

AUTOMATIC RADAR PLOTING AID – OFFICER OF THE DECK PHASE (ARPA – OOD) PHASE 1 PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE**

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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 a track quality indicator, and why is it important?**
 - A. It displays the color of the radar.
 - B. It measures weather conditions.
 - C. It indicates the number of targets.
 - D. It shows how reliable a track is.

- 2. What does the acronym DIW stand for in radar tracking terminology?**
 - A. Dead in the Water
 - B. Direction in Water
 - C. Distance in Water
 - D. Depth in Water

- 3. What does CBDR signpost in ARPA plotting?**
 - A. It indicates a potential collision risk with bearing constant while range decreases.
 - B. It indicates target is turning rapidly.
 - C. It signals range is increasing.
 - D. It indicates no collision risk.

- 4. According to IMO, log and speed indicators providing inputs to ARPA equipment should be capable of providing...**
 - A. The ship's speed through water
 - B. The ship's speed over ground
 - C. Current time
 - D. Wind speed at location

- 5. When should you delete a target track in ARPA?**
 - A. When the target is no longer present, or data unreliable or misassociated and cannot be recovered.
 - B. After 5 minutes regardless of data.
 - C. Only when the target is visually confirmed by radar.
 - D. When the vessel leaves the radar range.

6. Which ARPA indicator helps estimate the time to interaction visually?

- A. CPA indicator
- B. Bearing drift indicator
- C. Range rate indicator
- D. TCPA (Time to Closest Point of Approach) indicator

7. Which scenario would trigger an ARPA alarm?

- A. Losing contact with a previously tracked target
- B. A target moving smoothly with a constant bearing
- C. A target outside the radar range
- D. The own ship changes course within a narrow channel

8. Which ARPA feature helps indicate a target's maneuver when present?

- A. Persistence or afterglow
- B. Shadow trace
- C. Echo strength
- D. Color code

9. In crossing situations, how does ARPA data support COLREGS compliance?

- A. By providing CPA, TCPA, and bearing trends to determine which vessel should give way and what maneuver is required.
- B. It automatically takes the action to avoid collision.
- C. It ignores bearing trends and uses only range.
- D. It tracks only own ship.

10. Which general statement concerning radar is NOT true?

- A. Radar detection is unaffected by weather conditions
- B. Radar ranges can be limited by fog
- C. Radar can detect objects in fog
- D. Weather conditions influence radar accuracy

Answers

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

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Explanations

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1. What is a track quality indicator, and why is it important?

- A. It displays the color of the radar.
- B. It measures weather conditions.
- C. It indicates the number of targets.
- D. It shows how reliable a track is.**

Track quality indicator expresses how trustworthy a tracked contact is. It is a measure of confidence in the track's accuracy and continuity, not just a raw count or sensor reading. In ARPA, this indicator tells you how much you should rely on the track for decisions like plotting, collision avoidance, and maneuvers. A high track quality means the target's position, speed, and course are well established with consistent updates and good measurement fit; you can lean on that track for navigation decisions. A low track quality warns that the track may be uncertain due to poor detections, erratic target motion, or degraded sensor conditions, so you should monitor it, re-acquire if needed, or treat it with caution. This helps prevent acting on dubious information while prioritizing tracks you can trust.

2. What does the acronym DIW stand for in radar tracking terminology?

- A. Dead in the Water**
- B. Direction in Water
- C. Distance in Water
- D. Depth in Water

DIW is a radar tracking status designation meaning Dead in the Water. It describes a contact that shows zero speed and appears not to move relative to the water, so its range and bearing stay constant on the radar display. This helps the operator recognize that the target is stationary—often a vessel at anchor or a radar artifact—and decide how to handle the track, without treating it as a moving threat. The other phrases aren't standard radar tracking terms, so they don't describe the behavior of a contact on the display.

3. What does CBDR signpost in ARPA plotting?

- A. It indicates a potential collision risk with bearing constant while range decreases.**
- B. It indicates target is turning rapidly.
- C. It signals range is increasing.
- D. It indicates no collision risk.

CBDR means Constant Bearing, Decreasing Range. This is the behavior of a target when the line of sight from your vessel to the other vessel stays on the same bearing as time passes, while the distance between you both gets smaller. That combination—bearing staying fixed while range shrinks—means you are on a collision course unless one of you alters course or speed. On an ARPA plot, you'd see the target's position moving closer along the same bearing line, not shifting left or right. In contrast, if the target's bearing were changing, it isn't CBDR. If the range were increasing, there's no imminent collision risk. If there's no collision risk, CBDR wouldn't be indicated. So the signpost signals a potential collision risk requiring action under the collision avoidance framework.

4. According to IMO, log and speed indicators providing inputs to ARPA equipment should be capable of providing...

- A. The ship's speed through water**
- B. The ship's speed over ground
- C. Current time
- D. Wind speed at location

The essential idea is that ARPA tracking relies on the ship's own velocity relative to the water. When a log or speed indicator provides input to ARPA, it must deliver the ship's speed through water. This water-relative speed is what ARPA uses to compute the relative motion of targets, their closing rates, and potential collisions, because it reflects how the vessel is actually moving through the surrounding fluid, independent of currents or GPS signals. Speed over ground, current time, or wind speed at the location don't directly feed ARPA's relative-motion calculations. Speed over ground can differ from speed through water due to currents, and current time or wind don't influence how ARPA estimates target motion. Therefore, providing speed through water is the correct capability.

5. When should you delete a target track in ARPA?

- A. When the target is no longer present, or data unreliable or misassociated and cannot be recovered.**
- B. After 5 minutes regardless of data.
- C. Only when the target is visually confirmed by radar.
- D. When the vessel leaves the radar range.

Deleting a target track is done when you can no longer rely on it for accurate plotting. ARPA keeps tracks to estimate a target's position, course, and speed, and those estimates depend on continuous, reliable data and correct association of radar returns to the same target. If the data becomes unreliable, the target can't be confidently followed, or the track becomes misassociated with another target and cannot be recovered, it's better to delete it. This clears out bad information so your own vessel's decisions aren't biased by a false or dead track, and it frees ARPA resources for real targets. That means deletion applies not just when a target disappears at the edge of range, but whenever it's no longer present or when the data quality is too poor to salvage a trustworthy track. Keeping a track under those conditions can lead to incorrect predictions and clutter the plot with misleading information.

6. Which ARPA indicator helps estimate the time to interaction visually?

- A. CPA indicator
- B. Bearing drift indicator
- C. Range rate indicator
- D. TCPA (Time to Closest Point of Approach) indicator**

Time to interaction is shown by the TCPA indicator. It directly displays the time remaining until the two vessels reach their closest point of approach if their current courses and speeds are maintained. This gives you a clear, visual cue for when the encounter will happen, so you can judge risk and decide on action. A small positive TCPA means the closest approach is coming soon, while a negative TCPA means that point has already passed. Other indicators don't give you that direct time estimate. Bearing drift shows how the target's bearing is changing, which helps you spot a potential collision trend but not when the interaction will occur. Range rate tells you how quickly the distance is changing, useful for threat assessment but not the exact time to reach the closest point. The CPA indicator relates to the distance at the closest point (and sometimes time to CPA on some displays), but it doesn't provide the straightforward time-to-interaction readout that TCPA offers.

7. Which scenario would trigger an ARPA alarm?

- A. Losing contact with a previously tracked target**
- B. A target moving smoothly with a constant bearing
- C. A target outside the radar range
- D. The own ship changes course within a narrow channel

ARPA alarms alert you when the system can no longer maintain a track on a target it has been tracking. If a target you were previously monitoring suddenly disappears from the ARPA list or the correlation is lost, the alarm fires to draw attention so you can re-acquire or re-verify the target. That makes losing contact with a previously tracked target the scenario that triggers the alarm. A target moving smoothly with a constant bearing represents a stable, ongoing track and doesn't indicate a fault that would set the alarm. A target outside the radar range isn't being tracked at all, so there's nothing to alarm on. If your own ship changes course in a narrow channel, that's a maneuver that might affect tracking, but an alarm isn't triggered simply by the maneuver itself unless it causes a track loss.

8. Which ARPA feature helps indicate a target's maneuver when present?

- A. Persistence or afterglow**
- B. Shadow trace
- C. Echo strength
- D. Color code

Persistence or afterglow is about how long a target's radar return stays visible on the display after the pulse. This creates a trail of recent positions. When a target changes speed or direction, that change shows up in the retained trail as a deviation from the previously established path. In other words, the echo's lingering presence reveals a maneuver by highlighting how the target has been moving over the recent scans. You can adjust how long that persistence lasts to make turns more or less obvious, though too much persistence can crowd the screen. Echo strength, color coding, and a separate shadow trace relate to other display features but don't provide the same direct cue to maneuver as the persistence trail.

9. In crossing situations, how does ARPA data support COLREGS compliance?

- A. By providing CPA, TCPA, and bearing trends to determine which vessel should give way and what maneuver is required.**
- B. It automatically takes the action to avoid collision.
- C. It ignores bearing trends and uses only range.
- D. It tracks only own ship.

In crossing situations, ARPA data support COLREGS compliance by giving you the numbers that quantify risk and guide action: the closest point of approach (CPA), the time to the closest point of approach (TCPA), and the bearing trend of the other vessel. CPA tells you how close you and the other ship will come if you keep your current speeds and courses. TCPA tells you when that closest approach would occur. The bearing trend shows whether the other vessel is moving to a position that will intersect your path (increasing, decreasing, or crossing bearing), which helps you judge how the risk is evolving. With these indicators you can determine which vessel has the responsibility to give way and what maneuver is required to stay clear, consistent with the crossing rules. ARPA provides these data to support decision-making; it does not automatically take action, and it tracks vessels relative to your own, not just your own ship.

10. Which general statement concerning radar is NOT true?

A. Radar detection is unaffected by weather conditions

B. Radar ranges can be limited by fog

C. Radar can detect objects in fog

D. Weather conditions influence radar accuracy

Weather affects radar performance. Rain, snow, and other precipitation absorb and scatter radio waves, especially at the higher frequencies used by many marine radars, which reduces detection range and can mask smaller targets. Humidity and temperature gradients near the surface can bend radar waves (refractivity changes), causing range errors or false echoes and degrading bearing accuracy. Fog, while visually reducing visibility, does not significantly attenuate most radar signals, so radar can typically still detect objects through fog, though overall performance can vary with atmospheric conditions. Because of these effects, the statement that radar detection is unaffected by weather is not true, since weather conditions do influence radar accuracy and range.

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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://arpaood.examzify.com>

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

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