

AT&T TECHNICAL KNOWLEDGE (TKT) II PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	16

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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. The resistance in a series circuit is equal to what?**
 - A. The sum of individual resistances
 - B. The average of the resistances
 - C. The maximum resistance only
 - D. The minimum resistance only

- 2. In the context of electricity, what does an increase in phase angle typically indicate?**
 - A. Higher resistance
 - B. Lower inductance
 - C. Increased efficiency
 - D. High reactance

- 3. Which statement best describes RAM (random access memory)?**
 - A. Non-volatile storage
 - B. Can be changed by the user or system and is lost when power is removed
 - C. Used primarily for long-term data storage
 - D. Maintains data permanently

- 4. What type of circuit is characterized by a continuous path for current to flow?**
 - A. Open circuit
 - B. Closed circuit
 - C. Short circuit
 - D. Complex circuit

- 5. Which of the following is a primary function of a router?**
 - A. To create a physical connection between devices
 - B. To assign IP addresses to devices within a network
 - C. To route data packets between networks
 - D. To improve bandwidth for wired connections

6. Which of the following is a common vulnerability in wireless networks?

- A. Lack of physical barriers
- B. Unencrypted communication
- C. Limited bandwidth
- D. Slow connectivity

7. Mutual inductance in a coil is caused by what phenomenon?

- A. A static flux in one coil
- B. A variable flux in one coil cutting across another coil
- C. Resistance changes between coils
- D. Capacitive coupling between coils

8. In which context would you encounter the term "capacitance"?

- A. Storage of water
- B. Storing electrical charge
- C. Measuring temperature
- D. Calculating voltage

9. What device is used to increase the measured loss in a circuit?

- A. Amplifier
- B. Pad
- C. Router
- D. Switch

10. Software includes_____.

- A. Hardware components
- B. Operating systems only
- C. Programs, routines, and symbolic languages
- D. Networking protocols

Answers

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

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Explanations

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1. The resistance in a series circuit is equal to what?

- A. The sum of individual resistances
- B. The average of the resistances
- C. The maximum resistance only
- D. The minimum resistance only

In a series circuit, the total resistance is determined by summing the individual resistances of all components connected in the circuit. This is a fundamental principle of electrical circuits, where resistors in series do not share voltage; instead, the total voltage across the series combination is the sum of the voltages across each resistor. Consequently, the total resistance increases with each additional resistor added to the circuit, which directly affects the overall current flowing through the circuit according to Ohm's Law. This principle is crucial for analyzing and designing electrical circuits since it dictates how resistors will behave collectively rather than individually. The resistance in a series circuit provides a comprehensive understanding of how the circuit will perform, helping technicians and engineers make informed decisions regarding circuit design and troubleshooting.

2. In the context of electricity, what does an increase in phase angle typically indicate?

- A. Higher resistance
- B. Lower inductance
- C. Increased efficiency
- D. High reactance

An increase in phase angle typically indicates high reactance in an electrical circuit. Reactance is the measure of opposition that inductors and capacitors present to the flow of alternating current (AC). It causes the current to lag or lead the voltage, depending on whether the circuit is inductive or capacitive. When the phase angle increases, it often signifies that either inductive or capacitive reactance is becoming more significant relative to the resistance in the circuit. In AC circuits, the impedance is a combination of resistance and reactance. A higher phase angle suggests that the reactance component (due to inductance or capacitance) is greater compared to the resistive component. This can lead to less efficient current flow, as the voltage and current are not in phase with each other, thus highlighting the dominance of reactance in the circuit dynamics. Such conditions often manifest in systems that operate near their limits or where significant inductive loads are present, confirming the concept of high reactance.

3. Which statement best describes RAM (random access memory)?

- A. Non-volatile storage
- B. Can be changed by the user or system and is lost when power is removed**
- C. Used primarily for long-term data storage
- D. Maintains data permanently

The statement that best describes RAM is that it can be changed by the user or system and is lost when power is removed. Random access memory is a type of volatile memory, meaning that it requires power to maintain the information stored within it. When the power is turned off, all data contained in RAM is erased, which is a critical aspect that differentiates it from non-volatile storage alternatives such as hard drives or SSDs. RAM is used primarily to provide space for the computer or system to temporarily store data that is actively being used or processed, ensuring quick access and modification. Its ability to be altered by the user or system also highlights its dynamic nature, allowing for tasks, applications, and processes to run efficiently. This characteristic is fundamental to the functional performance of devices and systems that rely on fast, temporary data access. In contrast, non-volatile storage retains data even when powered off, which does not align with the fundamental properties of RAM. Therefore, the key characteristics accurately captured in the correct statement underline the temporary, volatile nature of RAM and its role in a computing environment.

4. What type of circuit is characterized by a continuous path for current to flow?

- A. Open circuit
- B. Closed circuit**
- C. Short circuit
- D. Complex circuit

A closed circuit is defined as a complete, uninterrupted path that allows electric current to flow freely through it. In such a circuit, all components—such as power sources, resistances, and conductors—are connected in a way that forms a loop. This loop enables current to travel from the power source, through the loads, and back to the source without any breaks. In contrast, an open circuit lacks a complete path, which prevents current from flowing, thus rendering the circuit inoperable. A short circuit occurs when a low-resistance connection forms between two points in a circuit, leading to excessive current flow that can cause overheating or damage to components. A complex circuit involves numerous components and connections that may complicate the routing of current but is not inherently defined by the continuous path characteristic. The key distinction here is the uninterrupted nature of the path in a closed circuit, which is essential for the functionality of any electrical system relying on consistent current flow.

5. Which of the following is a primary function of a router?

- A. To create a physical connection between devices
- B. To assign IP addresses to devices within a network
- C. To route data packets between networks**
- D. To improve bandwidth for wired connections

A primary function of a router is to route data packets between networks. Routers are essential devices in networking that manage the traffic of data packets across different networks. They act as intermediaries that determine the best path for data to travel from the source to the destination. By analyzing the destination addresses in the packet header and utilizing various routing protocols, routers can efficiently forward packets to their appropriate networks or subnets. This capability is critical for enabling communication between devices on separate networks, such as a home network connecting to the broader internet or multiple internal networks within an organization communicating with each other. The intelligence of routers allows them to handle routing tasks, making them vital for maintaining proper connectivity and communication in network environments.

6. Which of the following is a common vulnerability in wireless networks?

- A. Lack of physical barriers
- B. Unencrypted communication**
- C. Limited bandwidth
- D. Slow connectivity

Unencrypted communication is a common vulnerability in wireless networks because it allows unauthorized users to intercept and access data transmitted over the network. Wireless networks often use radio waves to transmit data, making them susceptible to eavesdropping if the data is not encrypted. If the information shared over the network, such as passwords, personal information, or sensitive corporate data, is not encrypted, it can be easily captured by anyone with access to the same radio frequency range or through various hacking tools. Implementing encryption protocols, such as WPA2 (Wi-Fi Protected Access 2) or WPA3, is crucial to protect the integrity and confidentiality of data transmitted over wireless networks. The other options touch on aspects related to wireless networks, but they do not directly represent a specific vulnerability like unencrypted communication does. Lack of physical barriers relates more to physical security than to a vulnerability inherent in the wireless technology itself, while limited bandwidth and slow connectivity pertain to performance issues rather than security vulnerabilities.

7. Mutual inductance in a coil is caused by what phenomenon?

- A. A static flux in one coil
- B. A variable flux in one coil cutting across another coil**
- C. Resistance changes between coils
- D. Capacitive coupling between coils

Mutual inductance occurs when a changing magnetic field generated by one coil induces an electromotive force (EMF) in another coil located nearby. This phenomenon relies on the principle of electromagnetic induction, where a variable magnetic flux, originating from the first coil, penetrates the second coil. As the magnetic field changes over time, it induces an electrical current in the second coil due to Faraday's Law of Electromagnetic Induction. This induction is highly dependent on both the strength of the magnetic field and the rate at which it changes, making variable flux the key factor in mutual inductance. The geometric configuration and the materials used in the coils can also affect the efficiency of this induction, but it's the presence of changing flux that is fundamental to the phenomenon itself. The other options do not adequately describe the process of mutual inductance. A static flux would not create any change to induce current in another coil. Resistance changes between coils pertain to electrical resistance rather than magnetic induction. Capacitive coupling relates to the interaction between electric fields rather than magnetic fields, which is not applicable in the context of mutual inductance.

8. In which context would you encounter the term "capacitance"?

- A. Storage of water
- B. Storing electrical charge**
- C. Measuring temperature
- D. Calculating voltage

Capacitance refers specifically to the ability of a system to store electrical charge. It is a fundamental property of capacitors, which are components used in electronic circuits to store energy in an electric field. The higher the capacitance, the more charge a capacitor can store for a given voltage. This characteristic is important in various applications, such as smoothing out voltage fluctuations, filtering signals, and temporary energy storage in power supplies. In contrast, the other contexts do not involve electrical charge storage. The storage of water relates more to concepts of volume and pressure rather than electrical properties. Measuring temperature pertains to thermal energy and does not overlap with electrical charge concepts. Calculating voltage involves the relationships of electrical properties but does not specifically address the storage capability of a component, which is the essence of capacitance. Hence, the context where "capacitance" is relevant is clearly found in the storage of electrical charge.

9. What device is used to increase the measured loss in a circuit?

- A. Amplifier
- B. Pad**
- C. Router
- D. Switch

The device used to increase the measured loss in a circuit is a pad. A pad typically consists of resistors that introduce attenuation (loss) into a signal path deliberately. This is often necessary in communication systems to match signal levels, prevent distortion, or manage power levels effectively as signals pass through different components. By using a pad, engineers can adjust the signal strength to maintain optimal performance and avoid issues such as overloading or interference in network devices. In contrast, an amplifier is designed to increase the signal strength, which does not align with the requirement of creating an increased loss. A router primarily directs data packets between networks and does not serve the function of modifying signal loss. A switch connects multiple devices within the same network but also does not alter the loss characteristics of the circuit. Therefore, the pad is specifically utilized for adjusting loss levels, making it the correct choice.

10. Software includes_____.

- A. Hardware components
- B. Operating systems only
- C. Programs, routines, and symbolic languages
- D. Networking protocols

The correct choice highlights the components that are encompassed within the definition of software. Software is broadly defined as the collection of instructions, programs, and routines that enable a computer to perform specific tasks. This includes not only application programs that users interact with but also various routines and symbolic languages that drive functionality and facilitate communication between hardware components. Programs are specific applications designed to carry out tasks or solve problems, while routines are sets of instructions within those programs that execute particular functionalities. Symbolic languages refer to programming languages that use symbols and syntax to create software, allowing developers to write code that can be executed by a computer. In contrast, hardware components refer to the physical parts of a computer system and do not comprise software. While operating systems are a crucial type of software, the answer does not limit software to only operating systems. Networking protocols, on the other hand, are a set of rules that govern data communication over networks, and while they are related to software, they do not encompass the entire scope of what software includes. Thus, the choice correctly captures the essence of software as comprising a wide range of programs, routines, and symbolic languages.

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:

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

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