

Navy Electricity and Electronics Training Series (NEETS) Module 10 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 defined as the ability of a system to store electric charge?**
 - A. Inductance**
 - B. Resistance**
 - C. Capacitance**
 - D. Conductance**

- 2. What are the characteristics of an ideal voltage source?**
 - A. Provides variable voltage based on resistance**
 - B. Maintains a constant voltage regardless of load**
 - C. Generates AC voltage only**
 - D. Provides zero output when under load**

- 3. What term describes the bending of light waves when they pass from one medium into another?**
 - A. Reflection**
 - B. Refraction**
 - C. Diffraction**
 - D. Absorption**

- 4. What does the formula $(1/C_{total} = 1/C1 + 1/C2 + ...)$ indicate?**
 - A. Total resistance in parallel**
 - B. Total inductance in series**
 - C. Total capacitance in series**
 - D. Total voltage across components**

- 5. The electric field radiated from an antenna is produced by which electrical property?**
 - A. Capacitance**
 - B. Voltage**
 - C. Current**
 - D. Impedance**

- 6. How do series circuits differ from parallel circuits?**
- A. Series circuits have more components than parallel circuits.**
 - B. In series circuits, components share the same voltage source.**
 - C. In series circuits, components are connected end-to-end.**
 - D. Series circuits allow for independent current flow.**
- 7. What distinguishes haptic actuators from non-haptic actuators?**
- A. Haptic actuators generate heat**
 - B. Haptic actuators provide tactile feedback**
 - C. Haptic actuators are always digital**
 - D. Haptic actuators consume more power**
- 8. During which period is the density of ionized layers normally greatest?**
- A. Late evening to early morning**
 - B. Between early morning and late afternoon**
 - C. Midnight to sunrise**
 - D. Late afternoon to sunset**
- 9. What is the primary characteristic of an alternating current (AC) signal?**
- A. It flows in one direction**
 - B. It has a constant voltage level**
 - C. It changes direction periodically**
 - D. It is always positive**
- 10. The polarity of a radio wave is determined by the orientation of which moving field with respect to what reference?**
- A. Electric; ground**
 - B. Magnetic; earth**
 - C. Electric; atmospheric**
 - D. Magnetic; horizon**

Answers

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

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Explanations

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1. What is defined as the ability of a system to store electric charge?

- A. Inductance**
- B. Resistance**
- C. Capacitance**
- D. Conductance**

Capacitance is the measure of a system's ability to store electric charge. It fundamentally describes how much electric charge can be stored per unit voltage, which is critical in electrical circuits for applications such as filtering, timing, and energy storage.

Capacitance is associated with capacitors, which are components designed specifically to store energy in the form of an electric field. When a voltage is applied across a capacitor, it accumulates charge on its plates, creating an electric field between them. This stored charge can be released back into the circuit when needed, making capacitors essential in various electronic applications. In contrast, inductance relates to a system's ability to store energy in a magnetic field when current flows through an inductor, resistance measures how much a material opposes the flow of electric current, and conductance reflects how easily electricity flows through a component. These concepts are distinct from capacitance, which specifically addresses charge storage.

2. What are the characteristics of an ideal voltage source?

- A. Provides variable voltage based on resistance**
- B. Maintains a constant voltage regardless of load**
- C. Generates AC voltage only**
- D. Provides zero output when under load**

An ideal voltage source is defined by its ability to maintain a constant voltage level regardless of the current flowing through it or the resistance of the load connected to it. This means that regardless of how much power is drawn from the source, it can supply the same voltage without any variation. This characteristic is critical for many electrical and electronic applications where a stable voltage is necessary for proper operation. In contrast, other options do not describe the qualities of an ideal voltage source accurately. For instance, a source that provides variable voltage based on resistance would not be ideal, as it would not offer the stability that is essential for consistent performance. Similarly, the characterization of generating AC voltage only limits the flexibility of a voltage source, as ideal sources can be both AC and DC depending on the application. Lastly, a source that provides zero output when under load would render it ineffective, as it would not be able to supply any power to the connected devices when they require it. Thus, maintaining a constant voltage regardless of load is the hallmark of an ideal voltage source, making option B the correct choice.

3. What term describes the bending of light waves when they pass from one medium into another?

- A. Reflection
- B. Refraction**
- C. Diffraction
- D. Absorption

The bending of light waves when they pass from one medium into another is known as refraction. This phenomenon occurs due to the change in speed of light as it travels through different materials. When light enters a medium with a different density, such as moving from air to water, it changes speed and direction—this bending effect is what we refer to as refraction. This principle is essential in optics and explains how lenses work, as they rely on the bending of light to converge or diverge rays to form images. Understanding refraction is crucial in applications such as designing optical devices, predicting the behavior of light in various environments, and even in everyday occurrences like the visual distortion of objects submerged in water.

4. What does the formula $(1/C_{total} = 1/C_1 + 1/C_2 + \dots)$ indicate?

- A. Total resistance in parallel
- B. Total inductance in series
- C. Total capacitance in series**
- D. Total voltage across components

The formula $(1/C_{total} = 1/C_1 + 1/C_2 + \dots)$ specifically describes how capacitance behaves when capacitors are connected in series. In a series circuit, the total capacitive effect is less than the smallest individual capacitor's capacitance due to the way charge is distributed among them. In a series configuration, each capacitor has the same charge but can hold different voltages across them depending on their individual capacitances. The total capacitance is calculated by taking the reciprocals of each individual capacitor's capacitance, summing them, and then taking the reciprocal of that sum. This reflects the fact that adding capacitors in series reduces the total capacitance, which affects how much energy can be stored in the circuit. In contrast, total resistance in parallel is given by $(1/R_{total} = 1/R_1 + 1/R_2 + \dots)$, total inductance in series follows $(L_{total} = L_1 + L_2 + \dots)$, and the total voltage across components does not involve reciprocal calculations but is based on the sum of voltages in the circuit. Therefore, the use of reciprocal relationships in the provided formula clearly indicates the calculation of total

5. The electric field radiated from an antenna is produced by which electrical property?

- A. Capacitance**
- B. Voltage**
- C. Current**
- D. Impedance**

The correct answer is based on the relationship between current flow and the generation of electromagnetic fields. An antenna radiates an electric field when an alternating current flows through it. This alternating current generates time-varying electric and magnetic fields, which combine to form electromagnetic waves that propagate away from the antenna. While voltage is a crucial parameter in the context of antennas, the actual radiation and characteristics of the electric field are predominantly influenced by the current. The current is what creates the changing electric and magnetic fields in space, leading to the propagation of radio waves. Although other properties like capacitance, impedance, and voltage play roles in antenna design and performance, they do not directly induce the electric field radiated. Capacitance and impedance relate more to how an antenna interacts with the feedline and the signals, while voltage is related to the potential across the antenna rather than the direct creation of the radiated field. Thus, the magnetic field produced by current is fundamental in understanding antenna radiation.

6. How do series circuits differ from parallel circuits?

- A. Series circuits have more components than parallel circuits.**
- B. In series circuits, components share the same voltage source.**
- C. In series circuits, components are connected end-to-end.**
- D. Series circuits allow for independent current flow.**

Series circuits are characterized by their configuration, where components are connected end-to-end, forming a single path for electrical current to flow. This means that the current passing through each component is the same, as it can only travel through one path. This configuration affects how voltage is distributed among components, leading to some key operational differences compared to parallel circuits. In parallel circuits, on the other hand, components are connected across common voltage sources, allowing for multiple paths for current to flow. Each component in a parallel circuit receives the full voltage of the source and can operate independently of the others. Understanding this distinction is important for analyzing and designing circuits effectively. The option regarding the number of components in series versus parallel is not inherently true, as either type can have varying numbers of components. The assertion that series circuits allow for independent current flow is incorrect; the current in a series circuit is uniform throughout, unlike in parallel circuits where independent paths exist. Thus, the defining characteristic of series circuits being that components are connected end-to-end aligns with the fundamental concept of how they operate within an electrical system.

7. What distinguishes haptic actuators from non-haptic actuators?

- A. Haptic actuators generate heat**
- B. Haptic actuators provide tactile feedback**
- C. Haptic actuators are always digital**
- D. Haptic actuators consume more power**

Haptic actuators are specifically designed to provide tactile feedback to the user, making option B the distinguishing characteristic of haptic actuators compared to non-haptic actuators. Tactile feedback refers to the sensations produced when a device conveys information through touch, such as vibrations or motions, enabling users to feel virtual textures, forces, and impacts. This capability is integral to enhancing user experiences in interfaces, gaming, and simulations, allowing for more immersive interactions. In contrast, the other options do not accurately define haptic actuators. While some actuators may generate heat, this is not a fundamental aspect of haptic technology. The classification of actuators as digital or analog does not inherently make them haptic; many non-haptic actuators can also be digital or analog depending on their design and application. Finally, power consumption varies by design and application, so it's not universally true that haptic actuators consume more power than their non-haptic counterparts.

8. During which period is the density of ionized layers normally greatest?

- A. Late evening to early morning**
- B. Between early morning and late afternoon**
- C. Midnight to sunrise**
- D. Late afternoon to sunset**

The density of ionized layers in the atmosphere is typically greatest between early morning and late afternoon. This period corresponds to when solar radiation is at its peak, particularly during noon hours when the Sun is highest in the sky. Increased solar energy intensity leads to more ionization of the atoms and molecules in the upper atmosphere, resulting in a greater density of ionized layers, such as the E and F layers of the ionosphere. During this time, the Sun's ultraviolet radiation excites more atoms and molecules, freeing electrons and contributing to a higher concentration of free ions. As the day progresses toward evening, solar radiation decreases, leading to a decline in ionization levels and therefore a lower density of these ionized layers. In contrast, the other periods mentioned, such as late evening to early morning, midnight to sunrise, and late afternoon to sunset, experience reduced solar activity and lack of sufficient sunlight to sustain high levels of ionization, resulting in lower densities of ionized layers compared to the peak hours of early morning to late afternoon.

9. What is the primary characteristic of an alternating current (AC) signal?

- A. It flows in one direction**
- B. It has a constant voltage level**
- C. It changes direction periodically**
- D. It is always positive**

An alternating current (AC) signal is characterized primarily by its ability to change direction periodically. This means that instead of flowing in one consistent direction as with direct current (DC), AC reverses its flow, usually in a sinusoidal pattern. As a result, the voltage and current levels oscillate above and below a zero reference point over time. This periodic change allows for a more efficient transmission of power over long distances, as it can easily be transformed to different voltage levels using transformers. The changing direction is crucial in various applications, including power generation and distribution, where AC is favored for its ease of generation and manipulation. The other characteristics mentioned do not apply to AC. For instance, AC does not necessarily maintain a constant voltage level, nor is it unidirectional, nor is it limited to being always positive, as it spans both positive and negative values as it oscillates.

10. The polarity of a radio wave is determined by the orientation of which moving field with respect to what reference?

- A. Electric; ground**
- B. Magnetic; earth**
- C. Electric; atmospheric**
- D. Magnetic; horizon**

The polarity of a radio wave is determined by the orientation of the electric field component of the wave with respect to a reference point, which is typically the ground, not the options suggesting the magnetic field or alternative references. In a radio wave, electromagnetic fields propagate perpendicularly to each other, involving an electric field and a magnetic field. The electric field's orientation establishes the wave's polarization. Commonly, this polarization is either horizontal or vertical as it relates to the Earth's surface or the ground beneath the antenna. For instance, if the electric field oscillates parallel to the ground, the wave is horizontally polarized; if it oscillates perpendicular to the ground, it is vertically polarized. Recognizing that the reference for the orientation of the electric field indicates how the wave interacts with the environment, it becomes clear that the determination of polarity relies fundamentally on the relationship between the electric field and the ground. By choosing the appropriate orientation in relation to a fixed reference point, one can effectively define the polarization of the radio wave in practical 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://neetsmodule10.examzify.com>

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

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