

# The Topic Covered in This Lab Section

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January 22, 2006

## 1 Introduction (10 points)

Briefly describe the topic to be presented, the analysis to be performed, as well as the quality/value of the results you received. (Should be 1-2 paragraphs or 100 words in length).

## 2 Circuit Design Approach and Analysis (20 points)

Discuss the techniques applied to construct the circuit(s), or generate the waveforms, required by this laboratory assignment. For example, if you plan to apply Kirchoff's voltage theorem, or superposition, to arrive at a solution, then briefly present that material. A complete account of the steps used to build a given circuit is not required. However, discuss some of the more noteworthy items, such as the technique used to short the power supply for application of Thevenin's theorem.

## 3 Laboratory Results (60 points)

A standard laboratory exercise will typically consist of the following elements:

- Analysis of multiple circuits applying the techniques discussed in class and the textbook (pre-lab).
- Construction of the circuits analyzed in the pre-lab and measurement of the physical values using standard laboratory equipment during the assigned lab period (lab).
- Comparison of select values, specified in the report section of the laboratory manual, to establish the accuracy of both the manual computation of values and the actual values produced and measured using the laboratory equipment (report).

The comparison of the values specified in the report section of the lab manual is performed in this section. For the report questions in the lab manual, you are expected to perform each circuit comparison requested in a separate subsection.

Resistor	Computed Value (V)	Measured Value (V)	% Error
R1	3.0	2.7	10
R2	5.0	4.5	10
R3	10	9.5	5

Table 1: Comparison of Resistor Values for Circuit 1

### 3.1 Laboratory Circuit 1 (Example Subsection)

For example, suppose you are requested to compare a resistor voltage that was both computed in the prelab and measured in the laboratory. You should place this comparison in a table with the following characteristics:

- Indication of what is being measured
- Value computed in pre-lab
- Value measured in laboratory
- Percent error, or percent difference, specified to indicated the variation of the results
- Descriptive caption.

An explanation regarding the difference between computed values and the actual values is expected. If your computed values were not correct when you submitted the pre-lab assignment, then should determine the correct answer prior to submission of the report.

### 3.2 Comparison of Filter Responses (Example Subsection)

You may also be asked a generalized question to compare the response of multiple circuits. For example, you may be requested to require a the response of multiple filter types. This information can be contained in a single subsection when appropriate.

## 4 Summary (10 points)

In this section, provide a brief description of the work performed. Additionally, indicate the most valuable piece of knowledge acquired during this laboratory. Attempt to provide an example regarding how you might apply these techniques in the future.

## 5 Appendix

Place any printouts that you may have obtained in the lab in the appendix. Each printout should have some indication as to what is measured. If you reference a printout in the report, be sure to indicate which printout you are discussing.

## Paper Requirements

- Font has a standard professional appearance (Arial, Times New Roman, Helvetica, etc. are all appropriate). Specifically avoid cursive fonts, or any non-standard font that you would not find in a common engineering textbook.
- The font size should be 12-point.
- The text color should be black with some color permitted, although not required, to accentuate limited noteworthy items.
- Single line spacing should be employed.
- Tables, Figures, and Equations should be enumerated. Captions are also required Tables and Figures.
- Attach the graded pre-lab to your report when you submit your paper.

## Miscellaneous

- The report grade will be placed on the final page.
- Point distribution for each section of the lab report is provided in the section headings.
- No lab grades will be dropped.