



Module 1: (Field Instrumentation)

- Basic block of instrumentation system types of transducers (active and passive)
- Temperature measurement, working principle, types, and selection guidelines.
- Pressure measurement, working principle, types, and selection guidelines.
- Flow measurement, working principle, types, and selection guidelines.
- Level measurement, working principle, types, and selection guidelines.
- Displacement measurement, working principle, types, and selection guidelines.
- Angular displacement and speed measurement, working principle, types, and selection guidelines.
- Current to pressure converter

Module 2: (General PLC)

Components of plc

- Power supply module
- CPU
- Input and output Module
- Bus system
- Communication system

Block Diagram of PLC

Source and sink concept

Features of plc

Need & Advantages of PLC

Introduction to Number System

Types of Programming language

Uploading and Downloading Program

Module 3 (PLC Programming)

Introduction to PLC programming Software

Addressing Concept

Introduction to BIT, BYTE & WORD concept

Programming Instructions Arithmetic and logic

- Load/read/or/out
- Move Block Application
- Compare/Add/sub
- Advanced Instructions

Duration: 90 days



- Leading & trailing edge instructions
- File Handling
- Timer & counter Blocks Programming
- Master Control/set/reset function

Monitoring of Programs

Forcing I/P & O/P

Troubleshooting and fault Diagnostics of PLC

Documenting the project

Module 4: (DCS)

Introduction of DCS system

Architecture of DCS System

Hardware of DCS

Types of I/O

Comparison between PLC & DCS

Need of DCS

Applications of DCS

Block Diagram of DCS

Module 5: (VFD)

Introduction to VFD

Importance of VFD

VFD selection

Parameter Programming

Applications

Module 6 (SCADA)

Introduction to SCADA

Applications of SCADA

Difference between SCADA and HMI

Different packages available with I/O structure

Features of SCADA

Creating new SCADA Application

Creating Database of Tags

Creating & Editing Graphical display with animation

Trends

- Real-time trends
- Historical trends

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Duration: 90 days

Creating Alarms

Writing the Logic through Scripts

Connectivity with different Hardware

- Communication with PLC
- Communication protocols

Connectivity between software

- Communication with EXCEL

