ECE 2100 Circuit Analysis Laboratory: Laboratory Report Requirements

updated 16 September 2016

The laboratory report must consist of the following items and sections in the indicated order. The report itself must be stapled in the upper left-hand corner. Do not use folders or binders to “house” the report.

1. Title page

   Name

   ECE 2100 Laboratory Report

   Title of Experiment
   Date Laboratory was Performed
   Day/Time of your lab section

2. Summary (on separate page): Brief but complete statement of what you did.

   Example:

   The complex power of a series connected XYZ Ω resistor (R) and XYZ H inductor (L) operating at 60 Hz was investigated. The complex power was determined to be 100 + 100j VA by hand analysis and simulation. A physical realization of the RL circuit was constructed for R=XYZ Ω and L=XYZ H. The experimental complex power was measured as 95.8 + 102.1j VA resulting in an experimental error (using hand analysis results as the standard) of 4.2% and 1.0% for the real and reactive power components, respectively. Addition of a 60 uF capacitor connected in parallel to the RL load resulted in a unity power factor in both hand analysis and simulation work. The experimentally obtained power factor using a measured capacitance value of 58.2 uF was found to be 0.95.

3. Results:

   Key your results to the laboratory procedure steps. Attach a copy of the laboratory procedure sheets and a copy of your laboratory notebook sheets as an Appendix. There is no need for lengthy explanations of what was done; simply referring to the laboratory instructions is sufficient. Identify any deviations from those instructions.

   It is essential that wherever possible hand analysis, simulation, and experimental results be presented side-by-side (using tables or graphs) and errors between these results be quantitatively described. Explain discrepancies.

   Whenever possible, present your results in graphical form. One approach is to plot hand analysis and experimental results on top of graphs obtained via simulation. Tables are another effective method of organizing and presenting results. Plot the independent variable along the abscissa and dependent variable(s) along the ordinate. Do not “connect-the-dots,” that is, do
not connect experimental points with “best-guess” curves.

4. **Conclusions:**

   Describe lessons learned.

5. **Laboratory Instruction Sheets**

6. **Laboratory Notebook Sheets (copy)**

**Style**

The report must be typed or in ink. Use only one side of a page. Observe proper sentence structure, spelling, and punctuation. Use third person, passive voice. Avoid repetition, the obvious, abstractions, and wordiness.

**Credits and Copyright**

Adapted from material developed by current and former ECE faculty, including Professor Joseph Kelemen.

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