

PLC SCADA

PROGRAMMING



CURRICULUM

» PLC, SCADA Programming

- Digital Electronics Basics
- PLC Fundamentals, PLC Hardware & Architecture
- Wiring Different field Devices to PLC
- Creating applications with Programming Software
- Programming Languages, Basic Instructions
- Load/and/or/out/and Read/Write instructions
- Compare/Add/Sub/And/or – blocks instructions
- Move, File Handling, Timer, Counter block
- Master control/set/reset function
- Advance Instructions
- Upload/Download/Monitoring of programs
- Forcing of I/Os, Fault finding/troubleshooting & documentation
- Monitoring/Modifying Data table values
- Communication with SCADA software
- Hands on experience on real time applications

» Supervisory Control & Data Acquisition

- Introduction to SCADA software
- Creating New SCADA Project
- Creating database of Tags
- Creating & Editing Graphic display
- Attaching controls to graphic objects sizing, Blinking, Filling
- Analog Entry, Movement of objects, Visibility
- Real time & Historical Trending
- Creating Alarms & Events
- Application of scripts
- Communication with PLC/excel/different protocols
- Net DDE Communication
- Fault finding/Troubleshooting

» Variable Speed Drives & Motors

- AC motors, operations & limitations
- Motor Starters : DOL, Star-Delta, Auto Transformer
- Motor control circuits, interlocking circuits
- Introduction to AC drives & applications
- Criteria for drives selection
- Parameter programming
- Designing of drive control panel
- Communication with PLC, SCADA software
- Fault finding/troubleshooting.
- Soft starters & their advantages over conventional starters.

» Panel Designing & Auto Cad

- Introduction to switch gears & accessories
- Basics of control & power drawings
- General protection involved in panel
- Load management (connected load, running load, load factor)
- Indications (Ammeter , Volt Meter, PF & KW Meter etc.)
- Preparation of general arrangement diagrams, busbar sizing
- Electrical Protection
- Preparation of power & control circuits
- General wiring guidelines/practices
- Maintenance & troubleshooting of control circuits in live panels.

» Process Instrumentation

- Various transmitters/sensors used in industrial applications
- Position sensor: photo electric, Proximity sensor, encoder
- Temperature measurement (RTD, thermocouple, thermistor)
- working principle types, selection guidelines
- Pressure measurement, working principle, types, selection guidelines
- Load measurement, load cells
- Level measurement, working principle, types, selection guidelines
- Solenoid valves, control valves, smart transmitters
- Instrument transformers (CT, VT)
- Process control basic, closed & open loop control
- Process controllers (on-off, proportional, PID)

» HMI

- Getting started with HMI
- Creating applications, creating tags
- Downloading/uploading programs
- Creating alarm messages
- Communication with PLC
- Fault diagnostics

» Distributed Control System

- Introduction to DCS
- DCS applications
- Hardware: processor, I/O modules, communication, bus redundancy etc.
- Applications difference between PLC & DCS
- Hands-on practical on DCS systems.

» Industrial Networking/Wireless Technology

- Different Network Topologies & their importance
- Training on Nodes, Ports, Drivers, Hardware
- IEEE 802.11 abg/IEEE 802.11n Wireless Networks
- Ethernet/IP, HART/Wireless HART, Wireless Remote I/Os
- Modbus, Profibus, Foundation Fieldbus
- Hands-on practical on Networking of PLC.

- » Summer/Winter/Project/In-Campus Training
- » Customised Training
- » Soft Skill Development

Partners :



Java



development | consultancy | training

E-mail: info@ducatindia.com
Visit us: www.ducatinidia.com
www.facebook.com/ducateducation

NOIDA

A-43 & A-52, Sector-16,
 Noida - 201301, (U.P) INDIA
 Ph. : 0120-4646464
 Mb. : 09871055180

GURGAON

1808/2, 2nd floor old DLF,
 Near Honda Showroom,
 Sec.-14, Gurgaon (Haryana)
 Ph. : 0124-4219095-96-97-98
 Mb. : 09873477222-333

GREATER NOIDA

F 205 Neelkanth Plaza Alpha 1
 commercial Belt Opposite to Alpha
 Metro Station Greater Noida
 Ph. : 0120-4345190-91-92 to 97
 Mb. : 09899909738, 09899913475

GHAZIABAD

1, Anand Industrial Estate,
 Near ITS College, Mohan Nagar,
 Ghaziabad (U.P)
 Ph.: 0120-4835400...98-99
 Mb. : 09810831363 / 9818106660
 : 08802288258 - 59-60

FARIDABAD

SCO-32, 1st Floor, Sec.-16,
 Faridabad (HARYANA)
 Ph. : 0129-4150605-09
 Mb. : 09811612707