

## EE206 Specific Guidelines for Reports and Lab Notebooks

### PRELAB :

State the objective of the experiment clearly.

Please use a Ruler and Pencil while drawing circuits. This makes it look neat and avoids confusion when you are actually doing the lab.

Mark all the values (e.g.  $R = 10\text{ k}\Omega$  or  $R = 10\ \Omega$ ) clearly on your figure.

Show all your calculations neatly and with correct units.

If using IC's clearly number the PINs on the figure.

### LAB NOTE BOOK:

State the objective of the experiment.

Draw the circuit diagram and mention the values of resistances etc. which are used. Also, indicate the ground terminals (of the function generator, scope probe and other instruments). If IC's are used please be sure to show the appropriate pin numbers.

Make a note of all the measuring instruments you have used.

Mention the formulas used.

Create a table and write down the readings, including the units.

Show all your calculations neatly and **SYSTEMATICALLY**. Do this in an organized manner.

Attach graph if any.

### Suggestions :

- a) Draw the figure using pencil before you come to the lab so that you can make corrections to it in case you need to do so by erasing and redrawing. This will ensure tidy and neat work.
- b) Prepare the **READING TABLE** using pencil and ruler and not just by sketching lines. Sketching gives rise to crooked lines and gives the lab notebook a haphazard look.
- c) All important results must be underlined. For example if bandwidth is 14000Hz then write down below the calculations  $BW = 14\text{ KHz}$ . and underline it
- d) Do all calculations systematically, one after the other.
- e) **FOOTNOTE** : Take a few short notes(2-3 lines), which explains some of the problems you encountered while doing the experiment. This will help you write better reports.

LAB NOTE BOOKS reflect how systematically you work. When experiments are done in an unsystematic way, your lab notebook will show it and the accuracy of the measurements may suffer. This will influence your **GRADES**..

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### REPORTS:

#### Introduction :

Clearly explain the objective of the experiment.

Then put down the formulas you will be using.

Please do not copy from the EE-206 website the objective of the experiment.

Write it in your own words, based on your experience in the lab.

#### Procedure :

Draw and label the circuit diagram. Do not forget to include the ground terminals.

Mention all the values and PIN numbers of the IC's used.

Put down the instruments you used.

Put down the table of readings. Make sure you have the correct reading

Clearly show the end results such as **BW = 14 Khz**. Q = 0.33 etc.

Attach the GRAPH

Make sure that the Graph is well labeled and has the correct units.

Then explain all the readings such as reasons for error. why there is a discrepancy between theoretical and practical values etc etc. Please don't submit a long list of mathematical equations, as maths without explanation is pointless.

A Suggestion : Analyze step by step each part of the experiment and write about it so that you cover all aspects of the experiment instead of trying to write about the whole lab. in one go.

Conclusion : Explain the mathematical end results from an electrical point of view. **EXAMPLE :** Why is  $Q = 0.33$  and how will you make it better. Why is bandwidth 14 KHz. What are the reasons for this BW. What affects this bandwidth. This needs some thinking and creativity in analysis of results. A conclusion is NOT a summary of results, but is an understanding of why this happened, and how it can be improved to get better results.

Mention the sources of errors and the precautions you took to avoid the same.

### *Difference Between Procedure and Conclusion*

. Here you are expected to explain how you did the experiment and what were the reasons why the theoretical and practical values did not match. A procedure also details all the mathematics involved You are also expected to discuss how you arrived at certain results from graphs and formulas.

In a conclusion it is expected that you will give the end results and explain how to improve the results from an electrical point of view. If you feel that the results are justified you must give an explanation. In a conclusion you give hard facts supported by reasoning.

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