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**Electrical Engineering Department**

**ENEE4104**

**ENGINEERING SIMULATION LAB**

**Experiment #2 Prelab**

**Power Electronic Converters in Orcad**

**Prepared By: Ahmad Zahran**

**Student Number: 1142583**

**Instructor: Dr. Jamal Seyam**

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**Section: 2**

**Abstract:**

The aims of prelab was to get you started with Orcad

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Procedure & Results:

1. The circuit shown in figure 1 was drawn and simulated



Figure 1:circuit 1

1. The voltage on the capacitor for the circuit 1 shown below:



Figure 2:The voltage on the capacitor

**Exercise:**

The critically damping value of the resistor calculated as follow

##  *R* = $\sqrt{4L/C }$ = $\sqrt{\frac{4\*100\*10^{-6}}{5\*10^{-6}}}$ = 8.9 = 9

Then, the CKT was analyzed using 3 values for the resistor “1 Ohm, 9 Ohm and 15 Ohms”.



Figure 3:circiut 2



Figure 4:The voltage on the capacitor for the resistor “1 Ohm, 9 Ohm and 15 Ohms”.