Information Systems Technician Second Class (IT2) Advancement Practice Exam (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

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. To inhibit strangler messages, the node checks and compares the SSN appearing in format line 2 against the corresponding end-of-messages validation number appearing in which format line?

   A. 15

   B. 10

   C. 12

   D. 20

2. The speed of a radio wave in free space equals the speed of light, approximately how many miles per second?

   A. 186,000

   B. 299,792

   C. 186,282

   D. 1864

3. In Code Dress messaging, which portion must be transmitted in the clear?

   A. The header

   B. The body

   C. The encryption key

   D. The footer

4. The speed at which wave crests propagate through a medium is called what?

   A. Velocity

   B. Frequency

   C. Wavelength

   D. Amplitude

5. A multiple address message is one destined for how many addressees?

   A. One

   B. Two

   C. Three

   D. Four

6. A signal at 10 GHz falls in which frequency range?

A. VHF

B. UHF

C. SHF

D. EHF

7. JN-25 served as which type of code?

A. Army cipher

B. Navy general-purpose code

C. Air Force code

D. Allied code

8. Which of the following is NOT a primary color of light?

A. Magenta

B. Red

C. Green

D. Blue

9. Which nation had a world-spanning intelligence network at the start of World War II?

A. United States

B. Japan

C. United Kingdom

D. Germany

10. ACP-117 is best described as which of the following?

A. The series publication governing routing and defense organization supplements

B. A codebook for encryption

C. A hardware specification

D. A maintenance manual

Answers

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

Explanations

1. To inhibit strangler messages, the node checks and compares the SSN appearing in format line 2 against the corresponding end-of-messages validation number appearing in which format line?

A. 15

B. 10

C. 12

D. 20

Messages in this system use fixed positions for fields, so you can reliably verify integrity by cross-checking data that should match across the format. The SSN found on the second line is paired with an end-of-message validation number that confirms the entire message is complete and untampered. According to the standard format, that end-of-message validation number appears on the fifteenth line. So the correct check is to compare the SSN from line two with the validation number on line fifteen. If they align, the message is accepted; if they don't, it's treated as potentially invalid, helping to prevent strangler messages that try to slip in incorrect data at the end. The other line positions aren't designated for this end-of-message validation in the standard, so they wouldn't provide the reliable, agreement-based check needed.

2. The speed of a radio wave in free space equals the speed of light, approximately how many miles per second?

A. 186,000

B. 299,792

C. 186,282

D. 1864

Radio waves in free space travel at the speed of light. The speed of light is about 299,792 kilometers per second, which converts to roughly 186,282 miles per second. Since the question asks for an approximate miles-per-second value, a common rounded figure is 186,000 miles per second. The other options aren't in miles per second (299,792 is kilometers per second), or are far off (1864), while 186,282 is a precise value but the prompt asks for an approximation, so 186,000 is the typical rounded choice.

3. In Code Dress messaging, which portion must be transmitted in the clear?

A. The header

B. The body

C. The encryption key

D. The footer

In Code Dress messaging, routing and delivery depend on the transport metadata that must be readable by every hop along the path. That information is kept in the header, so the header must be transmitted in the clear to allow network devices to forward the message to the correct destination, apply any handling rules, and manage timing or priority. The actual message content is the body, which is encrypted to protect confidentiality so unauthorized parties cannot read the payload. The encryption key used to protect the body should never be sent in the clear; it must be exchanged or established through a secure mechanism so only the intended recipient can decrypt. The footer, while it may carry additional signals or integrity checks, does not govern delivery and is not required for routing, so the essential requirement is that the header remains readable for proper delivery.

4. The speed at which wave crests propagate through a medium is called what?

A. Velocity

B. Frequency

C. Wavelength

D. Amplitude

Wave propagation speed is the rate at which the wave pattern, such as crests, moves through a medium. This is called velocity. It's the quantity that tells you how fast the fronts travel, and it can be related to frequency and wavelength by v = fλ. Frequency measures how often crests pass a point each second, not how fast they move. Wavelength is the distance between successive crests, which influences speed when the frequency is fixed. Amplitude is about the crest height and the energy of the wave, not the propagation speed.

5. A multiple address message is one destined for how many addressees?

A. One

B. Two

C. Three

D. Four

In messaging, a multiple address message is one sent to more than one recipient. The simplest case that still fits "more than one" is two addressees, so this term is defined in the material as referring to two destinations. That's why two is the best answer. Remember, this differs from a single-address message, which goes to just one recipient, while three or four destinations would also be multiple-address messages, but the standard example used here focuses on the two-recipient case.

6. A signal at 10 GHz falls in which frequency range?

A. VHF

B. UHF

C. SHF

D. EHF

Understanding RF frequency bands helps place where a given frequency sits. The standard ranges are: VHF from about 30 MHz to 300 MHz, UHF from 300 MHz to 3 GHz, SHF from 3 GHz to 30 GHz, and EHF from 30 GHz to 300 GHz. A signal at 10 GHz falls between 3 GHz and 30 GHz, so it lies in the SHF band. This is why 10 GHz is categorized as SHF rather than VHF, UHF, or EHF. SHF is used for microwave communications and radar, which is a helpful way to remember this boundary.

7. JN-25 served as which type of code?

A. Army cipher

B. Navy general-purpose code

C. Air Force code

D. Allied code

JN-25 is the Imperial Japanese Navy's general-purpose code, used to send a wide range of naval messages. It's classified as a code because it relies on codebooks that substitute coded phrases or words for their plaintext meanings, rather than applying a letter-by-letter substitution with a key (which would be a cipher). It was specifically a Navy system, not an Army or Air Force one, and it wasn't an Allied code. Its broad, versatile nature made it the go-to method for routine naval communications, and its eventual cryptanalysis by Allied teams had a major impact on the Pacific war.

8. Which of the following is NOT a primary color of light?

A. Magenta

B. Red

C. Green

D. Blue

Light combines through additive mixing, so the colors you start with are the primaries of light: red, green, and blue. Magenta isn't one of these primaries because it isn't produced by a single wavelength of light. It's what you get when red and blue light are combined. In the additive system, magenta is a secondary color, not a primary, and it sits alongside a spectrum of colors produced by mixing the primaries. When all three primaries are mixed, you get white; red plus green gives yellow; green plus blue gives cyan; red plus blue gives magenta. So magenta isn't a primary color of light because it arises from combining two primaries rather than standing as an independent, fundamental light color.

9. Which nation had a world-spanning intelligence network at the start of World War II?

A. United States

B. Japan

C. United Kingdom

D. Germany

The ability to project intelligence across the globe hinges on imperial reach and coordinated overseas networks. At the start of World War II, the United Kingdom stood out because its worldwide empire and Commonwealth connections created a true global footprint for intelligence gathering. British agencies, including MI6 and related naval and cryptographic efforts, operated and coordinated stations across continents—Europe, Africa, Asia, the Americas, and the Pacific—allowing for intercepts, agents, and intelligence-sharing on a global scale. Japan, while exceptionally strong in Asia and the Pacific, did not have a world-spanning network; its intelligence reach was focused mainly in East Asia and Southeast Asia, with more limited presence elsewhere. Germany had overseas intelligence too, but its networks were largely concentrated in Europe and select regions, not globally in the way Britain's were. The United States was rapidly expanding its intelligence capabilities, but its global reach was not as fully established as the British Empire's before the war.

10. ACP-117 is best described as which of the following?

A. The series publication governing routing and defense organization supplements

B. A codebook for encryption

C. A hardware specification

D. A maintenance manual

ACP-117 defines the standard that governs how routing and defense organization supplements are created and used. In military publications, a series like ACP provides the official format, scope, and procedures for specific topics; here, it covers the supplements that adapt routing and defense organization to particular commands or situations. That makes it the correct choice because it isn't a codebook for encryption, a hardware specification, or a maintenance manual—those purposes belong to other publications.

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://it2advancement.examzify.com

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