1. **Introduction**

This section will contain basic background information about the topics covered in the experiment. Students will use their own words to explain the topics and use references where necessary. This part should not be longer than 1 page.

1. **Theoretical Analyses**

Students will show the theoretical analyses of the circuits given in the experiment sheet in this section in the order they are given in the sheet. Each step of the calculations must be shown clearly. Students may use a pen and paper for the analyses and add pictures of their solutions, however inserted pictures must be clear and easy to follow. If there are any tables given in the experiment sheet, they must be filled with theoretical results and added to this section.

1. **Simulations**

Students will show the results of their simulations in this section. Circuit schematics drawn in the simulation software (OrCAD), simulation settings and simulation results must be shown clearly and in the order they are given in the experiment sheet. If there are any tables given in the experiment sheet, they must be filled with simulation results and added to this section.

1. **Comments/Discussion**

Students will add their comments on their results in this section. These may include; circuit’s function based on your results, are the results in line with your expectations, are there any difference between theoretical and simulation results, what do you expect to see in the experimental part etc.

* 1. **1st Circuit**

Comments on 1st circuit

* 1. **2nd Circuit**

Comments on 2nd circuit

* 1. **3rd Circuit**

Comments on 3rd circuit

1. **TinkerCAD**

Students will use TinkerCAD or a similar program to virtually build the circuits on a breadboard and add a screenshot of their circuits to this section.

**GENERAL RULES**

* Each group must prepare this report. Students involved in cheating will receive a score of 0 and their attendance for that experiment will be invalid.
* Students who receive a score of 0 from the preliminary report will have their attendance invalid for that experiment.
* Figures must be given with captions and must be referenced in the text.
* Students must cite their sources where necessary.
* Submit your report to the Responsible Research Assistant before the deadline given to you. Reports not submitted on time will not be evaluated!
* Bring your preliminary work report to the lab, you will check your results during the experiment.
* **If you have not submitted your preliminary report, you cannot attend the laboratory course!**