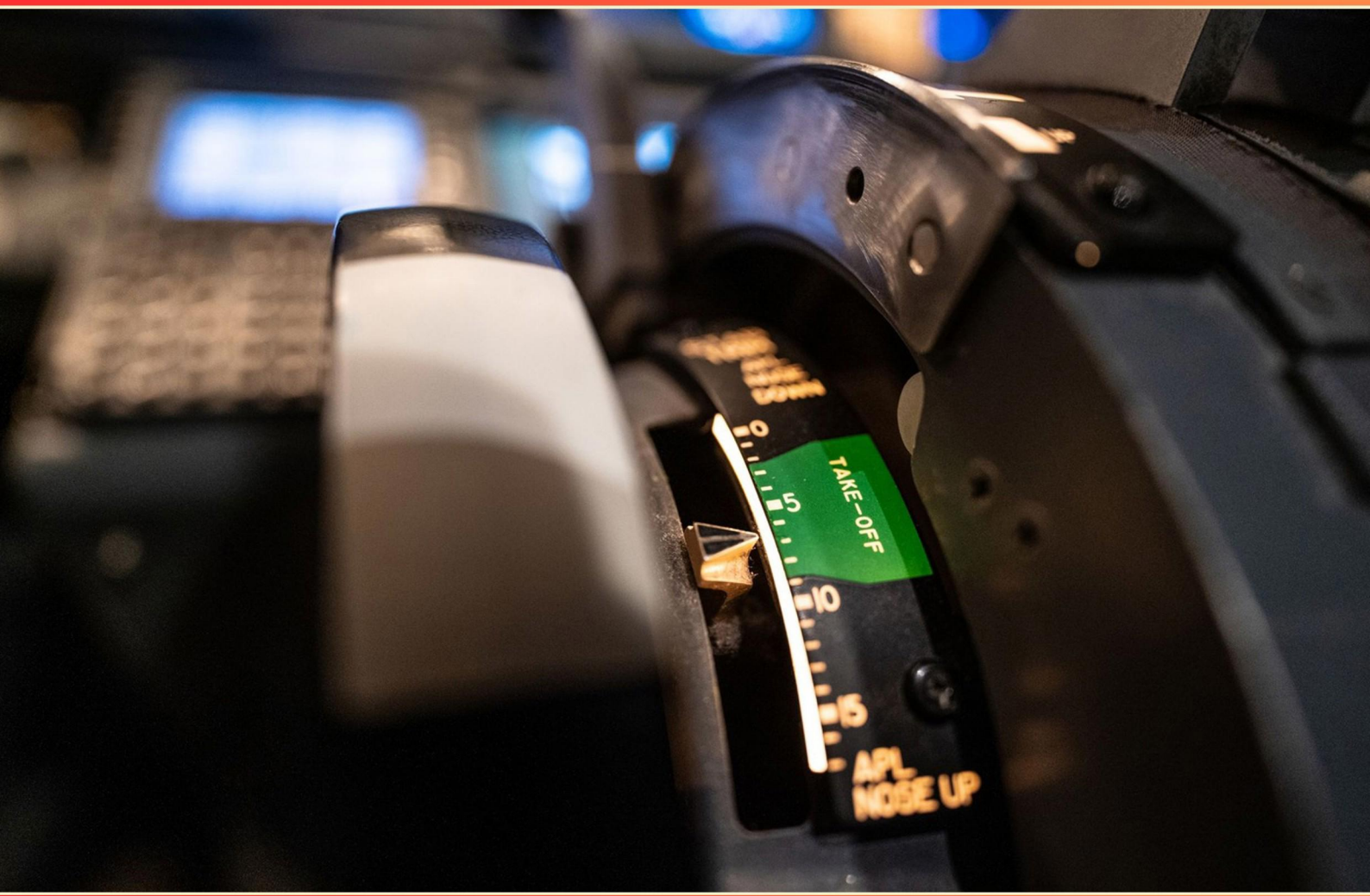
ADVANCED AVIONICS PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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https://advavionics.examzify.com

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. Canadian VOR alignment tolerance is maintained at how many degrees?

A. 3 degrees

B. 1 degree

C. 5 degrees

D. 2 degrees

2. If the AHRS fails, which instrument provides attitude information?

A. GPS heading.

B. Standby air data display.

C. Standby attitude indicator.

D. Inertial navigation display.

3. What is autothrottle and when is it typically engaged?

A. Autothrottle is used during on-ground parking.

B. Autothrottle is used during climb, descent, and approaches.

C. Autothrottle adjusts thrust automatically; typically engaged during climb, descent, and approaches.

D. Autothrottle controls only the landing gear.

4. Which statement is correct for CAT 1 limits?

A. 1200/600 RVR, 200' DA

B. No restrictions

C. 1200 RVR

D. MDA, DH or DA

5. What happens to loads and bus power during a generator failure?

A. All loads are shed.

B. Nonessential loads continue to be powered.

C. Automatic transfer logic disengages essential buses.

D. Remaining sources must supply essential buses; automatic transfer logic keeps critical avionics powered while nonessential loads are shed.

6. In a Rho-Theta navigation display, what does Rho represent?

A. Distance

B. Angle

C. Velocity

D. Time

7. To be certified for CMNPS operation, the proportion of total flight time spent by aircraft between 50 and 70 NM off the cleared track is less than 1 hr in about _____ flight hours.

A. about 2000 flight hours

B. about 8000 flight hours

C. about 4000 flight hours

D. about 6000 flight hours

8. Which statement about GPS satellite geometry and positioning accuracy is true?

A. Geometry has no effect on GPS accuracy.

B. Better satellite geometry improves positioning accuracy.

C. Geometry affects only timing accuracy.

D. Geometric dilution of precision is constant regardless of satellite positions.

9. DME discrepancy is typically expressed in which unit?

A. Kilometers

B. Miles

C. Nautical miles

D. Feet

10. Which navigation capability enables direct routing by using onboard navigation databases?

A. DME/VOR

B. ILS

C. VOR/DME

D. RNAV

Answers

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

Explanations

1. Canadian VOR alignment tolerance is maintained at how many degrees?

A. 3 degrees

B. 1 degree

C. 5 degrees

D. 2 degrees

VOR alignment tolerance is the maximum permissible error in the azimuth reference of a VOR ground station during calibration. In Canada, this tolerance is three degrees, meaning the published VOR radials must fall within ±3 degrees of the intended azimuth when the facility is aligned. This keeps navigation guidance reliable for enroute tracking and approaches, because the VOR's bearing indications are used to fly courses and intercept radials. If the alignment drifted beyond three degrees, the indicated bearings could systematically lead you off course. Smaller tolerances would be more demanding to maintain, while a larger tolerance, like five degrees, would reduce accuracy beyond what standard navigation requires.

2. If the AHRS fails, which instrument provides attitude information?

A. GPS heading.

B. Standby air data display.

C. Standby attitude indicator.

D. Inertial navigation display.

Attitude information is kept available by using a backup source that operates independently from the primary system. The standby attitude indicator fits this role because it uses its own gyroscope and separate power supply, so it can continue to display the aircraft's pitch and bank even if the AHRS data is lost. This independent, dedicated attitude reference is what ensures the pilot still has orientation in an AHRS failure. GPS heading only provides direction, not the aircraft's attitude. The standby air data display shows airspeed, altitude, vertical speed, and other air data, not the aircraft's orientation. The inertial navigation display covers navigation data and may incorporate attitude, but it isn't the specific fallback that guarantees a direct attitude readout when the primary AHRS is unavailable.

3. What is autothrottle and when is it typically engaged?

A. Autothrottle is used during on-ground parking.

B. Autothrottle is used during climb, descent, and approaches.

C. Autothrottle adjusts thrust automatically; typically engaged during climb, descent, and approaches.

D. Autothrottle controls only the landing gear.

Autothrottle automatically adjusts engine thrust to maintain a commanded airspeed or thrust schedule, taking work off the pilot and keeping performance consistent. It's typically engaged during climb, descent, and approaches because these phases involve changing speeds as altitude, configuration, and flight path change. The system works with the autopilot or flight management system to follow the target speed, smoothly applying the correct thrust adjustments to meet those limits. On the ground there's no airspeed to hold, so autothrottle isn't used for parking. It also doesn't control non-thrust systems like landing gear. In short, its main role is automatic thrust management to hit desired speeds during the flight segments where speed control is critical.

4. Which statement is correct for CAT 1 limits?

A. 1200/600 RVR, 200' DA

B. No restrictions

C. 1200 RVR

D. MDA, DH or DA

CAT I minima are defined by a precise decision altitude and required runway visual range. For a CAT I approach you descend to a fixed DA and must have the published RVR values met to continue below that point. A common CAT I set of minimums is an RVR of 1200 meters for the touchdown zone and 600 meters along the centerline, with a decision altitude of 200 feet. This combination shows both the visibility requirement and the altitude at which you may decide to land, which is why it's the best representation of CAT I limits. The other options miss one of these elements or mix in non-CAT I concepts (like MDA, which is used for non-precision approaches).

5. What happens to loads and bus power during a generator failure?

A. All loads are shed.

B. Nonessential loads continue to be powered.

C. Automatic transfer logic disengages essential buses.

D. Remaining sources must supply essential buses; automatic transfer logic keeps critical avionics powered while nonessential loads are shed.

When a generator fails, the electrical system redefines power distribution to protect the flight-critical systems. The remaining power sources (such as other generators or the battery) must carry the essential buses, and the automatic transfer logic prioritizes keeping critical avionics powered. To make this possible, nonessential loads are shed so the available power isn't wasted on systems that aren't needed for safe flight. This approach prevents a total power loss and preserves the instruments, avionic systems, and other essential functions. The other scenarios aren't correct because either all loads would be shed (essential systems would be lost), nonessential loads would continue (risking essential power), or the transfer logic would disengage essential buses (which would defeat the purpose of automatic prioritization).

6. In a Rho-Theta navigation display, what does Rho represent?

A. Distance

B. Angle

C. Velocity

D. Time

Rho is the radial distance to the object, i.e., the range. On a Rho-Theta display the position is shown in polar coordinates: Rho tells you how far away the target is along the line from the center, while Theta gives the direction around the circle. So Rho answers "how far," not which way, how fast, or when.

7. To be certified for CMNPS operation, the proportion of total flight time spent by aircraft between 50 and 70 NM off the cleared track is less than 1 hr in about _____ flight hours.

A. about 2000 flight hours

B. about 8000 flight hours

C. about 4000 flight hours

D. about 6000 flight hours

This question tests how a certification for CMNPS operation uses long-term flight experience to ensure precise navigation. The requirement sets a very tight limit: over a large block of total flight time, the actual time spent between 50 and 70 NM off the cleared track must be less than one hour. Framing it as "less than one hour in about X flight hours" means the ratio off-track time to total flight time should be extremely small, reflecting a high level of consistency in staying on the cleared route. Choosing about 8,000 flight hours makes sense because it yields a tiny fraction (1 hour in 8,000 hours), which aligns with the idea of requiring substantial overall experience with minimal off-track deviations. The other options would allow a larger share of off-track time relative to total hours, not meeting the intended level of demonstrated navigation discipline. So the best fit is about eight thousand flight hours.

8. Which statement about GPS satellite geometry and positioning accuracy is true?

A. Geometry has no effect on GPS accuracy.

B. Better satellite geometry improves positioning accuracy.

C. Geometry affects only timing accuracy.

D. Geometric dilution of precision is constant regardless of satellite positions.

The key idea here is how satellite geometry influences how measurement errors translate into the estimated position. In GPS, you solve for three position coordinates and the receiver's clock bias using pseudorange measurements from at least four satellites. When those satellites are well spread across the sky, the geometry provides strong independent lines of sight to pin down your location; small errors in the measurements then produce only small errors in the computed position and in the clock bias. If the satellites are clustered together or concentrated near the horizon, the geometry is poor, and the same measurement errors get amplified, leading to larger position errors. This relationship is captured by dilution of precision values: better geometry lowers the dilution and yields more accurate positioning. So the true statement is that better satellite geometry improves positioning accuracy. Geometry does affect more than just timing accuracy, and it is not constant—dilution of precision changes as satellite positions change.

9. DME discrepancy is typically expressed in which unit?

A. Kilometers

B. Miles

C. Nautical miles

D. Feet

DME distance is given in nautical miles, so any discrepancy is expressed in nautical miles to stay consistent with how aircraft navigation distances are measured and read in the cockpit. In aviation, horizontal distances on charts, flight plans, and instrument readings are standardized in nautical miles because they relate directly to latitude/longitude coordinates and simplify calculations. One nautical mile is about 1.852 kilometers or 6,076 feet, while feet are a vertical unit and kilometers or statute miles aren't the standard for DME readouts. So the difference you see between indicated DME and the actual distance is most naturally stated in nautical miles.

10. Which navigation capability enables direct routing by using onboard navigation databases?

A. DME/VOR

B. ILS

C. VOR/DME

D. RNAV

RNAV enables direct routing by using an onboard navigation database. The aircraft's navigation system stores coordinates for many waypoints and routes in a digital database. With RNAV, you can select a destination or a sequence of waypoints, and the flight computer calculates a direct path between them, rather than following conventional ground-based navaids. This lets you fly a direct-to a point anywhere in the database, optimizing the route and fuel use. Ground-based aids like DME/VOR or VOR/DME provide signals from fixed stations and require routing along those beacons, while ILS is an approach system that guides you to a runway; neither facilitates direct routing between arbitrary points using the onboard database.

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://advavionics.examzify.com

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