CHAPTER 5

CONCLUSION

5.1 Conclusion

PLCs have revolutionized industrial automation by providing a reliable, flexible, and efficient means of controlling complex machinery and processes. Their ability to operate in harsh environments, process large amount of data in real-time, and easily integrate with other systems makes them indispensable in modern manufacturing. PLCs contain input and output devices compatible with industrial pilot devices and controls; little electrical design is required, and the design problem centers on expressing the desired sequence of operations in ladder logic (or function chart) notation.

An elevator control system using PLC has been successfully simulated by applying all the concepts of control system at this thesis. The simulation of PLC in managing the movement, speed and stopping the elevator, the algorithms were written which were converted into ladder diagrams and the programs worked perfectly fine with 100% accuracy. This system is responsible for handling floor selection, regulating speed and optimizing traffic flow to minimize wait times and is also designed to be energy-efficient, incorporating technologies that reduce power consumption. The programming for this system developed is flexible, quick and easy. In this system, floor

request handling errors that leading to missed or delayed stops and incorrect door operation errors had been experienced in writing program. The elevator control system is essential in high-rise buildings, commercial complexes, hospitals, hotels, resorts, malls, airports, train stations, factories, warehouses etc.

5.2 Further Extension

PLCs are continuously growing and evolving to become the best option for a variety of industrial automation applications. This system can be improved by making some changes in the program and components.

This system can be upgraded with 8x8 metrics to show numeric number for the

floor which the elevator car reaches and can also add more floors for higher buildings to transport comfortably. The sensors can be changed according to the type of product. The gear motor can be used with speed controller to control the rate of speed, and this system can also implement CCTV inside the elevator and buzzers.