



Jagadish Chandra Bose Research Centre

G.B. Nagar, U.P.

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2 Days Workshop on PLC & SCADA

The Most Used Guiding Force Behind An Automated Industrial Plant Is A "Programmable Logic Controller" Generally Known As A *PLC*. PLCs Along With Certain Other Necessary Ingredients Like Sensors, Motors, Actuators, Valves, Conveyors, Boilers, *SCADA Systems*, Computers & Many More, Makes A Real Automated Manufacturing Plant.

The main objective of PLC & Scada Workshop is to make the aspiring engineers acquainted with the conceptual as well as practical knowledge of the Industrial Automation & latest technologies being used to achieve industrial automation. The idea of organizing this workshop is to inculcate the basic fundamentals of automation in the students and provide them with a platform to work on, In The Near Future.

Workshop Duration: 2 days (16 hrs.)

The duration of this workshop will be two consecutive days, with eight hour session each day in a total of sixteen hours properly divided into theory and hands on sessions. At the end of this workshop, a small competition will be organized among the participating students and winners will be awarded with a Merit Certificate.

Day 1 (Session 1)

Presentation on Recent Trends in Industrial Automation & PLC-SCADA

- Introduction To Automation
- Why We Need Automation
- Evolution In Industrial Automation (A Brief History)
- Different Type Of Industrial Control Mechanisms)
- Introduction to PLCs



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- PLC Advantages over Microcontrollers
 - Area of Applications
 - DATA Flow During Automation
 - Motor Drives Introduction & Their Need
 - Sensors Introduction & Their Need
 - HMI Introduction & Its Need
 - SCADA Introduction& Its

Day 1 (Session 2)

Detail study of PLC & SCADA

- PLC
- SCAD

PLC I/Os Basics, Burning & Interfacing Concepts

- Allen Bradley & Rockwell Automation's Details
- Brief Description To Input/ Output Pins Of Micrologix-1000
- Ladder Diagram Basics
- Introduction To RSLogix
- Downloading a Ladder Program in PLC Using RSLinx.
- How To Take Input from Panel
- How To Give Output To Panel
- Running First PLC Application



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Day 2 (Session 3)

Hands on PLC Training Kit & SCADA Software

- Participants will perform hands on PLC training Kit which contain Allen Bradley Micrologix 1000 PLC.
- Software Used: RsLogix, RsLinx & Wonderware InTouch(SCADA)

Note: These are just the major aspects that we will be discussing, each point will be elaborated in detail with demonstrations of the tools and techniques.

Prerequisite for Workshop

- Passion to learn new creative things.
- Knowledge of basic chips and micro controllers.
- Having basic knowledge of Computers.
- Basics of programming.
- PC/laptop must have at least 2GB RAM.
- Windows is preferable
- In case of MacBook or Linux, You need virtual window or .exe installers.
- Laptop/PC must have Bluetooth and its drivers.

Who Could Attend?

- College students seeking future in Industrial Automation.
- Education Faculty & Staff in PLC & SCADA.
- Electronics, Instrumentation & Communications Students.
- Students from any branch can attend the workshop.



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Benefits of Workshop

- Detailed knowledge about PLCs.
- Students can design any Application based on PLCs.
- How to do debugging in hardware projects.
- Programming/ Analytical skills.

Course Material & CD

- Software tool kit CD having (Study E-Book, Videos, Softwares)