

NAVY AT(O) – AVIATION ELECTRONICS TECHNICIAN (ORDINANCE) SECOND CLASS ADVANCEMENT PRACTICE EXAM (SAMPLE)

STUDY GUIDE



Prepare with structure. Pass with confidence



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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 document outlines the structure and duties needed for Navy personnel?**
 - A. Navy Regulations
 - B. Standard Organization and Regulations
 - C. Service Manual
 - D. Command Guidance Document
- 2. Which of the following statements describes potential energy?**
 - A. Energy of motion
 - B. Stored energy due to position or arrangement.
 - C. Energy produced from chemical reactions.
 - D. Energy emitted from nuclear reactions.
- 3. Which of the following describes a method the Navy employs for pollution control?**
 - A. Disposing waste at sea
 - B. Implementing advanced treatment systems for waste
 - C. Using older, less efficient technology
 - D. Reducing all naval activities
- 4. Which method of producing voltage involves the movement of friction?**
 - A. Chemical action
 - B. Light
 - C. Friction
 - D. Heat
- 5. Which of the following describes the nature of RAM?**
 - A. It is non-volatile
 - B. It is volatile
 - C. It is permanent
 - D. It is slow compared to disk storage

- 6. Why is single mode fiber preferred for long-distance communication?**
- A. It is cheaper to manufacture
 - B. It has lower loss and less signal distortion
 - C. It has a larger core diameter
 - D. It requires less maintenance
- 7. Which of the following emphasizes the need for a Sailor's integrity and accountability?**
- A. Navy Core Values
 - B. Performance Evaluation System
 - C. Regulatory Compliance Framework
 - D. Code of Conduct
- 8. Scheduled maintenance consists of what type of work?**
- A. Emergency repairs only
 - B. Maintenance before operational checks
 - C. Maintenance performed to reduce the likelihood of future troubles or malfunctions
 - D. Random assessments and inspections
- 9. The amount of data that can be stored on a linear inch of tape is known by what term?**
- A. Capacity factor
 - B. Recording density
 - C. Data bandwidth
 - D. Storage efficiency
- 10. What is the proper color code for a 100 ohm resistor with a 10 percent tolerance?**
- A. Red, Red, Brown, Gold
 - B. Brown, Black, Brown, Silver
 - C. Brown, Black, Brown, Gold
 - D. Brown, Black, Brown, Silver

Answers

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

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Explanations

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1. What document outlines the structure and duties needed for Navy personnel?

- A. Navy Regulations
- B. Standard Organization and Regulations**
- C. Service Manual
- D. Command Guidance Document

The Standard Organization and Regulations provides a comprehensive framework that details the structure, roles, and responsibilities of personnel within the Navy. This document is essential as it outlines the organization of commands, including the distribution of duties and the chain of command, ensuring that all personnel understand their specific responsibilities and how they fit into the larger operational structure. This clarity is pivotal for effective functioning and coordination within Navy units, as it establishes an understanding of expectations and protocols necessary for successful mission execution. In contrast, Navy Regulations offer general guidelines governing behavior and conduct, while the Service Manual typically covers policies and procedures related to specific operations or equipment. The Command Guidance Document usually contains directives specific to a command rather than a broad organizational framework. Thus, the Standard Organization and Regulations stands out as the definitive source for outlining the structure and duties needed for Navy personnel.

2. Which of the following statements describes potential energy?

- A. Energy of motion
- B. Stored energy due to position or arrangement.**
- C. Energy produced from chemical reactions.
- D. Energy emitted from nuclear reactions.

The statement that describes potential energy accurately is that it is stored energy due to position or arrangement. Potential energy is the energy an object possesses because of its position in a force field, such as gravitational or elastic (like a spring). For instance, an object held at a height possesses gravitational potential energy because of its position relative to the ground. Similarly, a compressed spring holds potential energy due to its arrangement. In contrast, energy of motion would refer to kinetic energy, which is the energy that an object has due to its movement. Energy produced from chemical reactions pertains to chemical energy, which is released during chemical reactions as bonds are formed or broken. Lastly, energy emitted from nuclear reactions refers to nuclear energy, which originates from the changes in the nucleus of atoms. Each of these other forms of energy has distinct characteristics that differentiate them from potential energy.

3. Which of the following describes a method the Navy employs for pollution control?

- A. Disposing waste at sea
- B. Implementing advanced treatment systems for waste**
- C. Using older, less efficient technology
- D. Reducing all naval activities

The chosen answer discusses the implementation of advanced treatment systems for waste, which reflects the Navy's commitment to environmental stewardship. By utilizing cutting-edge technology for waste management, the Navy reduces the environmental impact of its operations. Advanced treatment systems can include processes that minimize pollutants and ensure waste materials are treated effectively before disposal. This not only complies with environmental regulations but also protects marine ecosystems and promotes sustainability within naval operations. Other choices do not align with the Navy's pollution control practices. For instance, disposing of waste at sea is generally discouraged and often prohibited under international regulations. Utilizing older, less efficient technology would likely exacerbate pollution issues rather than mitigate them. Finally, while reducing all naval activities might theoretically lower pollution, it is not a practical or effective method for managing environmental impacts in a comprehensive and responsible manner. The focus on innovation and efficiency exemplified in advanced treatment systems highlights a proactive approach to pollution control, which is essential for modern naval operations.

4. Which method of producing voltage involves the movement of friction?

- A. Chemical action
- B. Light
- C. Friction**
- D. Heat

The method of producing voltage through the movement of friction is known as the triboelectric effect, which is precisely what friction generates. In this process, when two different materials come into contact and are then separated, electrons are transferred from one material to the other due to their differing tendencies to hold onto electrons. This transfer creates a voltage difference between the two materials. This principle is often demonstrated with common materials, such as rubbing a balloon on your hair. The friction causes the balloon to gain electrons, resulting in a negative charge, while your hair loses electrons and becomes positively charged. This is a direct illustration of how mechanical energy from friction is converted into electrical energy in the form of an electric charge. This understanding of voltage generation through friction is crucial in various applications, including electrostatic devices and sensors.

5. Which of the following describes the nature of RAM?

- A. It is non-volatile
- B. It is volatile**
- C. It is permanent
- D. It is slow compared to disk storage

The nature of RAM (Random Access Memory) is characterized as volatile. This means that RAM requires a constant power supply to retain the information stored within it. When the power is turned off, all data held in RAM is lost. This is in contrast to non-volatile memory, such as hard drives or flash storage, where data remains intact even when power is removed. Volatile memory like RAM is designed for speed and efficiency, allowing for quick read and write operations, which is essential for the operation of applications and the operating system during active sessions. Understanding this key property of RAM is crucial, as it plays a vital role in system performance and how data is managed during computing tasks.

6. Why is single mode fiber preferred for long-distance communication?

- A. It is cheaper to manufacture
- B. It has lower loss and less signal distortion**
- C. It has a larger core diameter
- D. It requires less maintenance

Single mode fiber is preferred for long-distance communication primarily because it has lower loss and less signal distortion compared to multimode fiber. The design of single mode fiber allows only one mode of light to propagate through the fiber, which minimizes the dispersion of the light signal as it travels. This characteristic is critical for maintaining signal integrity over long distances since it reduces the likelihood of signal degradation. When data is sent over long distances, any loss or distortion can result in errors and lower quality of communication. Single mode fibers typically have a smaller core diameter, which helps to limit the number of light modes and hence reduces modal dispersion. This single mode transmission allows for higher bandwidths and longer transmission distances, making it ideal for applications such as telecommunications and data networks requiring high data rates over extensive distances. In contrast, other options do not provide the same benefits for long-distance communications as single mode fiber does, with costs, core size, and maintenance being secondary to the issues of signal integrity and distance capability.

7. Which of the following emphasizes the need for a Sailor's integrity and accountability?

- A. Navy Core Values**
- B. Performance Evaluation System
- C. Regulatory Compliance Framework
- D. Code of Conduct

The Navy Core Values are foundational principles that guide Sailors in their actions and decisions. These values—Honor, Courage, and Commitment—specifically highlight the importance of integrity and accountability. Honor requires Sailors to conduct themselves in an ethical manner, recognizing their responsibilities and the trust placed in them. Courage involves making difficult decisions based on these principles, even in challenging circumstances. Commitment speaks to the dedication to uphold these values consistently. Together, they emphasize the necessity for Sailors to act with integrity and to be accountable for their actions, which is essential in maintaining trust and effectiveness within the Navy. This focus on ethical behavior is what makes the Navy Core Values a primary source for the expectation of integrity among Sailors.

8. Scheduled maintenance consists of what type of work?

- A. Emergency repairs only
- B. Maintenance before operational checks
- C. Maintenance performed to reduce the likelihood of future troubles or malfunctions**
- D. Random assessments and inspections

Scheduled maintenance encompasses systematic procedures aimed at preventing future issues and ensuring the reliability and safety of equipment. This approach involves regular tasks that are pre-planned and documented in maintenance schedules, based on time intervals or usage metrics, to address potential wear and tear before they lead to malfunctions or failures. By engaging in this proactive maintenance strategy, teams can replace worn components, perform inspections, and execute necessary adjustments to sustain operational readiness and effectiveness. This is crucial in the aviation field, where the reliability of equipment can directly influence safety and mission success. Thus, the goal of scheduled maintenance is fundamentally about reducing risk and enhancing performance over time. Other activities, such as emergency repairs, are reactive and occur only when unexpected issues arise, which does not fall under scheduled maintenance. Additionally, performing maintenance solely before operational checks or random assessments lacks the systematic approach that defines scheduled maintenance.

9. The amount of data that can be stored on a linear inch of tape is known by what term?

- A. Capacity factor
- B. Recording density**
- C. Data bandwidth
- D. Storage efficiency

Recording density refers to the amount of data that can be stored on a linear inch of tape. This term represents how closely the data can be packed together on the medium, impacting the overall amount of information that can be retrieved from that tape. In tape storage technology, higher recording density allows for greater storage capacity within the same physical length of tape, making it a critical factor in evaluating and comparing different storage media and technologies. Understanding recording density is essential for military and aviation applications, where efficient storage and retrieval of data can enhance operational effectiveness and information management. By optimizing recording density, technicians ensure that storage media can meet the demands of data-intensive systems and applications in various environments.

10. What is the proper color code for a 100 ohm resistor with a 10 percent tolerance?

- A. Red, Red, Brown, Gold
- B. Brown, Black, Brown, Silver
- C. Brown, Black, Brown, Gold
- D. Brown, Black, Brown, Silver**

The correct color code for a 100 ohm resistor with a 10 percent tolerance is represented as Brown, Black, Brown, Gold. The first two colors indicate the significant digits of the resistance value: Brown represents 1 and Black represents 0. Thus, they combine to form the value 10. The third color, which is also Brown, indicates a multiplier of 10, meaning that 10 multiplied by 10 gives us 100 ohms. The tolerance is indicated by the final color, which in this case is Gold, signifying a tolerance of 10 percent. This means that the actual resistance value can vary within 10 percent above or below 100 ohms. Understanding this color coding system is crucial for identifying and utilizing resistors correctly in various electronic applications.

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://navyato2advancement.examzify.com>

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

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