

PROGRAMMABLE LOGIC CONTROLLERS LAB
(Skilled Based Lab Elective)

Course Code: 19EE11M6

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Prerequisites: Control Systems

Course Outcomes: At the end of the course, the student will be able to

- CO1:** Explain the PLC Hardware and Software used in PLC
- CO2:** Building of Ladder diagrams for Logic Gates in PLC
- CO3:** Describe the usage and applications of Timers and Counters
- CO4:** Analyze the operation of DOL Starter
- CO5:** List the PLC Arithmetic Instructions

LIST OF EXPERIMENTS:

Conduct any **FIVE** of the experiments from the following:

1. Study hardware and software used in PLC
2. Implementation of Logic Gates
3. Implementation of DOL Starter
4. Implementation of On-Delay Timer
5. Implementation of Off-Delay Timer
6. Implementation of Up-Down Counter
7. Implementation of PLC Arithmetic Instructions
8. Implementation of PID Controller

Conduct any **TWO** of the experiments from the following:

9. Development of 11KV/433 volts substation automation scheme using PLC for normal load operation.
10. Development of 11KV/433 volts substation automation scheme using PLC for timer ON/OFF load control.
11. Development of 11KV/433 volts substation automation scheme using PLC for cyclic ON/OFF load control.

12. Development of Traffic control light system.
13. Implementation of Car washing process
14. Implementation of Automatic Bottle filling process

TEXT BOOK:

1. John W. Webb & Ronald A.Reiss, “*Programmable Logic Controllers- Principles and Applications*”, 5TH Edition, PHI

REFERENCE BOOKS:

1. JR. Hackworth & F.D Hackworth Jr., “*Programmable Logic Controllers- Programming Method and Applications*” Pearson, 2004.
2. Vijay R. Jadhav, “*Programmable Logic Controllers*”, Second Edition, 2010.

WEB RESOURCE:

www.vlabs.co.in