

PLC & SCADA

Course Name: PLC&SCADA

Certification: BY UVSofts Technologies Pvt. Ltd.

PLC Introduction:-

- Introduction to PLC hardware
- Architectural Evolution of PLC
- Introduction to the field devices attached to PLC
- PLC Fundamentals - (Block diagram of PLC's)
- Role of PLC in automation
- Detail information about PLC components
 - • Power supply
 - • I/O modules
 - • CPU
 - • Communication bus
- Various ranges available in PLCs
- Types of Inputs & outputs
- Source Sink Concept in PLC
- Concept of flags
- Scan cycle execution

Practical Exposure Allen Bradley, Siemens, Modicon and GE Fanuc PLCs

- Introduction to PLC programming software
- Addressing concepts
- Introduction to bit, byte & word concept
- Programming instructions arithmetic and logical
 - • Load /and /or/out / and Read / Write
 - • Compare / Add / Sub /And /Or - Blocks
 - • Leading edge / trailing edge instructions
 - • Timer Blocks programming
 - • Master control /set /reset function
 - • MOVE block application
 - • Advanced instructions
 - • File handling
 - • Comment functions
 - • Counter Block programming

- Upload, download, Monitoring of programs
- Forcing I/P & O/P
- Monitoring / Modifying data table values
- Standard procedure to be followed in wiring / writing ladder etc
- Hands on experience on writing programs
- Case studies for conveyer, motors control, timer & counter applications etc.
- Troubleshooting and fault diagnostics of PLC
- Documenting the project
- Program assignments for real time applications

SCADA Introduction:-

- Applications of SCADA software
- Different packages available with I/O structure
- Features of SCADA software

Application development in Wonderware InTouch

- Creating a new SCADA application
- Creating Database of Tags
- Creating & Editing graphic display with animation
 - Data Entry / Start Stop command
 - Sizing
 - Blinking
 - Filling
 - Analog entry
 - Movement
 - Visibility
- Trending
 - Creating & Accessing Real-time Trends
 - Creating & Accessing Historical Trends
- Creating Alarms & Events
- Writing logic through script
 - Application script
 - Data Change
 - Special functions
 - Condition
 - Window script

- Connectivity with the different hardware
 - Communication protocols
 - Communication with PLC
 - Communication with Data Acquisition System
- Connectivity between software
 - Communication with Excel
 - Communication with Visual Basic
- Commissioning the network nodes
- Troubleshooting the application