

# **Industrial automation using PLC & SCADA**

## **DESCRIPTION:**

It is an idea of controlling a system or any equipments or a process with respect to a set of instruction or a condition” Automation is basically the delegation of human control function to technical equipment for,  
1.Increasing Productivity 2.Increasing Quality 3.Reducing Cost 4. Increasing Safety in working conditions Human Aided Automatic.

## **SESSION 1**

### **Introductory & Theoretical session**

- Introduction to Automations
- Definition of Real Time Automation Systems
- Careers in Automation Systems
- Techniques used for Automation
- Sciences Involved, Terminologies used
- Brief Description of a Control System
  - Pneumatic Controller, PID Controller, PLC Controller
- Hardware Classification of Automation
- Introduction with PLC Scada

### **Getting familiar with PLC**

- Brief Introduction to Basic Analog & Digital Electronics
- Basic Concept of Processing & Controlling

- Concept of PLC and Classification of PLCs
- PLC & their Functional Architectures
- Input and output system - serial parallel optical isolation
- Addressing Format
- Software description and installation
- Communication protocols and cables used in PLC
- Programming Language of a PLC
- Concept of data files and program files in micrologix 1000

Practical: Controlling Motor using XIO and XIC

Practical: Controlling multiple appliances using Ladder Logic

Practical: Using different patterns of input and output using Interlocking

## SESSION 2

### **Programming based on Timer**

- Use Of reset Command
- Counter Instruction
- Using of Comparison Instructions
- Mathematical Concept ADD, SUB, MUL, DIV and etc.

### **Practical**

1. Operating Motor In star and Delta connection using PLC
2. Beverage Industry Prototype (Operating Different load according to time)

3. Counting based load control system
4. Basic Instructions in the Paper Drilling Machine Application
5. Comparison Instructions in the Paper Drilling Machine
6. Math Instructions in the Paper Drilling Machine
7. Using Counters in the Paper Drilling Machine
8. Car Parking System Using PLC

## **Getting familiar with SCADA**

### **Recipe Management**

- Introduction to SCADA Software
- Creating new SCADA Project
- GUI Designing
- Tag Substitutions
- Introduction to graphic Properties like Sizing, Blinking, Visibility etc.

### **Communicating PLC with PC**

- Interfacing sensor with PLC

Project: Bottle Filling Plant Prototype

Project: Recipe Management System

Using SCADA to Operate previously made Projects

### **BENEFITS:**

- Acquaint yourself with practical knowledge.

- Workshop taken by Exceptionally Qualified and Professional Trainers actively involved in Research & Development.
- Learn your Area of Interest directly from Industry Experts.
- Scales up your CV/ Resume in Technical while boosting your Logical Abilities.
- Brings Confidence in you for Technical rounds of Interview.
- Lifetime assistance on any of your projects

