## **PLC Tutorials**

**PLC Programming Tutorials**, PLC Theory, PLC Logic, PLC Interview Questions and Answers, <u>PLC</u> Ladder Logic, PLC Example Programs, Programmable Logic Controllers Study Materials.

# **PLC Programming Tutorials**

- 1. What is a Programmable Logic Controller?
- 2. History of Programmable Logic Controllers (PLC)
- 3. Overview of SCADA
- 4. <u>Difference between DCS, PLC, and RTU?</u>
- 5. DCS Architecture Vs PLC Architecture
- 6. What is a Human-Machine Interface (HMI)?
- 7. Essential Documents in a PLC System
- 8. Alarm and Trip Documentation
- 9. Basics of Switches NO/NC Contact
- 10. What Sinking & Sourcing?
- 11. Relay circuits
- 12. What is Ladder Diagram?

#### **PLC Logic & Functions**

- 1. Introduction to PLC Ladder Diagrams
- 2. PLC Logic Functions
- 3. PLC Latching Function
- 4. PLC Multiple Outputs Configuration
- 5. PLC Program Examples
- 6. Equivalent Logic Gates & PLC Ladder Diagrams

# **PLC Input/Output Cards**

- 1. PLC Input/Output Modules
- 2. PLC Digital Input and Output Modules
- 3. PLC Ladder Logic: Contacts and coils

- 4. PLC Analog I/O and Network I/O
- 5. PLC Analog Input Card Resolution Effects on Accuracy
- 6. PLC Problems Troubleshooting
- 7. PLC Analog Input Conversion Formula
- 8. PLC Output Types
- 9. PLC Analog I/O Potential Problems

#### **PLC Design Rules**

- 1. Why Normally Closed Contact For Stop Buttons?
- 2. Failsafe Wiring Practices
- 3. PLC Sinking & Sourcing Concept
- 4. PLC Analog Signals Wiring Techniques
- 5. PLC Digital Signals Wiring Techniques
- 6. How to Reduce Relay Noise in PLC Systems
- 7. Basics of Permissive and Interlock Circuits
- 8. Basics of Fail-safe Circuits
- 9. What is Interposing Relay in a PLC System?
- **10. Motor Control Circuits**

#### **PLC Programming**

- 1. Basics of Ladder Diagram in PLC Programming (VIDEO)
- 2. PLC Programming languages
- 3. Basics of PLC Programming
- 4. Mis-conceptions of PLC Ladder Logic
- 5. PLC Ladder Logic Example
- 6. Free SCADA Software Download
- 7. What is Seal-in Circuit?
- 8. PLC Example with Switches
- 9. Click Here to Read Article
- 10. PLC Counter Instructions
- 11. PLC Timer Instructions
- 12. PLC Math instructions
- 13. PLC Data Comparison Instruction
- 14. PLC Memory Mapping & I/O addressing

#### **PLC Industrial Automation**

- 1. How a PLC Reads the Data from Field Transmitters
- 2. How PLC Controls a ON/OFF Valve?
- 3. How PLC Controls a Motor?
- 4. How to Troubleshoot a PLC System
- 5. How a PLC do the Scaling for a Sensor?
- 6. PLC Analog Input Scaling
- 7. PLC Pneumatic Circuit Control

## **PLC Interview Questions & Answers**

- 1. PLC Interview Questions and Answers
- 2. Industrial Networking & Wireless Interview Questions
- 3. PLC/DCS Interview Questions & Answers
- 4. Control Room and Field Instruments Questions & Answers
- 5. Industrial Automation Engineers Interview Questions
- 6. PLC/SCADA Engineers Interview Questions
- 7. SCADA Interview Questions & Answers
- 8. Siemens PLC Interview Questions & Answers
- 9. Allen Bradley PLC Interview Questions & Answers
- 10. Programmable Logic Controller Questions & Answers
- 11. Industrial Instrumentation Questions & Answers
- 12. Ethernet Communication Interview Questions & Answers
- 13. Serial Communication Interview Questions & Answers
- 14. Modbus Communication Interview Questions & Answers
- 15. Fieldbus Communication Interview Questions
- 16. OPC Communication Interview Questions & Answers
- 17. Control Systems Interview Questions & Answers
- 18. Interview Questions on PID Controllers

# **PLC Program Examples**

- 1. PLC Program for Mixing Tank
- 2. PLC Program for Conveyor Motor
- 3. PLC Program for Continuous Filling Operation
- 4. PLC Program for Water Level Control
- 5. PLC Program for Temperature Control using Thermostat

- 6. PLC Program for Motor Starter
- 7. PLC Program for Star Delta Motor Starter
- 8. PLC Program using START & STOP Buttons
- 9. PLC Program using Timers
- 10. Allen Bradley PLC Subroutines
- 11. PLC Program using Logic GATEs
- 12. PLC Program using Counters
- 13. PLC Program to Energize & De-energize the Outputs based on Events
- 14. PLC Program for Conveyor System
- 15. PLC Program for Analog Input Sampling
- 16. PLC Program for Conditional Control Logic
- 17. PLC Ladder Logic for 3 Phase Asynchronous Motor Control
- 18. PLC Program for Latching and unlatching Circuit
- 19. PLC Program for Automatic Parameter Initialization when Power UP
- 20. PLC Program for Automatic Lamp Control in Storage Facility
- 21. PLC Program for Two Way Switch Logic
- 22. PLC Program for Sequential Motor Control
- 23. PLC Program for Automatic Liquid Mixing Application
- 24. PLC Program for Water filling and Discharging Process
- 25. PLC Program for Daily Production Record
- 26. PLC Program for Automatic Bottle Rejection System
- 27. PLC Program for Positive Edge Pulse Output for One Scan Cycle
- 28. PLC Program for Alarm Indication in Process
- 29. PLC Program for Entry/Exit Control of Car Parking
- 30. PLC Program for Alternate Output Circuit
- 31. PLC Program for Blinking Lamp on 5 Seconds Interval
- 32. PLC Program for IEC timers (TON, TOF, TP &TONR) used in S7-1200
- 33. PLC Program for Flow Totalizer
- 34. PLC Program for Artificial Fishpond Water Level Monitoring System
- 35. PLC Program for Burglar Alarm Security System
- 36. PLC Program for Automatic Heating and Mixing of Products
- 37. PLC Program to Control Level of Parallel Tanks
- 38. PLC Program to Control Level of Series Tanks
- 39. PLC Program for Control Valve Scaling
- 40. PLC Program to Read Temperature in PLC
- 41. PLC Program for Counting Moving Objects on Conveyor
- 42. Implement SR Flip Flop using PLC Ladder Logic
- 43. PLC Program to Drain Same Products from Two Tanks

#### **PLC Programming Questions & Answers**

- PLC Programming Questions & Answers 1
- PLC Programming Questions & Answers 2
- PLC Programming Questions & Answers 3
- PLC Programming Questions & Answers 4
- PLC Programming Questions & Answers 5
- PLC Programming Questions & Answers 6
- PLC Programming Questions & Answers 7

#### **PLC Ladder Logic Questions & Answers**

- Programmable Logic Controller (PLC) Questions and Answers 1
- Programmable Logic Controller (PLC) Questions and Answers 2
- Programmable Logic Controller (PLC) Questions and Answers 3
- Programmable Logic Controller (PLC) Questions and Answers 4
- Programmable Logic Controller (PLC) Questions and Answers 5
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