

Radar, Airfield, and Weather Systems (RAWS) CDC Volume 3 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. Which system can look at zero Doppler returns, compare them to a clutter map, and determine whether the video return is ground?**
 - A. Ground Clutter Filter**
 - B. Moving Target Detection (MTD)**
 - C. Pulse Doppler Processor**
 - D. Target Confirmation System**

- 2. What is the primary function of the Moving Target Detection (MTD) system as described?**
 - A. To identify moving targets by analyzing clutter**
 - B. To calibrate the radar's transmitter**
 - C. To increase the PRF**
 - D. To reduce noise in the signal**

- 3. Originally, secondary radar technology was created while developing the radar to**
 - A. Identify a radar aircraft target as friend or foe**
 - B. Provide altitude information only**
 - C. Improve image resolution**
 - D. Enhance encryption of data**

- 4. Which system works with the automation subsystem to provide artificially generated radar and inter-facility message data for test, certification, and training?**
 - A. Site Support Subsystem**
 - B. Testing and Training Simulator Equipment/Simulation (TTSE/SIM)**
 - C. Automation Subsystem**
 - D. Inter-facility Message Processor**

- 5. In the Primary Surveillance Radar (PSR), if one transmitter amplifier module fails or is in standby, the remaining seven amplifier modules will provide a minimum of 14kW peak power. This is enough power to cover how many nautical miles (nm)?**
- A. 60 nm**
 - B. 50 nm**
 - C. 70 nm**
 - D. 40 nm**
- 6. What is the STARS coverage area in miles?**
- A. 200 by 200 miles**
 - B. 400 by 400 miles**
 - C. 600 by 600 miles**
 - D. 100 by 100 miles**
- 7. CMS stands for what in the PSR context?**
- A. Control and Monitoring System**
 - B. Central Monitoring Service**
 - C. Circuit Monitoring System**
 - D. Control Measurement System**
- 8. The local oscillator used by the MSSR receiver is sourced from which subsystem?**
- A. Transmitter Interface**
 - B. Local Oscillator Module**
 - C. Plot Processor**
 - D. Receiver Interface**
- 9. Which statement about LTWD and RTDW is true?**
- A. LTWD uses a Layer 3 switch that can function as a router**
 - B. RTDW requires a Layer 3 switch that can function as a router**
 - C. LTWD uses a separate router for external networks**
 - D. RTDW uses a Layer 2 switch only**

10. What does SCDI stand for?

- A. Site Control and Data Interfaces**
- B. System Control Data Interface**
- C. Signal Control and Display Interface**
- D. Site Console Data Interfaces**

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Answers

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

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Explanations

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1. Which system can look at zero Doppler returns, compare them to a clutter map, and determine whether the video return is ground?

- A. Ground Clutter Filter**
- B. Moving Target Detection (MTD)**
- C. Pulse Doppler Processor**
- D. Target Confirmation System**

Moving Target Detection uses Doppler processing to separate moving targets from stationary clutter. Returns at or near zero Doppler are typically from ground or other stationary objects. The system keeps a clutter map of what stationary clutter looks like and compares current zero-Doppler video returns to that map. If a zero-Doppler return matches the clutter map, it's classified as ground clutter; if not, it can be flagged as a potential moving target. This combination—leveraging zero-Doppler information with a clutter-map comparison—is exactly how the system distinguishes ground returns from moving targets, which is why it's the best fit. Ground clutter filtering focuses more on suppressing clutter, while the other options don't describe the same clutter-map comparison used for ground vs. moving target determination.

2. What is the primary function of the Moving Target Detection (MTD) system as described?

- A. To identify moving targets by analyzing clutter**
- B. To calibrate the radar's transmitter**
- C. To increase the PRF**
- D. To reduce noise in the signal**

The key idea is to separate moving targets from stationary clutter in radar returns. Clutter from the ground, buildings, and other non-moving surfaces tends to be stationary in the radar's frame, so the detector looks for Doppler shifts and changes between sweeps that indicate motion. By highlighting those moving returns and suppressing the stationary ones, the system identifies targets that are moving. That's why this is the best answer. Calibrating the transmitter, increasing the PRF, or simply reducing overall noise are not the primary roles of moving target detection; they're separate aspects of radar performance and signal processing.

3. Originally, secondary radar technology was created while developing the radar to

- A. Identify a radar aircraft target as friend or foe**
- B. Provide altitude information only**
- C. Improve image resolution**
- D. Enhance encryption of data**

Secondary radar adds data from aircraft transponders to the basic radar returns, giving air traffic control more than just range and bearing. The key motivation for its development was to obtain altitude information, which enables vertical separation of aircraft and safer, more efficient sequencing in the airspace. The transponder on the aircraft replies to ground interrogations with encoded data, including altitude (Mode C), so controllers can see how high each plane is. While identification features (like friend-or-foe codes) are part of transponder systems, the essential benefit that drove the creation of secondary radar was obtaining altitude information to manage air traffic more effectively.

4. Which system works with the automation subsystem to provide artificially generated radar and inter-facility message data for test, certification, and training?

- A. Site Support Subsystem**
- B. Testing and Training Simulator Equipment/Simulation (TTSE/SIM)**
- C. Automation Subsystem**
- D. Inter-facility Message Processor**

Generating artificial radar and inter-facility message data to test and train the system is handled by Testing and Training Simulator Equipment/Simulation. This setup creates realistic radar returns and inter-facility traffic in a controlled environment, feeding the automation subsystem so engineers can test functionality, validate performance, and train operators without relying on live data. It's designed specifically for test, certification, and training scenarios, providing repeatable, safe conditions. The Site Support Subsystem is focused on maintaining and supporting site hardware and software, not on producing synthetic test data. The Automation Subsystem is the processing backbone that uses data, not the source of simulated data itself. The Inter-facility Message Processor handles the exchange and processing of messages, but it isn't the component that generates synthetic test data for training and certification.

5. In the Primary Surveillance Radar (PSR), if one transmitter amplifier module fails or is in standby, the remaining seven amplifier modules will provide a minimum of 14kW peak power. This is enough power to cover how many nautical miles (nm)?

- A. 60 nm**
- B. 50 nm**
- C. 70 nm**
- D. 40 nm**

The amount of coverage a primary surveillance radar can provide is set by the transmitted peak power and the sensitivity of the receiver, with the radar range governed by the radar range equation. In simple terms, increasing transmit power lets the radar detect weaker echoes at greater distances, but the relationship is not linear—the detectable range grows with the power to the one-fourth power, so more power yields diminishing returns. In this scenario, even with one transmitter amplifier module failed or in standby, the seven remaining modules still supply at least 14 kW of peak power. That amount meets the system's fault-condition specification for minimum coverage. The PSR is designed to maintain a defined surveillance range under these fault conditions, and that defined range corresponds to about 50 nautical miles. Distances like 60 or 70 nm would require more power than 14 kW to achieve, while 40 nm would be below the specified minimum under this fault state. So the correct coverage is 50 nautical miles.

6. What is the STARS coverage area in miles?

- A. 200 by 200 miles**
- B. 400 by 400 miles**
- C. 600 by 600 miles**
- D. 100 by 100 miles**

STARS coverage area refers to the geographic footprint where the STARS system can reliably deliver radar and weather data. This footprint is about 400 miles on each side, forming a 400 by 400 mile square. The size comes from balancing radar range, beam geometry, and the need for overlapping coverage from multiple radar sites so data stay consistent and complete across the region. Choices that are much smaller would leave gaps in surveillance and weather data, while a much larger area would require more hardware and isn't practical given radar horizon limits.

7. CMS stands for what in the PSR context?

- A. Control and Monitoring System**
- B. Central Monitoring Service**
- C. Circuit Monitoring System**
- D. Control Measurement System**

In the PSR environment, CMS stands for Central Monitoring Service—the centralized hub that collects and displays the health, status, and alarms from all PSR units and related equipment. It provides remote monitoring, fault detection, and maintenance visibility across the radar network, enabling quick issue identification and coordinated responses. The other options describe different subsystems that aren't the standard meaning in PSR: a Circuit Monitoring System focuses on circuits only; a Control and Monitoring System implies some active control capability not inherent to CMS; a Control Measurement System mixes terms not used to denote centralized monitoring across PSR assets. So, the centralized monitoring service is the best fit.

8. The local oscillator used by the MSSR receiver is sourced from which subsystem?

- A. Transmitter Interface**
- B. Local Oscillator Module**
- C. Plot Processor**
- D. Receiver Interface**

The local oscillator signal for the MSSR receiver is provided through the Receiver Interface. In this setup, the Receiver Interface handles the distribution and control of the LO to the MSSR receiver, ensuring the downconversion mixer inside the receiver gets a stable, synchronized LO that is under the system's timing and control framework. This centralized routing via the Receiver Interface keeps the MSSR receiver's LO in step with the rest of the receiver chain and the overall radar timing. The Transmitter Interface can't supply the MSSR receiver's LO, since it serves the transmitter path. The Plot Processor handles data processing and display, not RF synthesis. Although the Local Oscillator Module sounds like a natural LO source, the architecture here routes the MSSR receiver's LO through the Receiver Interface for coordinated control and monitoring.

9. Which statement about LTWD and RTDW is true?

- A. LTWD uses a Layer 3 switch that can function as a router
- B. RTDW requires a Layer 3 switch that can function as a router**
- C. LTWD uses a separate router for external networks
- D. RTDW uses a Layer 2 switch only

Routing is required when data must move between different networks, such as reaching external systems or services outside the local LAN. Real-Time Data Weather workflows involve sharing and delivering data across network boundaries, so the design needs devices that can route traffic in addition to switching. A Layer 3 switch provides both switching and routing in one device, enabling inter-VLAN routing and direct paths for data to reach external networks without needing a separate router. That combination matches RTDW's requirement to handle traffic across different networks efficiently and with low latency, which is why this option is the best fit. In contrast, a Layer 2 switch only forwards traffic within the same VLAN and cannot route between networks, so it wouldn't satisfy RTDW's need for inter-network connectivity. The idea that LTWD uses a Layer 3 switch isn't aligned with RTDW's routing requirement, and while you could place a separate router in the path, the statement emphasizes a device that can function as a router (which a Layer 3 switch can), making it the correct emphasis. The option that RTDW uses a Layer 2 switch only would be incorrect for the same routing reason.

10. What does SCDI stand for?

- A. Site Control and Data Interfaces
- B. System Control Data Interface
- C. Signal Control and Display Interface
- D. Site Console Data Interfaces**

The concept being tested is how to expand domain acronyms by mapping each word to the terms used in the system. SCDI stands for Site Console Data Interfaces. Here, Site identifies the location or installation, Console refers to the operator terminal you use to interact with the system, Data denotes the information that flows through the network, and Interfaces are the connection points that carry that information between the site console and the data network. Together, this term describes the interface layer at a site that ties the local console to the data infrastructure, enabling data exchange and control at that site. The middle word being Console is why this particular expansion is used over others that might use Control or Display; those words would imply a different subsystem or function and don't align with the standard SCDI terminology used here.

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://rawscdcvol3.examzify.com>

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

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