

# RIT Department of Computer Engineering

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## 0306-341 Introduction to Digital Systems

### **Report Expectations:**

The first few pages of the lab manual serve as a reference for the lab report format, which should be used for all lab exercises, unless otherwise specified.

- All reports must be typed in 11-point fonts with full justification, (e.g., “justified” alignment in MS-Word).
- Nothing should be hand drawn, (except as noted in the lab manual). Furthermore, anything hand-drawn (e.g., schematic, table, waveform, etc.) will be treated as not submitted, (unless specifically approved and signed by the lab instructor).
- All figures should be integrated into the report; they should be properly labeled, introduced, and explained in text.
- In the manual, at the end of each lab exercise, there is a grading sheet for collecting signatures from demonstrations in lab. This sheet must be attached at the end of the lab report, and it serves both as a grading rubric as well as a checklist to make sure all of the necessary information is included in the lab report.
- The report should be written only in third person. Everything should be proofread.
- Demos may be signed until the day of the submission date. Valid signatures are from the lecture professor, the lab instructor, or the teaching assistant. A valid signature is required for grading credit!
- It is very important to do the prelab activities early! They are worth a significant portion of the lab grade (20%), and they can be signed only at the beginning of the scheduled lab time. The prelab work must be started well in advance of lab time. The prelab work will make lab work go more smoothly and will help get everything done more efficiently. No hand drawn items from prelab work are to be submitted in lab reports; any information needed for the report must be computer generated.

### **The Abstract:**

The abstract presents the reader of the report with information pertaining to the lab exercise. By reading the abstract the reader should know what the rest of the report entails—not only what was done, how it was done, and the results, but also the concepts that were presented in this exercise, (e.g., K-maps, 2’s compliment, active high/low, and etc.).

### **The Design Methodology:**

The design methodology presents much of the theory behind the lab exercise, which was confirmed with software simulation and hardware experimentation. Any of included figures must be labeled as well as referenced and discussed in text, (e.g., “The final design of the 2-bit adder can be seen in Figure 5.”). If possible, all figures should be integrated within the report. Also, this section includes any K-maps, truth tables, etc. that were used in building the integrated circuit. In addition, it discusses what TTL (Transistor-Transistor Logic) ICs were used, giving their part numbers.

### **The Results/Analysis:**

The results/analysis section provides the reader with all results and insights that came from completing the lab exercise: any graphs, tables, etc. that were collected from the work. It also discusses how results were obtained, (e.g., using a multimeter to collect the voltage levels), as well as the standard for comparison, (e.g., truth tables). Once again, every figure, table, schematic, etc. must be properly labeled, introduced, and discussed in text.

### **The Questions:**

Some of the questions can be challenging and require thought. Just spending 5 minutes on the questions will not be enough to answer them. Also, attempting to answer a question, even if the answer is wrong, is better than leaving it blank. For trouble with the questions, consult the book, lecture instructor, or lab instructor. Search engines such as Google are very useful resources as well, and using them can be a strong educational tool—a very valuable type of research, not just for class but also in industry.

### **The Conclusion:**

The conclusion explains what was learned from the exercise. It discusses whether the exercise was properly executed and completed. In addition, it describes how concepts were applied to achieve the end result.

### **The Due Date:**

The report on an exercise is due in lab one week after it was scheduled. Late reports must be submitted to the CE main office so that they can be time-stamped and passed to the TA. There will be a significant penalty for late submission: 20 points per day. The CE office is located in Room 9-3480. Any student submitting a late report is responsible for verifying that the TA receives the report from the CE office and should maintain a backup copy of the report.