CHAPTER 4

HOW GOOD AM I AT THOSE LABORATORY WORKS?

The answer to the title question is: As good as you want it to be!

Because it very much depends on how committed you are in preparing yourself for practical sessions. Engineers work by practicing their skills in solving real world problems. For this reason, every engineering curriculum is designed to include laboratory work as an important component.

However, from experience with engineering students throughout our careers, many students do not develop interest in laboratory work and subsequently when laboratory sessions are carried out half-heartedly, how do you expect to be good at them? The converse is of course true: If you are interested in the experiments, you find joy in the discovery of knowledge from the practical observations, you are eager to arrive at some important conclusion from your findings, and then you will be good at the laboratory sessions.

This chapter aims at dispelling common negative attitudes towards laboratory work. Students know that lab sessions are compulsory, thus they are obliged to attend them and take full advantage of all the experiences and knowledge gained from the experiments. Some even treat these sessions as something short of a burden, attending them to get the attendance ticked and then handing in the report solely to obtain the marks which will be recorded as part of the course work.

Well folks, this attitude must change! You must look forward to these lab sessions with full vigor, because the laboratory is where you get the first taste of being real engineers. As they always say, the laboratory is a classroom with a difference. This is where you practice your problem solving skills, learn how to use instruments correctly, observe an event which needs theoretical explanation and develop a skill to interpret results.

> *Practice means to perform, over and over again in the face of all obstacles, some act of vision, of faith, of desire. Practice is a means of inviting the perfection desired*
>
> *Martha Graham*

What Are These Weird Equipment, Why Are We Not Briefed at Lectures?

Because we are training you to be independent individuals who seek to explore the surroundings by your own initiative!

One of the primary goals of the laboratory is to help students learn to solve engineering problems better. Good problem solving requires informed decision making and this needs practice and training. Therefore, labs are designed to leave most of the decisions up to the students so that these students may get a great deal of practice in making analytical decisions. Even though lab sheets are provided, they must learn to identify the objective of the lab sessions, the problems at hand, what parameters to measure, what tables and graphs need to be drawn, how to relate them with the lessons in class and what are the outcomes of the experiments.

The lab sheets would have described the equipment to be used, and if you are not familiar, it is up to you to present your queries to the lab assistants or instructors as how to use them,