T38 Systems 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. What is the maximum altitude at which the gravity-fed fuel system should still function?

A. 25,000 feet

B. 20,000 feet

C. 15,000 feet

D. 30,000 feet

2. Flameouts have occurred in gravity-fed fuel systems as low as which altitude?

A. 7,000 feet

B. 5,000 feet

C. 9,000 feet

D. 11,000 feet

3. What are the radar altimeter limits?

A. Above 5,200 AGL, 45 deg of pitch or bank

B. Below 1,000 ft AGL only

C. In excess of 60 degrees bank only

D. At sea level, any attitude

4. What is the anti-ice system effective RPM?

A. 60%

B. 80%

C. 85%

D. 100%

5. With 80% battery charge, approximately how long will the battery last?

A. 10 minutes

B. 15 minutes

C. 20 minutes

D. 25 minutes

6. During MIL power on the ground, the nozzle position is within which range?

A. 0-20

B. 50-70

C. 80-100

D. 30-40

7. The gearbox shift range spans between which two numbers?

A. 43 and 48

B. 65 and 75

C. 60 and 70

D. 50 and 60

8. Loss on which systems when using Audio Control Panel backup?

A. Navaid Identification, TCAS, MDP, audio tones

B. Flight Data Recorder, Windshear, autopilot

C. Engine instruments, fuel indicators

D. Cabin pressurization, smoke detector

9. The label 'AL 500 on HUD' corresponds to which warning type?

A. Radar Altimeter alert alt

B. Attitude indicator fault

C. Airspeed high alert

D. Engine overheat warning

10. Asymmetric G limits at 2k lb of fuel are which range?

A. 0 - 2.5G

B. 0 - 4.0G

C. 0 - 4.7G

D. 0 - 6.0G

Answers

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

Explanations

1. What is the maximum altitude at which the gravity-fed fuel system should still function?

A. 25,000 feet

B. 20,000 feet

C. 15,000 feet

D. 30,000 feet

Gravity-fed fuel systems rely on the weight of the fuel to push it to the engine when pumps aren't supplying it. As you climb, ambient pressure drops and fuel can vaporize in the lines, reducing the pressure available to push fuel to the engine. That limits how high the system can reliably operate on gravity alone. For this aircraft, that reliable gravity feed is up to about 25,000 feet. Below that, gravity head is sufficient to feed the engine; above that, you'd risk fuel starvation and would depend on powered pumps to maintain flow.

2. Flameouts have occurred in gravity-fed fuel systems as low as which altitude?

A. 7,000 feet

B. 5,000 feet

C. 9,000 feet

D. 11,000 feet

Gravity-fed fuel systems move fuel to the engine primarily by gravity, often without an electric pump. Because they rely on ambient pressure to keep fuel flowing, conditions that promote fuel vapor formation can interrupt that flow. At altitude, lower ambient pressure and sometimes higher fuel temperatures can cause the fuel to vaporize in the lines or tank, creating vapor pockets that block the liquid fuel from reaching the engine. When this happens, the engine loses its fuel supply and can flame out. This vulnerability can appear even at relatively low elevations; flameouts have been observed as low as seven thousand feet in gravity-fed systems, especially with long fuel lines, warm fuel, or leaks that let air enter the line. The take-away is that without an active pump to boost pressure, the system is more susceptible to vapor formation and flow interruption as altitude and conditions vary.

3. What are the radar altimeter limits?

A. Above 5,200 AGL, 45 deg of pitch or bank

B. Below 1,000 ft AGL only

C. In excess of 60 degrees bank only

D. At sea level, any attitude

Radar altimeters have a limited operating envelope: they measure height above the ground but only reliably within a certain altitude and within safe attitude limits. The instrument is generally reliable up to about 5,200 feet above ground level, and it requires the aircraft to stay within roughly 45 degrees of pitch or bank. If you go higher than about 5,200 feet AGL or tilt more than 45 degrees in either axis, the radar path to the ground changes geometry and the reading can become inaccurate or unavailable. That combination of altitude and attitude limits is what the option conveys. The other choices miss this dual constraint or misstate the conditions under which the radar altimeter can be trusted.

4. What is the anti-ice system effective RPM?

A. 60%

B. 80%

C. 85%

D. 100%

The main idea is that the anti-ice system needs enough engine speed to deliver enough bleed-air heat to prevent ice from forming. Since the anti-ice heat comes from bleed air produced by the engine, the amount of heat available depends on how fast the engine is turning. At lower engine speeds, there isn't enough bleed air to heat the surfaces adequately; once you reach a certain engine speed, the bleed-air flow reaches a level that reliably prevents icing in typical conditions. That threshold is about 80% of maximum RPM, so the system is considered effective at around 80% RPM. Going higher doesn't add much extra benefit because the system has a fixed capacity, and you've already reached the designed level of heat delivery. So, 80% is the best answer because it reflects the speed at which the anti-ice system can reliably supply sufficient heat under normal icing scenarios. Lower speeds (like 60%) don't provide enough bleed air, while higher speeds don't change the effectiveness in typical operation.

5. With 80% battery charge, approximately how long will the battery last?

A. 10 minutes

B. 15 minutes

C. 20 minutes

D. 25 minutes

When we estimate how long a battery will last, the idea is that running time is roughly proportional to the remaining charge if the power draw is fairly steady. If you have 80% charge left, you can expect about 80% of the maximum possible runtime. So the best answer is the one that sits closest to four-fifths of the device's full-charge run time. In many typical practice contexts, 80% of full charge translates to about 15 minutes of use, which is why this option is chosen. Keep in mind real-world factors like screen brightness, active apps, network usage, and temperature can shift the actual time, but this gives a solid approximate.

6. During MIL power on the ground, the nozzle position is within which range?

A. 0-20

B. 50-70

C. 80-100

D. 30-40

The important idea here is that nozzle position is used to control how much exhaust flow the engine can push out, which directly affects backpressure, thrust, and engine stability. At MIL (military) power on the ground, the nozzle is kept largely closed to maintain sufficient backpressure and stabilize the compressor and turbine inlet conditions. This keeps turbine inlet temperatures and engine stress within safe limits during ground operation, where airflow and ambient conditions don't demand the higher thrust you'd need in flight or for takeoff. Opening the nozzle more would increase exhaust flow and thrust beyond what's needed on the ground and could raise temperatures or risk compressor instability during power transitions. As flight power needs rise, the nozzle would open more to match the greater mass flow and thrust requirements.

7. The gearbox shift range spans between which two numbers?

A. 43 and 48

B. 65 and 75

C. 60 and 70

D. 50 and 60

Shifts are designed to happen within a specific speed window where the engine torque and gearbox input are well matched for a smooth, efficient change. The range between 65 and 75 places the shift in the mid-to-upper end of the speed spectrum, which is typically where the engine still has ample power to handle the new gear without lugging, while avoiding overrevving or a harsh engagement. The other options would require shifting at too low a speed, risking lugging and sluggish response, or sit outside the intended spec for this gearbox. So, 65 to 75 best aligns with the designed operating band for shifting.

8. Loss on which systems when using Audio Control Panel backup?

A. Navaid Identification, TCAS, MDP, audio tones

B. Flight Data Recorder, Windshear, autopilot

C. Engine instruments, fuel indicators

D. Cabin pressurization, smoke detector

When the Audio Control Panel is in backup mode, the number of active audio paths is reduced to keep essential communications going, but some navigation and alert audio channels are no longer available. The items tied to the ACP for audible output—navaid identification, TCAS traffic alert audio, MDP-related audio, and general audio tones—are the ones that can be lost. This happens because those sources rely on the ACP's routing, which is limited in backup mode. Other systems like the Flight Data Recorder, Windshear alerts, autopilot, engine instruments, fuel indicators, cabin pressurization, and smoke detectors don't depend on the ACP's audio routing, so they stay unaffected.

9. The label 'AL 500 on HUD' corresponds to which warning type?

A. Radar Altimeter alert alt

B. Attitude indicator fault

C. Airspeed high alert

D. Engine overheat warning

The key idea is reading HUD warning codes and what the abbreviation implies. “AL” on the HUD is used for an altitude-related alert issued by the radar altimeter, which measures height above the ground. The number that follows is the alert altitude, in this case 500 feet. So “AL 500” means the radar altimeter is signaling an alert at 500 feet above ground level. Other systems have different warning codes (attitude indicator faults, airspeed alerts, engine warnings), so their labels wouldn’t be shown as an altitude alert like this.

10. Asymmetric G limits at 2k lb of fuel are which range?

A. 0 - 2.5G

B. 0 - 4.0G

C. 0 - 4.7G

D. 0 - 6.0G

Asymmetric G limits come into play when fuel isn’t evenly distributed, which shifts the airplane’s center of gravity to one side. That lateral shift increases the structural loads on the wing and fuel system during high-G maneuvers, so the allowable maneuvering load factor is reduced to keep everything within design limits. With about 2,000 pounds of fuel on one side, the published asymmetric limit allows a maximum positive G of 4.7. So the safe range under this condition is from 0 up to 4.7 G. The other options are not correct because they are either more restrictive than needed (0–2.5 G or 0–4.0 G) or exceed what the airframe can safely sustain under this asymmetric loading (0–6.0 G).

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://t38systems.examzify.com

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