

AET PHASE 3 NAVIGATION PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

<https://aetphase3nav.examzify.com>



Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

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	15

SAMPLE

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

SAMPLE

1. What is FLIR used to detect?

- A. Visible light
- B. Ultraviolet radiation
- C. Radio waves
- D. Infrared radiation (heat)

2. What does Error Correction do in AFCS when the aircraft deviates from the selected flight profile?

- A. Automatically corrects deviation by moving the aircraft's control surfaces to return to the desired flight profile.
- B. Maintains altitude only.
- C. Provides navigation data.
- D. Senses movement of the aircraft.

3. What is a likely consequence of using the loop antenna without the sense antenna?

- A. The ADF needle points 90 degrees off from the station
- B. The ADF needle points 180 degrees out from the station
- C. The instrument fails
- D. The bearing becomes more accurate

4. Apart from routing transmit RF, what is another function of the Wave Guide?

- A. Passes the received RF from the antenna to the receiver with minimal loss of signal strength.
- B. Routes RF pulses to the antenna from the transmitter.
- C. Filters the returned signals.
- D. Converts RF to digital form.

5. Bearing (VOR): What does bearing refer to?

- A. Distance from VOR to aircraft
- B. Direction from a place toward another
- C. The aircraft's rate of turn
- D. The altitude of the aircraft

6. What is the primary function of the radar transmitter?

- A. Generates short, powerful RF pulses
- B. Amplifies received signals
- C. Controls the display video
- D. Adjusts the beam width

7. What is the primary purpose of the Autopilot System (AFCS)?

- A. Reduces the work, strain, and fatigue of controlling the aircraft during long flights.
- B. Increases pilot workload for precision tasks.
- C. Eliminates the need for navigation entirely.
- D. Controls only the pitch axis.

8. IAS-VS mode holds which parameters?

- A. Indicated Airspeed and Vertical Speed
- B. True Airspeed
- C. Mach and Altitude
- D. Lateral Deviation

9. Which system uses altitude information from the air data computer for barometric pressure and vertical speed?

- A. Altitude Control
- B. Output Element
- C. Servo Systems
- D. Command Elements

10. FLIR Warning: Is it eye safe?

- A. Not eye safe; it produces invisible laser radiation
- B. Yes, completely
- C. It's safe for eyes
- D. It emits visible light only

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. What is FLIR used to detect?

- A. Visible light
- B. Ultraviolet radiation
- C. Radio waves
- D. Infrared radiation (heat)**

FLIR cameras detect heat energy in the form of infrared radiation. Every object above absolute zero emits infrared radiation proportional to its temperature, and FLIR sensors convert that radiation into an electrical signal to produce a thermographic image. This lets you see temperature differences—even in darkness, through smoke, or in poor visibility—because warmer areas show up differently than cooler ones. In short, FLIR is about sensing infrared radiation (heat), not visible light, ultraviolet radiation, or radio waves.

2. What does Error Correction do in AFCS when the aircraft deviates from the selected flight profile?

- A. Automatically corrects deviation by moving the aircraft's control surfaces to return to the desired flight profile.**
- B. Maintains altitude only.
- C. Provides navigation data.
- D. Senses movement of the aircraft.

Error correction in AFCS is a closed-loop process that keeps the aircraft on the selected flight profile by automatically reducing the difference between what was commanded and what is actually happening. When the aircraft deviates from the target profile, sensors detect the error and the system processes it to create the necessary control input. Those inputs drive the aircraft's control surfaces through the autopilot actuators, moving them to bring the aircraft back onto the desired path. This automatic adjustment can affect pitch, roll, and sometimes other axes to restore the intended profile, rather than just holding altitude, supplying navigation data, or merely sensing motion.

3. What is a likely consequence of using the loop antenna without the sense antenna?

- A. The ADF needle points 90 degrees off from the station
- B. The ADF needle points 180 degrees out from the station**
- C. The instrument fails
- D. The bearing becomes more accurate

The key idea is that the loop antenna by itself cannot resolve which side of the aircraft the radio signal is coming from. The loop has a directional pattern that is symmetrical, so it produces a 180-degree ambiguity: the same signal can indicate two opposite bearings. The sense antenna provides a phase reference that removes this ambiguity and gives the true bearing to the station. Without the sense antenna, that ambiguity remains, so the indication you see will be the reciprocal bearing—meaning the needle points 180 degrees away from the station. In practice, this makes navigation misleading, not more accurate, and it's not a failure of the instrument; it's simply an incorrect bearing due to unresolved ambiguity.

4. Apart from routing transmit RF, what is another function of the Wave Guide?

- A. Passes the received RF from the antenna to the receiver with minimal loss of signal strength.
- B. Routes RF pulses to the antenna from the transmitter.
- C. Filters the returned signals.
- D. Converts RF to digital form.

Wave guides are designed to move RF energy efficiently between components in a microwave system. Besides carrying the transmit energy from the transmitter to the antenna, they also provide a low-loss path for the received RF signal from the antenna to the receiver. This preserves signal strength and quality, which is essential for good reception. Filters and digital conversion aren't functions of a wave guide. Filtering is done by dedicated filters or resonant structures, and converting RF to digital is handled by detectors and ADCs in the receiver. Routing RF pulses to the antenna describes the transmit path, which is not the "other" function being asked for.

5. Bearing (VOR): What does bearing refer to?

- A. Distance from VOR to aircraft
- B. Direction from a place toward another
- C. The aircraft's rate of turn
- D. The altitude of the aircraft

Bearing is the direction from a place toward another, usually given as an angle from north. In the VOR context, it describes the horizontal direction along the line between your aircraft and the VOR station—the direction you would travel to reach or align with the station. It's a measure of direction, not distance, rate of turn, or altitude.

6. What is the primary function of the radar transmitter?

- A. Generates short, powerful RF pulses
- B. Amplifies received signals
- C. Controls the display video
- D. Adjusts the beam width

In radar, energy is sent out as radio frequency pulses and then the system listens for echoes. The transmitter's job is to create those pulses and deliver them to the antenna. The pulses are kept short so that the time between transmission and reception can be measured accurately, which lets you determine how far away a target is. The high peak power of the pulses helps the signal travel farther and makes echoes from distant or weak targets more detectable. Other parts of the system handle different tasks: the receiver amplifies and processes the echoes that return; the display video is generated from those processed echoes; and the beam width is shaped by the antenna and scanning method rather than by the transmitter's core role.

7. What is the primary purpose of the Autopilot System (AFCS)?

- A. Reduces the work, strain, and fatigue of controlling the aircraft during long flights.**
- B. Increases pilot workload for precision tasks.
- C. Eliminates the need for navigation entirely.
- D. Controls only the pitch axis.

The main idea being tested is that an Autopilot System is designed to take over routine flight-control tasks so the pilot doesn't have to constantly hand fly the aircraft. By automatically managing steering, altitude, speed, and stability, AFCS reduces the physical effort and mental load on the pilot, especially during long flights or precise phases of flight. This frees the pilot to monitor systems, manage navigation and plans, and respond to changes without being tied to the controls. That's why the best choice is that the system reduces workload and fatigue during flight. It doesn't work by increasing the pilot's workload, and navigation isn't eliminated—the AFCS relies on navigational data to follow a route or approach. Also, it isn't limited to just the pitch axis; modern AFCS typically assists control across multiple axes to maintain stable flight.

8. IAS-VS mode holds which parameters?

- A. Indicated Airspeed and Vertical Speed**
- B. True Airspeed
- C. Mach and Altitude
- D. Lateral Deviation

IAS-VS mode is about controlling two flight parameters at once: indicated airspeed and vertical speed. Indicated airspeed is the speed read from the airspeed indicator and it's kept within a safe range to protect against stall and overspeed. Vertical speed is the rate of climb or descent, so the aircraft is commanded to rise or descend at a steady, specified rate. By anchoring the aircraft to a chosen IAS while holding a steady vertical speed, you can manage performance during climbs, descents, or level-offs without letting airspeed drift with changing altitude. The other options refer to different modes: holding Mach and altitude would keep a specific Mach number and a specific altitude, True Airspeed focuses on TAS instead of IAS, and Lateral Deviation deals with staying on a desired horizontal path rather than preserving airspeed and vertical rate.

9. Which system uses altitude information from the air data computer for barometric pressure and vertical speed?

- A. Altitude Control**
- B. Output Element
- C. Servo Systems
- D. Command Elements

The key idea is that maintaining a specific altitude is handled by the altitude control system, which relies on data from the air data computer to manage altitude and climb/descent rate. The air data computer provides barometric pressure information (used to determine the current altitude relative to the air pressure) and vertical speed (how fast you're climbing or descending). The altitude control system uses these inputs to compare the actual altitude with the selected target and to control the flight controls (through the autopilot or flight control servos) to reach and hold that altitude, adjusting pitch and power as needed to achieve the desired vertical speed profile. Other components like the output element or servo systems are involved in turning commands into motion, and command elements generate instructions, but they don't on their own regulate altitude using the ADC's barometric and vertical speed data.

10. FLIR Warning: Is it eye safe?

A. Not eye safe; it produces invisible laser radiation

B. Yes, completely

C. It's safe for eyes

D. It emits visible light only

The main idea is laser safety: eye injury from invisible laser radiation. When a FLIR device carries a warning that it is not eye safe, the emitted laser energy can reach the eye at levels that could cause retinal damage. The danger often comes from invisible infrared light, which you can't see or blink away from, so natural protective reflexes don't help. Even brief exposure can be harmful if the beam is aimed at the eye or reflected into it. Because of that, treat the beam as hazardous: never look directly into it or along its path, keep the device pointed away from people, and use appropriate eye protection and safety procedures as required.

SAMPLE

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://aetphase3nav.examzify.com>

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

SAMPLE