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FINAL YEAR PROJECT REPORT

DESIGN OF MECHATRONIC WORKBENCH USING PLC

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ABSTRACT

This project entitled 'Design of Mechatronic Workbench Using PLC' involves a study of PLC. All the equipment needed to achieve the objective of this project are available in Industrial Automation Laboratory. The equipment are a PLC which acts as a control device and pneumatic elements such as air compressor, service unit (air regulator, air filter and air lubricator), valves, cylinders etc.

The air compressor is used to supply compressed air to activate the valves and cylinders.

The PLC is used as a control device to control the sequence movement of cylinders based on what we programmed on it.

TABLE OF CONTENTS

CHAPTER 3

LATIHAN 1

CHAPTER 4

LATIHAN 2

CHAPTER 5

LATIHAN 3

CHAPTER 6

LATIHAN 4

CHAPTER 7

LATIHAN 5

CHAPTER 8

FUTURE RECOMMENDATION

CHAPTER 9

DISCUSSION AND CONCLUSION

1.1 GENERAL

This project was carried out by one student from B. Eng (Hons) Mechanical. It took about one year to complete. All equipment used in this project is available in the Industrial Automation Laboratory of ITM. The equipment consist of PLC components, a set of computer and pneumatic elements.

In this project PLC equipment used was purchased in 1996 from local vendor with OMRON company and pneumatic elements were purchased from FESTO. The software for programming the ladder diagram is called LSS (Ladder Support Software).

1.2 OBJECTIVE

The objective of this project is to produce a complete of sequential movement for pneumatic cylinders by using Programmable Logic Controller (PLC) and to demonstrate the operation of the system. Then to produce a proper user's manual (lab sheet) to be used by Diploma Students of Mechanical Engineering (Manufacturing), Part 6, Subject Industrial Automation (KJP 323).