Technical Airline Interview (CW) Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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. Why do we have a longer takeoff roll with a tail wind?

A. The speed that is required for takeoff is a function of the speed of air over the wings required to generate lift. For example if 100 knots is our rotation speed and we have a 10 knot tailwind, the aircraft must accelerate to 130 knots to get the required lift.

B. Tailwinds decrease drag and shorten the takeoff distance.

C. Tailwinds have no effect on takeoff distance.

D. Tailwinds reduce required rotation speed.

2. For altitudes between 1,000 and 14,000 feet, what is the standard holding time?

A. 1 minute

B. 1.5 minutes

C. 2 minutes

D. 3 minutes

3. If you suspect a fuel contamination event, which system should you monitor for anomalies?

A. Landing Gear System

B. Fuel System

C. Pressurization System

D. Ice Protection System

4. Mach Buffet occurs when the airplane goes faster than which, causing a shock wave and boundary layer separation that can produce buffet?

A. The aircraft stalls due to ice.

B. No buffet occurs at any speed.

C. When the airplane goes faster than the critical Mach number, a shock wave forms and control surface buffet may occur.

D. It is caused by tailplane flutter at high altitude.

5. PRM stands for what system?

A. Primary Runway Monitor

B. Precision Runway Monitor

C. Pilot Resource Module

D. Performance Runway Management

6. Bleed air is used for which primary systems?

A. Cabin pressurization only.

B. Environmental control only.

C. Anti-ice systems only.

D. Cabin pressurization, environmental control, and anti-ice systems.

7. Which system provides anti-icing for windshields and other critical surfaces?

A. Landing Gear System

B. Fuel System

C. Electrical System

D. Ice Protection System

8. What rate of descent is required to maintain a 3-degree glide-slope with a ground speed of 160 knots?

A. 400 fpm

B. 800 fpm

C. 1200 fpm

D. 1600 fpm

9. What is a key difference between turbojet and turbofan engines?

A. Turbofan adds a front fan driven by the turbine.

B. Turbojet cannot operate at high altitude.

C. Turbofan has no exhaust.

D. Turbojet uses electric propulsion.

10. PRM is an acronym for which system?

A. Primary Runway Monitor

B. Precision Runway Monitor

C. Pilot Resource Module

D. Performance Runway Management

Answers

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

Explanations

1. Why do we have a longer takeoff roll with a tail wind?

A. The speed that is required for takeoff is a function of the speed of air over the wings required to generate lift. For example if 100 knots is our rotation speed and we have a 10 knot tailwind, the aircraft must accelerate to 130 knots to get the required lift.

B. Tailwinds decrease drag and shorten the takeoff distance.

C. Tailwinds have no effect on takeoff distance.

D. Tailwinds reduce required rotation speed.

The main idea is that lift depends on airspeed—the aircraft must reach a certain speed of air flowing over the wings to generate enough lift to take off. A tailwind does not change that required airspeed. What a tailwind does change is how fast you move over the ground while you're accelerating. Because the air is moving faster across the wings with a tailwind, your ground speed for any given airspeed is higher. So you still need the same airspeed to generate lift, but you cover more runway distance before you reach that airspeed, making the takeoff roll longer. In other words, the tailwind shifts your ground speed upward while the necessary lift-producing airspeed stays the same, which lengthens the distance driven along the runway before liftoff. The other statements don't reflect how lift is generated or how wind affects ground distance during the roll.

2. For altitudes between 1,000 and 14,000 feet, what is the standard holding time?

A. 1 minute

B. 1.5 minutes

C. 2 minutes

D. 3 minutes

In holding patterns, leg time is set by altitude. For holds at or below 14,000 feet MSL, each leg is one minute; above 14,000 feet, each leg is 1.5 minutes. The altitudes given (between 1,000 and 14,000 feet) fall into the lower category, so the standard leg time is one minute. This convention keeps holding patterns predictable across typical speeds and ensures safe sequencing with other traffic.

3. If you suspect a fuel contamination event, which system should you monitor for anomalies?

A. Landing Gear System

B. Fuel System

C. Pressurization System

D. Ice Protection System

When fuel quality is in doubt, focus on the fuel system, because contamination travels with the fuel and will show up as changes right where fuel is delivered and controlled. You'd keep an eye on indicators that reflect the fuel flow and delivery path: fuel quantity readings, fuel pressure, and fuel flow to the engines. Watch for unusual or fluctuating pressure, abnormal fuel flow rates, or unexpected changes in engine indications that point to irregular fuel supply. Also check components tied to the fuel path, such as filter and separator status and any alerts tied to boost pumps or low-pressure warnings. If contaminants are present, you might see symptoms like engine roughness, misfiring, surges, or even flameout due to fuel starvation, long before other systems would signal a problem. This makes the fuel system the most direct and reliable place to detect a suspected fuel contamination event. The other systems aren't primarily involved with fuel quality, so they won't provide the most relevant early indications of contamination; they may react secondarily if the fuel issue affects overall aircraft performance.

4. Mach Buffet occurs when the airplane goes faster than which, causing a shock wave and boundary layer separation that can produce buffet?

A. The aircraft stalls due to ice.

B. No buffet occurs at any speed.

C. When the airplane goes faster than the critical Mach number, a shock wave forms and control surface buffet may occur.

D. It is caused by tailplane flutter at high altitude.

Mach buffet is a transonic phenomenon that occurs when the aircraft exceeds the critical Mach number. At this speed, parts of the airflow over the wing reach sonic conditions, forming a shock wave. That shock creates a sharp pressure rise and an adverse pressure gradient, which can cause the boundary layer to separate. The resulting flow instability on the wing and around control surfaces leads to buffet. This is not about ice-induced stall, nor is it true that buffet cannot occur at any speed; and tailplane flutter is a different aeroelastic issue, not the classic Mach buffet described here.

5. PRM stands for what system?

A. Primary Runway Monitor

B. Precision Runway Monitor

C. Pilot Resource Module

D. Performance Runway Management

The concept being tested is runway surveillance with high precision for safe parallel runway operations. The system called Precision Runway Monitor provides near real-time, highly accurate tracking of aircraft on final approach and in the runway environment, giving air traffic control a precise picture of where each aircraft is. That precise situational awareness helps controllers manage sequencing, spacing, and potential conflicts near runways, which is essential for safe use of parallel approaches. This is why Precision Runway Monitor is the best answer: it is the established name and function of the system used for this purpose. The other terms don't correspond to a recognized ATC surveillance system—Primary Runway Monitor isn't a standard term, Pilot Resource Module sounds pilot-focused, and Performance Runway Management isn't a standard system name in airway operations.

6. Bleed air is used for which primary systems?

A. Cabin pressurization only.

B. Environmental control only.

C. Anti-ice systems only.

D. Cabin pressurization, environmental control, and anti-ice systems.

Bleed air acts as a ready source of high-pressure, high-temperature air tapped from the engine compressor. Because it's already hot and under pressure, it's used to power several essential pneumatic systems on the aircraft. For the environmental control system, bleed air is the feed to the air conditioning packs, where it's cooled and conditioned to provide breathable, comfortable air and proper humidity inside the cabin. Part of this conditioned air then helps maintain the cabin pressure as the aircraft climbs, with the system regulating pressure through outflow valves and bleed air flow. Anti-ice systems also rely on bleed air. The hot air is routed to leading edges of wings and tail surfaces (and to engine nacelles) to prevent ice buildup, keeping performance and safety intact in icy conditions. Since bleed air serves all three primary functions—cabin pressurization, environmental control, and anti-ice—the best answer reflects that it supports multiple critical systems, not just one.

7. Which system provides anti-icing for windshields and other critical surfaces?

A. Landing Gear System

B. Fuel System

C. Electrical System

D. Ice Protection System

Anti-icing of windshields and other critical surfaces is handled by a system specifically designed to prevent ice buildup on those areas. The Ice Protection System is built to keep windshields clear and protect key surfaces from icing, using methods like electrical heating in the windshield and other anti-icing techniques on leading edges and sensitive components. That focused capability is why it's the appropriate choice. The other systems manage different airplane functions (landing gear, fuel delivery, or general electrical power) and do not provide the dedicated, surface-wide ice protection needed for windshields and critical surfaces.

8. What rate of descent is required to maintain a 3-degree glide-slope with a ground speed of 160 knots?

A. 400 fpm

B. 800 fpm

C. 1200 fpm

D. 1600 fpm

Descent rate on a glide slope is determined by how steep the path is and how fast you're moving horizontally. For a 3-degree glide slope, the vertical speed you need equals your horizontal speed times tan(3°). Convert 160 knots to feet per minute: 1 knot is about 101.27 ft/min, so 160 knots ≈ 16,200 ft/min. Multiply by tan(3°) ≈ 0.05241, yielding about 850 ft/min. Since the answer choices are standard increments, the closest match is 800 ft/min.

9. What is a key difference between turbojet and turbofan engines?

A. Turbofan adds a front fan driven by the turbine.

B. Turbojet cannot operate at high altitude.

C. Turbofan has no exhaust.

D. Turbojet uses electric propulsion.

The main idea is how thrust is produced differently in turbojets and turbofans. A turbofan includes a large front fan driven by the turbine, so air is split: some goes into the engine core for combustion, but most bypasses the core and flows through a bypass duct. This bypass air provides a lot of thrust at lower exhaust speeds, which improves propulsive efficiency and reduces noise. A turbojet, on the other hand, directs nearly all the air through the core to be combusted, producing thrust from the high-velocity exhaust with little or no bypass flow. So the key distinguishing feature is the front fan in turbofans that creates the bypass stream. The other statements are not accurate: turbojets and turbofans both have exhaust, turbofans do not rely on electric propulsion, and turbojets can operate at high altitude just like turbofans (though efficiency and performance differ).

10. PRM is an acronym for which system?

A. Primary Runway Monitor

B. Precision Runway Monitor

C. Pilot Resource Module

D. Performance Runway Management

PRM in this context refers to a system that provides pilots with organized access to essential resources, called the Pilot Resource Module. It serves as a centralized interface for cockpit resources—procedures, checklists, performance data, reference materials, and decision-support tools—to help pilots manage workload and maintain clear communication with the crew and with automation. This resource-focused function is why it's the best fit for the acronym PRM. The other terms describe external monitoring or management functions—monitoring runways or managing runway performance—not a resource delivery module inside the cockpit.

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://techairlineinterviewcw.examzify.com

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