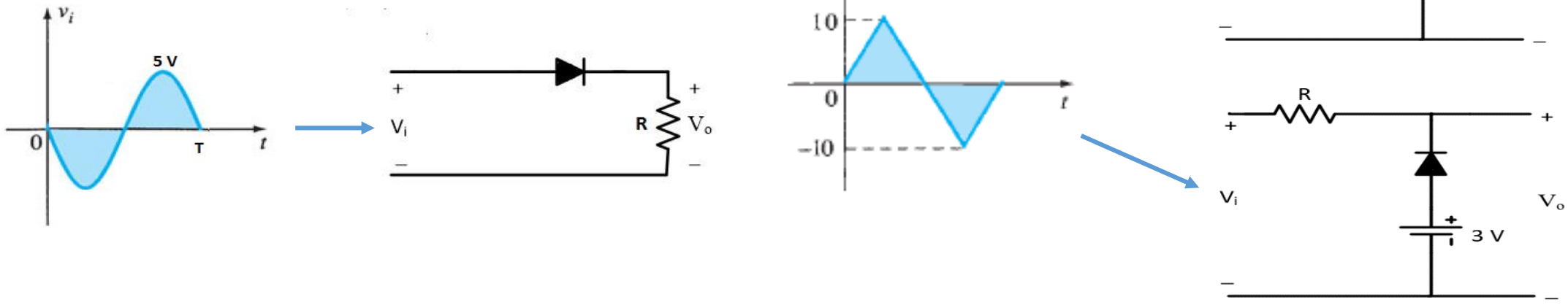
($R = 220\ \Omega$, $R_L = 2.2\ k\Omega$,$V_z = 6.2$ V)



Procedure

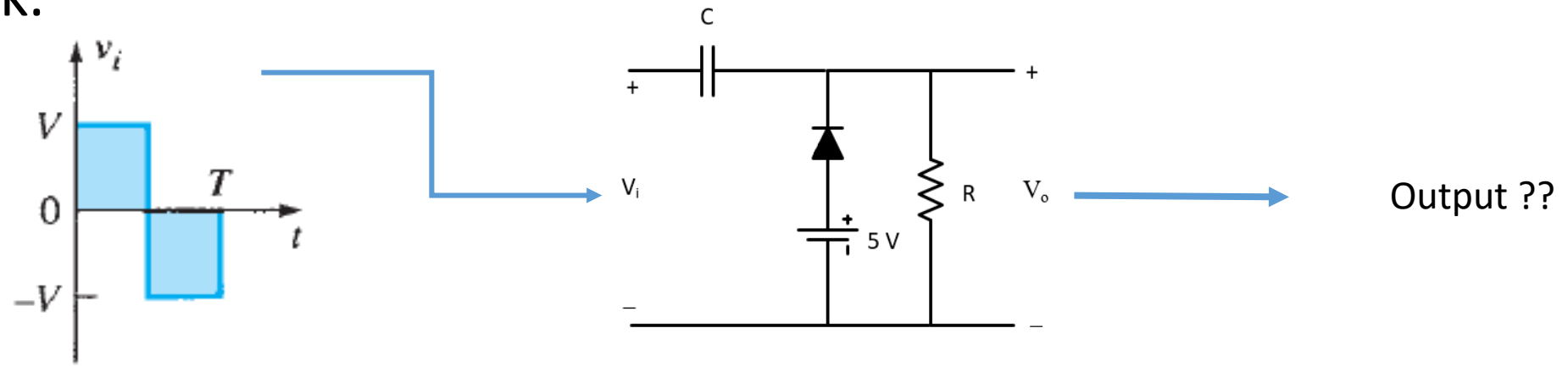
CHECK ALL THE DIODES USING MULTIMETER BEFORE START.

1) Set up the circuits given below, plot the graph of V_0 output voltages and compare the results. (R = 220 Ω, F = 1KHz).



Procedure (Cont.)

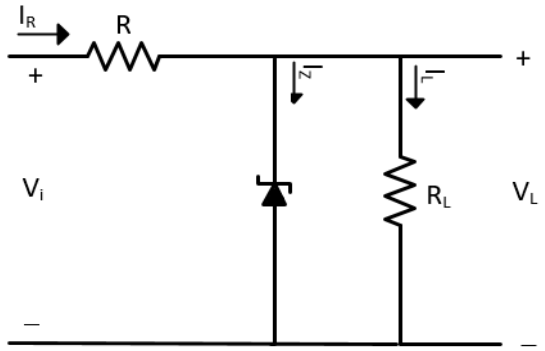
2) For given circuit in Preliminary Work 2, adjust the T = 1 ms , plot the graph of V_0 output voltage and compare the results with Preliminary Work.



Procedure (Cont.)

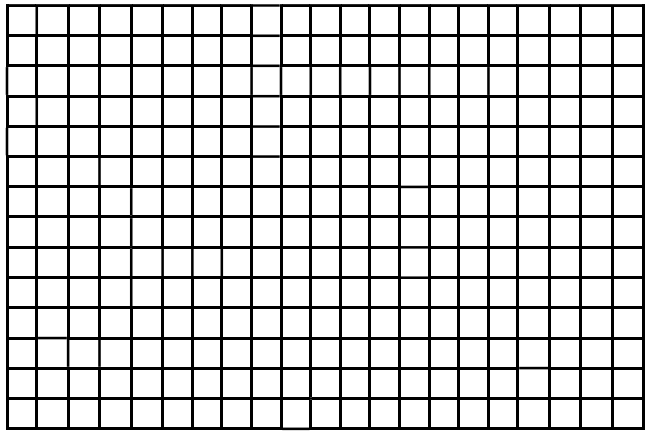
3) For given circuit in Preliminary Work 3, measure and tabulate the V_L , I_L, I_Z and I_R values for the the input given as: V_i = 5 V and V_i =12 V. Compare the results with Preliminary Work.

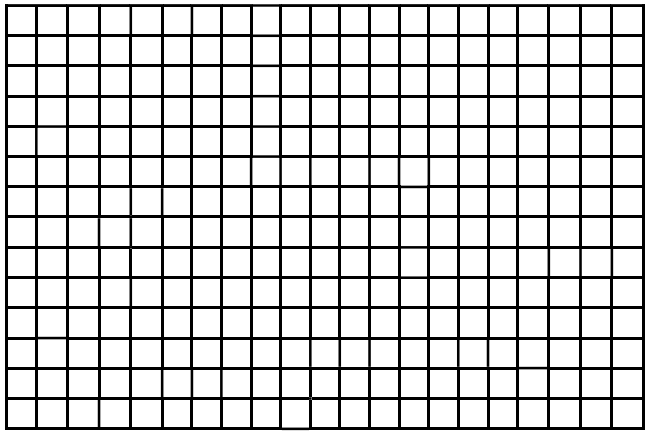
($R = 220\ \Omega$, $R_L = 2.2\ k\Omega$,$V_z = 6.2$ V)

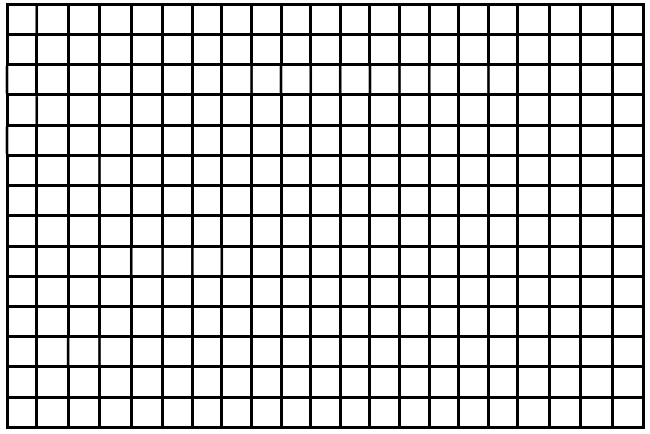


BME212 Report#2 Results

- 1) Plot graph of V_0 output voltage



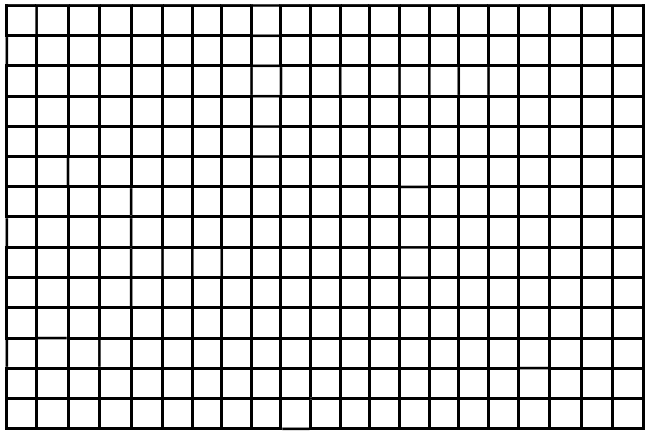




Comment:

BME212 Report#2
Results (Cont.)

2) Plot graph of V_0 output voltage



Comment:

BME212 Report#2
Results (Cont.)

3) Obtaining measurements

V_i	V_L	I_L	I_Z	I_R
5 V				
12 V				

Comment: