AIRPLANE FLYING HANDBOOK PRACTICE TEST (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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

1. A condition of flight in which the nose of an airplane tends to yaw toward the outside of the turn. This is caused by the higher induced drag on the outside wing, which is also producing more lift.

A. Adverse Yaw

B. Proverse Yaw

C. Dutch Roll

D. Coordinated Turn

2. Bypass ratio is defined as the ratio of mass airflow through the fan to the mass airflow through which portion?

A. Gas generator portion

B. Combustion chamber

C. Turbine

D. Intake

3. What term describes the characteristic curve of an airfoil's upper and lower surfaces?

A. Camber

B. Span

C. Chord

D. Camberline

4. Which statement correctly defines angle of attack and the critical angle of attack in relation to a stall?

A. Angle of attack is the angle between the wing's chord line and the relative wind

B. The relative wind is the direction the aircraft is pointed

C. The critical angle of attack is the same as stall speed

D. AoA is the angle between the wing leading edge and the horizon

5. What causes adverse yaw in a turn and how can you prevent it?

A. Adverse yaw is caused by tailwind mixing

B. Diff aileron drag during a roll causes yaw opposite the roll; prevent with coordinated use of rudder and aileron

C. Yaw is unaffected by roll inputs

D. Adverse yaw occurs when using rudder only

6. What is the relative wind in relation to angle of attack?

A. The relative wind is the air moving opposite to the aircraft's motion; angle of attack is the angle between wing chord line and relative wind.

B. The relative wind is the direction the airplane is pointed.

C. The relative wind is the airflow over the tail.

D. The relative wind is the speed of the aircraft at altitude.

7. Which term describes the air in a turbofan that bypasses the engine core?

A. Bypass air

B. Core air

C. Induction air

D. Vent air

8. Buffeting is best described as the beating or irregular shaking of an aerodynamic surface caused by which condition?

A. Unsteady flow or gusts

B. Steady laminar flow

C. Aerodynamic flutter

D. Vibration from mechanical components

9. What are typical symptoms of hypoxia, and how can it be prevented in flight?

A. Headache, dizziness, impaired judgment; prevent by using supplemental oxygen when required and by descending.

B. Nausea only; prevent by hydration.

C. Euphoria; prevent by increased altitude.

D. Fever; prevent by rest.

10. Which speed yields the furthest glide for the least altitude loss when the aircraft is unpowered?

A. Best Glide

B. Best Angle of Climb (Vx)

C. Best Rate of Climb (Vy)

D. Stall Speed

Answers

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

Explanations

1. A condition of flight in which the nose of an airplane tends to yaw toward the outside of the turn. This is caused by the higher induced drag on the outside wing, which is also producing more lift.

A. Adverse Yaw

B. Proverse Yaw

C. Dutch Roll

D. Coordinated Turn

Adverse yaw is the tendency for the nose to yaw opposite the direction of a roll when you bank the airplane. This happens because the wing that ends up producing more lift in the bank also generates more induced drag. The outside wing, which has to supply extra lift to help balance the aircraft in the turn, creates more drag. That drag acts off the airplane's centerline and produces a yawing moment toward the outside of the turn, so the nose tends to swing outward before you counteract it. In flight, you counter this by applying coordinated rudder along with aileron to keep the nose aligned with the desired turn.

2. Bypass ratio is defined as the ratio of mass airflow through the fan to the mass airflow through which portion?

A. Gas generator portion

B. Combustion chamber

C. Turbine

D. Intake

The main idea is to compare how much air bypasses the core to how much air goes through the core itself. The bypass ratio is the mass flow rate of air that goes around the core (through the bypass duct) divided by the mass flow rate through the gas generator portion, which is the engine core—the path that includes the compressor, the combustion chamber, and the turbine. The combustion chamber and turbine are parts of that core, so using the entire gas generator portion gives the correct denominator. The intake is just the air entering the engine and doesn't define the core vs bypass split, so it isn't used in the ratio.

3. What term describes the characteristic curve of an airfoil's upper and lower surfaces?

A. Camber

B. Span

C. Chord

D. Camberline

Camber describes how much the airfoil's midline curves relative to the chord. The curve that runs between the upper and lower surfaces—the camber line—embodies that curvature, and the camber value is the measure of how far this midline sits from the chord line. So, when a question asks for the term describing the characteristic curve of an airfoil's surfaces, camber is the standard way to refer to that overall curvature. Span and chord are dimensions, not curvature, and the camberline is the actual midline curve itself rather than the amount of curvature.

4. Which statement correctly defines angle of attack and the critical angle of attack in relation to a stall?

A. Angle of attack is the angle between the wing's chord line and the relative wind

B. The relative wind is the direction the aircraft is pointed

C. The critical angle of attack is the same as stall speed

D. AoA is the angle between the wing leading edge and the horizon

The key idea is that angle of attack is defined by the wing's orientation relative to the oncoming air, and the stall occurs when that angle reaches a critical value. The angle of attack is the angle between the wing's chord line and the relative wind—the direction the air is moving as it meets the wing. Lift rises with increasing AoA up to a point, but at the critical angle of attack the airflow can no longer follow the wing surface, flow separates, and lift collapses, producing a stall. The critical angle of attack is a property of the wing in its current configuration and airspeed, not a speed itself. Stall speed is the minimum forward speed at which the airplane can fly in a given configuration; if you drop below that speed without reducing the angle of attack, you'll reach the critical AoA and stall. The other statements mix up what the relative wind represents, confuse AoA with speed, or misstate the definition of the AoA.

5. What causes adverse yaw in a turn and how can you prevent it?

A. Adverse yaw is caused by tailwind mixing

B. Diff aileron drag during a roll causes yaw opposite the roll; prevent with coordinated use of rudder and aileron

C. Yaw is unaffected by roll inputs

D. Adverse yaw occurs when using rudder only

Adverse yaw in a turn happens because using ailerons to roll creates unequal drag on the wings. When you roll, the wing with the aileron down increases lift and drag, while the opposite wing with the aileron up has less lift and drag. The extra drag on the down-going wing yaws the nose opposite the direction of the roll, so the aircraft turns less toward the roll direction than intended. To prevent this, coordinate your controls by using a touch of rudder toward the direction of the turn as you roll. This keeps the nose in line with the roll, making the turn coordinated and preventing the nose from yawing the wrong way.

6. What is the relative wind in relation to angle of attack?

A. The relative wind is the air moving opposite to the aircraft's motion; angle of attack is the angle between wing chord line and relative wind.

B. The relative wind is the direction the airplane is pointed.

C. The relative wind is the airflow over the tail.

D. The relative wind is the speed of the aircraft at altitude.

The concept being tested is how relative wind and angle of attack relate to how a wing meets the air. Relative wind is the airflow that acts on the aircraft as it moves through the air—the air appears to come from the direction opposite the airplane's actual motion through the air. It's not simply the nose direction or where the airplane is pointed. Angle of attack is the angular difference between the wing's chord line (a line from the wing's leading edge to its trailing edge) and the relative wind. In other words, AoA measures how the wing is tilted into the oncoming air. Lift generated by the wing depends on this angle, not on where the nose is pointed or on the tail airflow. So this option correctly describes relative wind as the air moving opposite to the aircraft's motion, with angle of attack defined as the angle between the wing's chord line and that relative wind. The other statements mix up what the relative wind represents (direction the airplane is pointed, airflow over the tail, or the aircraft's speed) and aren't correct definitions.

7. Which term describes the air in a turbofan that bypasses the engine core?

A. Bypass air

B. Core air

C. Induction air

D. Vent air

Bypass air is the air that flows through the bypass duct around the engine core in a turbofan. It does not enter the combustion chamber; instead, the fan moves a large volume of air around the core and exits the nozzle to produce thrust. This is why high-bypass turbofans rely on bypass air for most of their propulsion—it's cooler, quieter, and still provides substantial thrust because of the mass of air being accelerated. Core air, by contrast, is the air that goes into the engine core to be compressed, burned, and then expelled as hot exhaust. Induction air is a general term for air entering the engine, not specifically the bypass stream, and vent air isn't a standard term used for turbofan airflow.

8. Buffeting is best described as the beating or irregular shaking of an aerodynamic surface caused by which condition?

A. Unsteady flow or gusts

B. Steady laminar flow

C. Aerodynamic flutter

D. Vibration from mechanical components

Buffeting happens when the airflow over a surface becomes unsteady, such as in gusts or turbulent flow, causing rapid, irregular pressure fluctuations that beat against the surface and make it shake. When the wing or other surface encounters these disturbed flows, the changing pressures produce uneven forces that feel like pounding or jolts rather than a smooth breeze. If the flow were steady and laminar, these fluctuating forces wouldn't occur, so buffeting wouldn't happen. Aerodynamic flutter involves a different problem—a dynamic instability where the structure and the airflow interact to produce self-excited oscillations that can grow with speed. Vibration from mechanical components is not about the airflow-induced forces on the surface. So the best description is unsteady flow or gusts causing irregular pressure and shaking.

9. What are typical symptoms of hypoxia, and how can it be prevented in flight?

A. Headache, dizziness, impaired judgment; prevent by using supplemental oxygen when required and by descending.

B. Nausea only; prevent by hydration.

C. Euphoria; prevent by increased altitude.

D. Fever; prevent by rest.

Hypoxia is when the body's tissues don't get enough oxygen, which is a real concern at altitude because the partial pressure of oxygen is lower in the air we breathe. The most common early signs you'll notice are headache, dizziness, and impaired judgment—these reflect the brain not getting enough oxygen and can quickly degrade your ability to fly safely. Prevention centers on keeping the oxygen supply adequate and reducing altitude if you start to feel symptoms. Use supplemental oxygen as required and descend to a lower altitude to restore normal oxygen levels. These steps help prevent the progression of hypoxia and maintain safe pilot performance. Nausea is not the typical hallmark of hypoxia in flight, and euphoria or attempting to "fix" it by increasing altitude would worsen the problem. Fever isn't related to hypoxia in this context, and resting doesn't address the oxygen deficit.

10. Which speed yields the furthest glide for the least altitude loss when the aircraft is unpowered?

A. Best Glide

B. Best Angle of Climb (Vx)

C. Best Rate of Climb (Vy)

D. Stall Speed

When the engine is off, how far you can go before you hit the ground depends on the glide angle, which is tied to the lift-to-drag ratio (L/D) of the airplane. The speed that gives the maximum L/D ratio is the best glide speed. At that speed, the airplane flies the shallowest descent for a given forward distance, so you cover the most ground for the altitude you have. In other words, you lose the least altitude per mile traveled, which yields the farthest glide. The other speeds relate to climbing, not gliding: the fastest climb angle speed is used to gain height over a obstacle, the best rate of climb speed is for maximum altitude gain per time, and stall speed is simply the minimum speed to stay airborne. None of these maximize horizontal distance during unpowered flight.

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://airplaneflyinghb.examzify.com

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