Georgia Institute of Technology

School of Electrical and Computer Engineering

ECE 3043 Electrical and Electronic Circuits Laboratory Verification Sheet

NAME:_____ SECTION:_____

AD LOGIN:_____

Experiment 3: First-Order Circuits

Procedure	Time Completed	Date Completed	Verification (Must demonstrate circuit)	Points Possible	Points Received
1. First Order RC Circuit				40	
2. First-Order GL Circuit				30	
3. Bode plots of HW Circuits				30	

To be permitted to complete the experiment during the open lab hours, you must complete at least **three** procedures during your scheduled lab period or spend your entire scheduled lab session attempting to do so. A signature below by your lab instructor, Dr. Brewer, or Dr. Robinson permits you to attend the open lab hours to complete the experiment and receive full credit on the report. Without this signature, you may use the open lab to perform the experiment at a 50% penalty.

SIGNATURE:_____ DATE:_____

ECE 3043 Check-off Requirements for Experiment 3

Make sure you have made all required measurements before requesting a check-off. For all check-offs, you must demonstrate the circuit or measurement to a lab instructor. All screen captures must have a time/date stamp.

1. Square wave response of RC circuit
   - ✓ Scope capture showing resistor and capacitor voltages with cursors indicating measurement points.
   - ✓ Calculation of experimental time constant.
   - ✓ Comparison of experimental with theoretical time constant.
   - ✓ Scope capture of FG and capacitor voltages for f = $10f_o$.

1. Triangular wave response of RC circuit
   - ✓ Scope capture of FG and capacitor voltages for f = f_o.
   - ✓ Scope capture of FG and capacitor voltages for f = $10f_o$.

1. Ramp wave response of RC circuit
   - ✓ Scope capture of FG and capacitor voltages for f = f_o.
   - ✓ Scope capture of FG and capacitor voltages for f = $10f_o$.

2. Square wave response of GL circuit
   - ✓ Scope capture showing resistor and inductor voltages with cursors indicating measurement points.
   - ✓ Calculation of experimental time constant.
   - ✓ Comparison of experimental with theoretical time constant.

3. Bode plots
   - ✓ Bode magnitude plots of the homework circuits.
   - ✓ Tables of measured component values for each circuit.