**ECEN204 Lab 3**

**Diode Applications: Report**

**Name:............................................Student Number:........................................**

**Lab Partner:……………………………………….**

**Level 1:**

**Part A1: Diode clipper**

1. Sketch your resultant of Part A1 (a and b) and explain this result.

2. Sketch your resultant waveform of Part A1 (c and d) and explain this result.

**Part A2: Diode clamp**

3. Sketch your resultant waveform of Part A2 (b) and explain this result.

**Part B2: Zener diodes**

4. Show your plot of IZ vs VZ as obtained in Part B1 (b and c).

5. Show your calculation of the stability ratio as obtained in Part B2 (b and c) and compare to the value expected from the diode model.

**Level 3:**

**Additional question**

6. Design a voltage reference of 3.6 V capable of driving a load of 200 Ω. This reference voltage must be produced from a voltage supply that can vary between 4.5 and 5.5 V. Also calculate the power rating that would be needed for the Zener diode.

**Hint:** Use a 3.6 V Zener diode and then calculate the series resistor needed for the circuit below.

