PROGRAMMABLE LOGIC CONTROLLER (PLC) PRACTICE TEST (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. Which item would not be classified as a data file in PLC terminology?

A. Status

B. Data

C. File

D. Event

2. When is the XIO instruction true with respect to a physical input terminal?

A. There is input voltage applied to the terminal

B. There is no input voltage at the terminal

C. Voltage is alternating

D. Voltage is reversed

3. Which statement describes an electromechanical relay?

A. It uses electromagnetism to operate contacts

B. It uses only mechanical energy to operate contacts

C. It cannot switch currents

D. It has no moving parts

4. Which of the following best describes when an OR operation outputs a high in digital logic?

A. Only when both inputs are high

B. When any input is high

C. When neither input is high

D. When the inputs are equal

5. The current sourcing sensor shown must be matched with a ____ PLC input module.

A. Current sinking

B. Current sourcing

C. Voltage sinking

D. Voltage sourcing

6. Which statement best describes the PLC output interface?

A. Accepts field signals and converts them for the processor

B. Converts controller signals into external signals used to control the machine

C. Monitors internal memory health

D. Logs data to external storage

7. What is the advantage of choosing a current sensing device over a voltage sensing device for an analog input?

A. The current sensing device is less susceptible to noise

B. It is cheaper

C. It has higher input impedance

D. It consumes less power

8. Discrete I/O modules can be classified as

A. Bit oriented

B. Byte oriented

C. Word oriented

D. Nibble oriented

9. In general terms, what is a Transducer?

A. A device that converts energy from one form to another

B. A device that stores data

C. A device that amplifies signals

D. A device that transmits data wirelessly

10. Which statement best describes the PLC input interface?

A. Accepts signals from the machine or process devices and converts them into signals used by the controller

B. Generates control signals to the process devices

C. Stores program data in memory

D. Provides cooling for I/O modules

Answers

1. A
2. B
3. A
4. B
5. A
6. B
7. A
8. A
9. A
10. A

Explanations

1. Which item would not be classified as a data file in PLC terminology?

A. Status

B. Data

C. File

D. Event

Data files are the storage containers that hold values the PLC uses or records, organized to store data over time or for structured access. A data item like data, a file, or an event serves as a named storage area for values or events that the program can read or write. A status, however, is a live indication of the current condition or state of a device or process; it reflects what is happening right now rather than acting as a dedicated storage container. So while data, a file, and an event are types of data storage structures in PLCs, a status is simply the current state signal and not a data file.

2. When is the XIO instruction true with respect to a physical input terminal?

A. There is input voltage applied to the terminal

B. There is no input voltage at the terminal

C. Voltage is alternating

D. Voltage is reversed

XIO checks for the absence of a signal at a physical input. It is true when the input terminal is not energized—there is no input voltage present. This is the opposite of an input that is energized (ON), which would make another instruction that checks for a closed or powered input true. In practical terms, if a sensor or switch applies voltage to the terminal, the input is considered ON and XIO is false; if the sensor is off or the circuit is open, there's no voltage and XIO is true. The important idea is that XIO is about "no voltage," not about alternating or reversed voltage. So the correct condition is that there is no input voltage at the terminal.

3. Which statement describes an electromechanical relay?

A. It uses electromagnetism to operate contacts

B. It uses only mechanical energy to operate contacts

C. It cannot switch currents

D. It has no moving parts

An electromechanical relay converts electrical energy into motion to open or close electrical contacts. When current flows through its coil, a magnetic field is produced that pulls a metal armature, causing the contacts to move and switch the load circuit. This combination of electrical input and mechanical movement is what defines an electromechanical relay. Because it relies on a magnetic field created by electricity to drive the mechanical action, it's not correct to say it uses only mechanical energy. And since it changes the state of a circuit by moving contacts, it can switch currents in the load. It also has moving parts (the armature and contacts), so describing it as having no moving parts would be inaccurate. For contrast, solid-state relays switch without moving parts, but that's a different type.

4. Which of the following best describes when an OR operation outputs a high in digital logic?

A. Only when both inputs are high

B. When any input is high

C. When neither input is high

D. When the inputs are equal

In digital logic, an OR gate outputs a high whenever any of its inputs is high. For two inputs, the output is low only when both inputs are low; if one input is high (or if both are high), the output goes high. This shows the inclusive nature of OR: the presence of at least one high signal is enough to produce a high output. In practical terms, if any one of several signals indicates a condition, the OR gate can trigger the next stage. This differs from AND, which needs all inputs high to produce a high, and from equality-based ideas, which look at whether inputs match rather than whether any one input is high.

5. The current sourcing sensor shown must be matched with a ____ PLC input module.

A. Current sinking

B. Current sourcing

C. Voltage sinking

D. Voltage sourcing

The test is about matching how the sensor outputs signal to how the PLC input expects to receive it so a complete current path is created. A current sourcing sensor pushes current out into the circuit. To make that current flow into the PLC input and return to ground, the PLC input must be able to sink current. That's why a current sinking input module is the correct match—the input provides a path to ground for the sensor's sourced current. If you used a current sourcing input instead, both sides would be sources and no proper current flow would occur, so the signal wouldn't be detected.

6. Which statement best describes the PLC output interface?

A. Accepts field signals and converts them for the processor

B. Converts controller signals into external signals used to control the machine

C. Monitors internal memory health

D. Logs data to external storage

How a PLC drives external devices is what the output interface is about. The processor makes decisions in the form of on/off states, and the output interface translates those into the actual electrical signals that energize relays, contactors, valves, or motors. It provides the proper voltage or current, the correct polarity, and any necessary isolation or protection, so the field devices respond reliably. That's why describing it as converting controller signals into external signals used to control the machine is the best fit. The other functions described are different roles: accepting field signals for the processor is what the input interface does; monitoring internal memory health is a diagnostic task; logging data to external storage is data logging, not driving the machine.

7. What is the advantage of choosing a current sensing device over a voltage sensing device for an analog input?

A. The current sensing device is less susceptible to noise

B. It is cheaper

C. It has higher input impedance

D. It consumes less power

Noise immunity and signal integrity over wiring are the main ideas here. A current sensing setup carries the measurement as a current rather than a voltage, which makes it far less susceptible to the effects of long cables, ground differences, and electrical noise. In a current loop, the transmitter enforces a specific current through the loop, and the sensing stage at the receiver converts that current to a voltage locally (often via a shunt resistor) for the ADC. Because the current remains defined along the entire path, voltage drops, cable impedance, and interference have much less impact on the signal value you measure. A voltage-based approach, by contrast, is more vulnerable to these issues: the same wiring resistance and noise can distort the voltage arriving at the input, degrading accuracy. So the core benefit is improved robustness to noise and disturbances in real-world wiring conditions, especially for longer runs. Other factors like cost, input impedance, or power can vary, but they don't beat the noise immunity advantage of current sensing.

8. Discrete I/O modules can be classified as

A. Bit oriented

B. Byte oriented

C. Word oriented

D. Nibble oriented

Discrete I/O modules are built to carry binary signals—on or off. Because each channel represents a single binary state, they're described as bit oriented. A discrete input reads one bit per channel for each sensor, and a discrete output drives one bit per channel for each actuator. The idea here is that the data is managed at the level of individual bits rather than grouped into larger data units. Byte-oriented or word-oriented classifications would imply handling 8-bit or larger chunks of data, which is more typical for data that represents numbers or multiple related signals rather than single binary I/O points. Nibble oriented would mean grouping into 4-bit units, which isn't how discrete I/O is standardly categorized.

9. In general terms, what is a Transducer?

A. A device that converts energy from one form to another

B. A device that stores data

C. A device that amplifies signals

D. A device that transmits data wirelessly

A transducer is a device that changes energy from one form to another. That means the input and output are energy, just in different forms. For example, a microphone takes sound energy and converts it into electrical energy that a PLC can read. A loudspeaker does the opposite, turning electrical energy back into sound. Sensors like a pressure or temperature sensor transform physical quantities into electrical signals so the control system can interpret them. Other functions like storing data, amplifying a signal within the same energy form, or transmitting data wirelessly don't involve changing the energy form, which is why those descriptions don't define a transducer. Storage holds information, amplification increases signal strength without changing its energy type, and wireless transmission moves signals but isn't about converting energy forms.

10. Which statement best describes the PLC input interface?

A. Accepts signals from the machine or process devices and converts them into signals used by the controller

B. Generates control signals to the process devices

C. Stores program data in memory

D. Provides cooling for I/O modules

The input interface is the part of the PLC that connects to field devices and brings their signals into the controller in a usable form. It accepts raw signals from sensors, switches, or other equipment and conditions them—adjusting voltage/current levels, filtering noise, providing isolation, and sometimes converting different signal types (AC, DC, 4–20 mA) into standardized digital inputs. This translation lets the PLC's processor read true on/off or state information from the outside world. That's why this statement fits best: it describes accepting external signals and converting them into signals the controller can use. The other options describe functions outside the input side—for example, generating control signals to actuators, storing program data, or providing cooling—none of which are the role of the input interface.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://programmablelogiccontroller.examzify.com

We wish you the very best on your exam journey. You've got this!