

PLC (AB, SIEMENS, OMRON, DELTA, MITSUBISHI)

TOPICS

PLC (Programmable Logic Controllers)

Introduction to Industrial Automation Theory History of Automation Advantages of Automation
Application of Automation Equipment's / Components of Automation

Introduction to PLC hardware and role in automation

Architectural Evolution of PLC

Introduction to the field devices attached to PLC

PLC Fundamentals - (Block diagram of PLC's)

Detail information about PLC components

☒ Power supply, CPU, I/O Communication bus

Various ranges available in PLC's

Types of Inputs & outputs / Source Sink Concepts

Wiring of the I/O devices

Concept of flags

Scan cycle execution

Setting up PLCs / Connecting CPU, I/O modules, Rack, Backplane and Communication bus

Connecting Field devices to PLCs I/O

Installing and to starting the programming terminals

Introduction to PLC programming software

Addressing concepts

Introduction to bit, byte & word concepts

Programming instructions arithmetic and logical

Load / and / or / out / and Read / Write

Compare / Add / Sub / And / Or - Blocks

Leading edge / trailing edge instructions

MOVE block application

Timer and Counter Blocks programming

Advanced instructions

File handling

Comment functions

Master control / set / reset function

Upload, download, Monitoring of programs

Monitoring / Modifying data table values

Standard procedure to be followed in wiring / writing ladder etc.

Troubleshooting and fault diagnostics of PLC

Documenting the project

Troubleshooting

Identifying the status of PLC and communication bus

Fault detection and error handling

Forcing of the I/O's

Back up of the programs and reloading

CPU, I/O module replacements

EXPERIMENTS / PRACTICALS

Practical demonstration on hardware

Practical on PLCs

Practical on PLCs

Practical - Assembling PLC

Practical - Physical wiring

Practical - Installation of software

Practical - Prog. Software

Practical - Prog. Software

Practical - Prog. Software

Practical - Prog. Software