

ASVAB Electronics Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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

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- 1. What is the term for the effect where a current in a wire in a magnetic field creates a magnetic field and can repel a magnet, enabling energy generation?**
 - A. Magnetic Effect**
 - B. Electromagnetic Induction**
 - C. Physiological Effect**
 - D. Direct Current**

- 2. Which digit is associated with the color White in the resistor color code?**
 - A. 9**
 - B. 8**
 - C. 0**
 - D. 1**

- 3. Which unit is used to measure electrical resistance?**
 - A. Amperes (amps)**
 - B. Volts**
 - C. Ohms**
 - D. Watts**

- 4. What is the name of the switch that directs current to one of two routes based on its position?**
 - A. Dual on/off switch**
 - B. Two-way switch**
 - C. Relay (relay switch)**
 - D. Resistor (nonvariable)**

- 5. Which colors correspond to the digits 5 and 6, in that order?**
 - A. Blue and Green**
 - B. Violet and Gray**
 - C. White and Red**
 - D. Green and Blue**

- 6. Devices typically need ___ current to run properly.**
- A. Direct**
 - B. Alternating**
 - C. Pulsating**
 - D. Direct current**
- 7. Which unit is used to measure electrical potential difference?**
- A. Amperes (amps)**
 - B. Volts**
 - C. Ohms**
 - D. Watts**
- 8. Ohms are the unit used to measure which property?**
- A. Voltage**
 - B. Current**
 - C. Resistance**
 - D. Power**
- 9. Which transducer is used to produce audible signals such as alarms?**
- A. Bells & Buzzers**
 - B. Indicator lamp**
 - C. Lighting lamp**
 - D. Motor**
- 10. A rheostat is a variable resistor with how many electrical connections?**
- A. Three**
 - B. Two**
 - C. One**
 - D. Four**

Answers

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

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Explanations

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1. What is the term for the effect where a current in a wire in a magnetic field creates a magnetic field and can repel a magnet, enabling energy generation?

- A. Magnetic Effect**
- B. Electromagnetic Induction**
- C. Physiological Effect**
- D. Direct Current**

When current flows through a wire, it creates its own magnetic field around the conductor. This magnetic field can interact with a nearby magnet, producing a force that can push or repel the magnet. That interaction is the magnetic effect of a current, and it's what underpins energy-transfer devices like motors and generators: the magnetic fields exchange energy as forces act. Electromagnetic induction, by contrast, refers to generating current from changing magnetic flux, not simply the field produced by an existing current. The term described here is Magnetic Effect.

2. Which digit is associated with the color White in the resistor color code?

- A. 9**
- B. 8**
- C. 0**
- D. 1**

In the resistor color code, each color corresponds to a specific digit from 0 to 9 in a fixed order: Black 0, Brown 1, Red 2, Orange 3, Yellow 4, Green 5, Blue 6, Violet 7, Grey 8, White 9. White is the last color in this sequence and represents the digit 9. So the digit associated with White is 9. For quick reference, Grey would be 8, Black would be 0, and Brown would be 1.

3. Which unit is used to measure electrical resistance?

- A. Amperes (amps)**
- B. Volts**
- C. Ohms**
- D. Watts**

The concept here is how resistance is quantified. Resistance measures how much a component opposes current flow. The unit for that opposition is the ohm, symbolized by the Greek capital omega (Ω). One ohm is defined as the resistance between two points of a conductor when a constant potential difference of one volt, applied to those points, produces a current of one ampere, with no electromotive force in the conductor. In practical terms, Ohm's law ties these ideas together: $R = V / I$. Since voltage is in volts and current in amperes, the result is in ohms. The other quantities—volts for voltage, amperes for current, and watts for power—are not units of resistance, which is why ohms is the correct choice.

4. What is the name of the switch that directs current to one of two routes based on its position?

- A. Dual on/off switch
- B. Two-way switch**
- C. Relay (relay switch)
- D. Resistor (nonvariable)

A switch that directs current to one of two paths based on position is a single-pole, double-throw arrangement, commonly called a two-way switch. It has a common terminal and two outputs; when you move the switch, the common makes contact with one of the two outputs, routing the current along that chosen path. This matches the description exactly. The other options don't fit: a dual on/off switch controls two separate circuits rather than routing a single path; a resistor isn't a switch at all; a relay is an electromechanically actuated switch controlled by a coil, not a simple manual two-path routing switch.

5. Which colors correspond to the digits 5 and 6, in that order?

- A. Blue and Green
- B. Violet and Gray
- C. White and Red
- D. Green and Blue**

Resistor color codes map colors to digits, a convention used to identify resistance values. The mapping is: black 0, brown 1, red 2, orange 3, yellow 4, green 5, blue 6, violet 7, gray 8, white 9. For the digits 5 and 6 in that order, the colors are green then blue. So green and blue is the pair that matches 5 then 6. Other color pairs would correspond to different digits (for example blue and violet would be 6 and 7), which is why green and blue is the correct match.

6. Devices typically need ___ current to run properly.

- A. Direct
- B. Alternating
- C. Pulsating
- D. Direct current**

Current type matters because electronic devices rely on a stable, unidirectional flow of electrons. Direct current provides a steady, one-way flow, which keeps transistor junctions and other components biased consistently and operation predictable. Alternating current reverses direction periodically, which would disrupt biasing and proper operation unless the circuit includes rectification and regulation to convert it to DC. Pulsating current is DC with ripple, which many circuits can't tolerate without smoothing, so it's not ideal for most devices. That's why devices typically run on direct current.

7. Which unit is used to measure electrical potential difference?

- A. Amperes (amps)**
- B. Volts**
- C. Ohms**
- D. Watts**

Electrical potential difference, or voltage, represents how much energy per unit charge is available to push electrons from one point to another. The unit that expresses this potential difference is the volt. One volt equals one joule of energy per coulomb of charge moved, which is why voltage is the driving factor behind current in a circuit. In practice, a higher voltage provides more push to move charges, enabling current to flow through a resistance. Ohm's law ties these ideas together with $V = I \times R$, showing how the units relate: a volt can be thought of as amps times ohms. The other common electrical quantities have different meanings: amperes measure current, the flow rate of charge; ohms measure resistance; watts measure power, the rate of energy transfer. So the unit used for electrical potential difference is the volt.

8. Ohms are the unit used to measure which property?

- A. Voltage**
- B. Current**
- C. Resistance**
- D. Power**

Ohms measure resistance, the opposition a component offers to electric current. The ohm is the unit for resistance, symbolized by Ω . This relates to Ohm's law, which states that resistance equals voltage divided by current ($R = V/I$). So for a given voltage, a higher resistance means less current; for a given resistance, increasing voltage increases current. For example, 5 volts across a 10-ohm resistor gives 0.5 amperes of current. Other quantities have different units—voltage is in volts, current in amperes, and power in watts—so the unit that measures resistance is the ohm.

9. Which transducer is used to produce audible signals such as alarms?

- A. Bells & Buzzers**
- B. Indicator lamp**
- C. Lighting lamp**
- D. Motor**

Audible alarms require a device that converts electrical energy into sound energy. Bells and buzzers do this by using a vibrating element—an electromagnet drives a bell or a buzzer disk, producing audible vibrations that create sound waves. This makes them ideal for alarms you can hear. The other options provide visual signals rather than sound: indicator lamps and lighting lamps emit light, not noise. A motor turns electrical energy into motion and isn't intended to generate a controlled audible signal for signaling.

10. A rheostat is a variable resistor with how many electrical connections?

- A. Three**
- B. Two**
- C. One**
- D. Four**

A rheostat is a two-terminal variable resistor. It changes the resistance by moving a contact along a resistive element, so only two electrical connections are needed—the end of the resistor and the movable contact (the wiper). This lets you vary current or voltage in a circuit by changing how much of the resistive path is in series. A three-terminal device would be a potentiometer, which uses all three terminals (two ends plus the wiper) to sense a voltage rather than to form a simple variable resistance. The other options don't fit because one terminal wouldn't complete a circuit, and four terminals aren't standard for a rheostat.

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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://asvabelectronics.examzify.com>

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

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