LABORATORY MANUAL FOR PLANT ENGINEERING

PREPARED BY:

MUHAMAD FAIZ ABU ZAKI
2002362400

MOHD ALIJUFRI BASTANI
2002362457

UNIVERSITI TEKNOLOGI MARA

NOVEMBER 2005

ACKNOWLEDGEMENT

"Alhamdulillah" is only the word to express our happiness after completes this project. Thank to Allah because giving us a lot of strength, help and wisdom to make this manual lab for plant engineering project being success.

We want to express millions of thanks to our supervisor, Mr. Mohd Rozaiman Aziz. He is the one who give us a lot of guidance, explanation, advice and enthusiastic support with patient although he is so busy with his academic duties to make sure this final project objective achieve its goal. Furthermore, he is so dedicated and we are very proud of taking him as our supervisor. We have faith that he will be a role model to other person and also have a great success in his career. Good luck and we pray to your success too.

We also want to give thousand thanks to our Mechanical engineering Department of Universiti Teknologi Mara Pulau Pinang especially to Tuan Hj Sharipudin Ismail and his technicians because give us permission to use the machine and other equipments in the workshop and also help use in the workshop to complete our project. Without them, there's no way we will be able to complete this project.

Finally, we would like to thanks to our family, friends and other lecturer who help and give a lot of support through this tough moment together with us. Thanks a lot. May God bless us all.

ABSTRACT

As we know this Plant Engineering subject is the main subject that has been taken for the diploma Mechanical Engineering (manufacturing) students. In this subject has a one-hour segment for the students do the lab at the workshop. There are five experiments that have to do by the students.

First and second experiment is alignment machine. The machines are lathe and milling machine. The purpose of this experiment is to make sure the machine is in stable position to use.

Third experiment is machine installation. Spirit level is used in this experiment in order to do leveling. Fourth experiment is pump service, whereby the process of install and uninstall has been done. The last experiment is mounting and dismounting bearing. It is to show the correct method or technique to mounting and dismounting bearing without damage the shaft and the bearing.

We hope with this experiment, the student more understand what they learn about this subject in the class

CONTENT

TITLE	PAGE
AUTHORS DECLARATION	ii
SUPERVISOR CERTIFICATION	iii
HEAD OF PROGRAM CERTIFICATION	iv
ACKNOWLEDGEMENT	v
ABSTRACT	vi
CHAPTER 1: BACKGROUND OF PROJECT	
1.1 INTRODUCTION	1
1.2 OBJECTIVES	1
1.3 SCOPE OF THE PROJECT	2
1.4 METHODOLOGY	2
1.5 GANTT CHART	3
CHAPTER 2: LITERATURE REVIEW	
2.1 TYPE OF EQUIPMENT USE IN THE EXPERIMENT	
2.1.1 DIAL INDICATOR	4
2.1.2 SPIRIT LEVEL	6
2.1.3 MAGNETIC BASE	8
2.1.4 BEARING PULLER	10
2.1.5 LATHE MACHINE	10
2.1.6 MILLING MACHINE	11

CHAPTER 1: BACKGROUND OF THE PROJECT

1.1 Introduction

Nowadays, anything must be done easier. Students have to complete their study with practical or experiment. So we make this manual lab to make the student easy to do their experiment in this subject.

Actually this idea comes from our supervisor Mr. Mohd Rozaiman Aziz who is also the lecturer of this subject. He wants the report for this experiment is more uniform and systematic. Continuing his idea we make the manual lab come to a reality.

Truthly it is difficult to make this manual lab because this is the first manual lab in this subject and we don't have enough experience and reference. From our supervisor, we only get the concept of the project.

1.2 Objectives

- Guideline lab for plant engineering.
- To synchronize the lab report.
- To help student and lecturer to do the experiment more easier