

Laboratory Report

The report is written after the experiment is completed and should be submitted to the lab. office after next lab. session. Some general guidelines are given below. Your instructor may give you additional and specific guidelines for preparing these reports. Guidelines for Lab. Reports For each experiment, you will submit a laboratory report. The laboratory report is to be used to express in a written form the purpose, methods employed.

results obtained and conclusions reached in your experiment. It should be very neat, concise and complete.

The common organization for laboratory reports:

- 1. Experiment title**
- 2. Student name and the name(s) of the group**
- 3. Date**
- 4. Abstract**
- 5. Introduction**
- 6. Procedure**
- 7. Data and analysis**
- 8. Results and discussion**
- 9. Conclusions**
- 10. Data sheets**

Each report should be clearly identified with (1) a title, (2) student name

and the name(s) the group, (3) the date the experiment is performed, and (4) an abstract. The abstract should be a very brief overview of the goals and the main results of the experiment. If a known electrical quantity was measured in the experiment then the student should state the numerical value of the result that he/she obtained for that quantity and also state how close his/her result was to the expected result. It would be a good practice to write the abstract last. The introduction (5) of a laboratory report identifies the experiment to be undertaken, the objectives of the experiment, the importance of the experiment, and overall background for understanding the experiment. The objectives of the experiment are important to state because these objectives are usually analyzed in the conclusion to determine whether the experiment succeeded. The background often includes theoretical predictions for what the results should be, and the experimental procedure (6) that were employed to complete the experiment. It is not necessary (in fact it is undesirable) to give a step-by-step account of your activities in the experiment. Rather you should summarize the main techniques that used to get to the final result

The report must have a section entitled Data and Analysis (7) in which the student lists and describe the raw experimental data collected during the experiment. Include any tables, graphs, results of best fits... etc. as is appropriate and describe how quantities were calculated from the raw data. Results and discussion (8) the main section of a laboratory report is the presentation of the results and the discussion of these results. The report should have a section entitled conclusions in which a statement of the main result(s) of the experiment and compares on these result(s) to the accepted or theoretical value(s) (if available) by computing a percentage discrepancy. In discussing the results, the student should not only analyze the results, but also discuss the implications of these results. Moreover, pay attention to the errors that existed in the experiment, both where they originated and what their significance is for interpreting the reliability of conclusions. One important way to present numerical results is to show them in graphs. Finally, in long laboratory reports, a conclusion (9) section often appears. Whereas the "Results and Discussion" section has discussed the results individually, the "Conclusion" section discusses the results in the context of the entire experiment. Usually, the objectives mentioned in the "Introduction" are examined to determine whether the experiment succeeded. If the objectives were not met, the student should analyze why the results were not as predicted. Note that in short reports or in reports where "Discussion" is a separate section from "Results," the student often do not have a "Conclusion" section. At the end of the laboratory report

staple the DATA Sheets (10) that been used during the laboratory period to record the important data and results. Here the student should show an example of each calculation that been used throughout the experiment. Fig.1 shows a sample data sheet.

[illegible]