EE3111 DIGITAL DEVICES DESIGN LABORATORY

SPRING 1997

Instructor:	Neeraj Deshmukh
Sections:	2 (Mon 3:00pm), 3 (Tue 3:30pm), 5 (Wed 3:00pm)
Office:	Simrall 434
Office Hours:	Tue 1:30 pm — 3:30 pm; Wed, Fri 1:30 pm — 3:00 pm
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Grading Policy:

Formal Reports	40%
Regular reports	30%
Prelabs	30%

Make-up Policy:

A make-up turn will be allowed only if the instructor is informed in advance of an absence from a regular lab turn. The instructor will schedule the make-up.

Lab Work:

You are required to be prepared with your prelabs before you enter the lab to work on the experiment. The instructor will grade these at the beginning of the lab. You are **required** to use Electronics Workbench (EWB), a digital circuit simulation software package to prepare your prelabs and circuit diagrams. You may also use printouts obtained using this package in your reports. This software is available in the Simrall PC Lab (S 130). Five additional licenses are available in McCain Hall. Please spend the early days of this lab to be conversant with this tool.

Please record all your observations / data on a separate sheet of paper, and get them checked by the instructor before you leave the lab. Data sheets signed by the instructor have to be included in your lab report, and are the only record that you successfully completed the experiment.

Lab Reports Policy:

Lab reports are due by the next lab turn for each section i.e. in one week's time. Each report will be graded on a 100 points scale. A late submission will result in a penalty of 10 points per day. Reports submitted more than one week after the due date will not be accepted. **There are two types of lab reports;** please note that you are responsible for turning in the proper type of report for each experiment. Each report must include all the required sections as described in the **Lab Reports Format** below. A missing section will result in a penalty. Also, points will be deducted for spelling errors, grammatical mistakes and a lack of neatness.

The following experiments require a **formal report**:	1, 4, 6, 9, 11
The following experiments require a **regular report**:	2, 3, 5, 7, 8, 10, 12, 13

Lab Reports Format:

All reports must be **typed** on a US-letter sized paper (8.5" x 11") and should be bound and stapled with an engineering report cover. Please refer to Appendix A in the laboratory handbook for more details of the report format. A **formal report** should consist of **all** the following sections. A **regular report** should contain sections **1, 2, 3, 6, 7, 8, 11, 12** and **no other sections**.

1. **Report cover**: Engineering report covers are available at the bookstore. Please staple the report to the cover sheets, and fill in the appropriate information on the cover page.
2. **Title page**: This will be the first page of your report. It should indicate the course number and title, section number, number and title of the experiment, your name and SS number, names of lab partners (if any), name of instructor and date of performing the experiment.
3. **Objective**: This should be a brief description of the aim of the experiment, *in your own words* (i.e. do not reproduce the material in the lab handbook).
4. **Theory**: This section should contain a discussion of the theoretical principles involved in the experiment. You may also mention any applications of the circuit being tested.
5. **Procedure**: In this section you need to provide a step-by-step account of what was done during the experiment, *in your own words*. Please do not reproduce the procedure in the handbook. Be careful to write it in a form that indicates "what was done" — not "what to do".
6. **Data and Observations**: This section consists of all the numerical data you observed and recorded during the experiment, and the calculations afterwards. This also includes circuit diagrams, K-maps, logical data, truth tables etc. Please number and label all tables and figures and refer to them accordingly. You are allowed to use figures and tables photocopied from the laboratory handbook or generated using *Electronic Workbench*. If you are not using a computer and are drawing by hand use only black ink and engineering paper. You need to reproduce in a neat and organized fashion your data observations during the experiment.
7. **Analysis of results**: This is the most important section in your report as it indicates what you have learnt from this experiment. *Interpretation of the results obtained is far more important than getting the right results in this lab.* Please try to explain "why" you got the results you recorded. List all your inferences about the nature of the results and any remarks you have about them, in your own words. If the results are anomalous try to explain the discrepancies and suggest ways to avoid them.
8. **Conclusion**: Describe in brief what you conclude about this experiment from the results you obtained and your analysis of them. Please do not confuse this with the previous section.
9. **Equipment list**: Provide a complete list and count of all the equipment and circuit components (along with serial numbers) used in this experiment.
10. **Bibliography**: This should contain a full reference to all the books and other reference material used. For instance, the laboratory handbook and the TTL Data Book will be referred to in almost every experiment.
11. **Signature and Date**: Please do not forget to sign and date your report in the end. This is to indicate that all the work in this report is your own. Failure to sign and/or date the report will result in loss of points.
12. **Data Sheets**: Please include all the data sheets used by you during the experiment, as well as the prelab work at the end of the report. Please note that these need to be **signed by the instructor** as a proof of successful completion of the experiment.

Best wishes for a successful and fun-filled semester!!!