ASA AVIATION MAINTENANCE TECHNICIAN GENERAL PRACTICE TEST (SAMPLE)

STUDY GUIDE

SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

VISIT US ONLINE FOR THE FULL VERSION STUDY GUIDE

https://asaaviationmainttechgen.examzify.com

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

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 effect of higher density altitude on engine performance?

A. Engine performance decreases.

B. Engine performance increases.

C. No change.

D. Only turbocharged engines affected.

2. How many months of practical experience is needed to qualify for the mechanic rating with both Airframe and Powerplant ratings?

A. 12 months

B. 24 months

C. 36 months

D. 30 months

3. How may thermal runaway be prevented?

A. By using a hydrometer

B. By carefully monitoring the temperature of the middle cells and controlling the charging current

C. By discharging completely

D. By increasing charging current

4. In the identification number 91-08-07 R1, what does 91 signify?

A. 1981

B. 1998

C. 1991

D. 2001

5. What are the three basic physical states in which matter can exist?

A. Solid, plasma, and gas.

B. Solid, liquid, plasma.

C. Solid, liquid, and gas.

D. Energy, matter, and mass.

6. How does filiform corrosion usually appear on an aircraft structure?

A. As thread-like lines of puffiness under a film of polyurethane or other dense finish system topcoats.

B. As rust spots on exposed metal.

C. As blistering under the paint.

D. As delamination at fasteners.

7. In DC circuits, power is calculated as:

A. Power = Current × Resistance

B. Power = Voltage × Current

C. Power = Voltage ÷ Current

D. Power = Voltage × Resistance

8. Which instrument is used to determine the state of charge by measuring the electrolyte's density in a lead-acid battery?

A. Hydrometer

B. Voltmeter

C. Ammeter

D. Thermometer

9. Which of the following is an example of heat transfer by convection?

A. Removal of heat from an engine cylinder by air flowing over its surface.

B. The heating of the Earth's surface by heat transmitted through space from the sun.

C. The uniform heating of the air in a room by a floor heater. The heated air rises and forces the cooler air down so it can be heated by conduction.

D. Heat transfer by radiation from the Sun.

10. In the designation MS20470 AD-4-6, what does AD stand for?

A. 1100 aluminum

B. 2024-T aluminum

C. 5056-T aluminum

D. 2117-T aluminum

Answers

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

Explanations

1. What is the effect of higher density altitude on engine performance?

A. Engine performance decreases.

B. Engine performance increases.

C. No change.

D. Only turbocharged engines affected.

As density altitude increases, the air becomes thinner, so less air mass is drawn into the engine during each intake cycle. Since engine power is largely determined by how much air (and therefore oxygen) can be burned with fuel, thinner air means less combustion energy and thus less power. This decrease happens for normally aspirated engines and is only partially offset in turbocharged engines by increasing boost, but not enough to prevent a net loss of performance at higher density altitudes. So, overall engine performance decreases with higher density altitude.

2. How many months of practical experience is needed to qualify for the mechanic rating with both Airframe and Powerplant ratings?

A. 12 months

B. 24 months

C. 36 months

D. 30 months

The main thing being tested is how much practical hands-on maintenance experience you need to qualify for a mechanic certificate with both airframe and powerplant ratings. For the combined A&P rating, the standard requirement is 30 months of practical experience in aircraft maintenance. This time must be earned in an aviation environment, performing maintenance tasks and typically under supervision, so you gain broad, real-world exposure to both airframe and powerplant work. If you complete an FAA-approved aviation maintenance technician school program, you can qualify with fewer months—18 months—through that pathway. The other options listed (fewer months) don't meet the standard duration for the combined rating, while one extra month beyond the standard path isn't required unless you're following that school-based route.

3. How may thermal runaway be prevented?

A. By using a hydrometer

B. By carefully monitoring the temperature of the middle cells and controlling the charging current

C. By discharging completely

D. By increasing charging current

Preventing thermal runaway comes down to keeping heat in check by watching cell temperatures and dialing back the charge as needed. If a cell or a group of cells heats up, that heat can accelerate chemical reactions inside the cells, generating more heat in a dangerous feedback loop. By carefully monitoring the temperature of the cells—especially the middle cells in a series pack where temperature rise can be most pronounced—and reducing or stopping charging current when temperatures rise, you limit heat generation and give cooling systems a chance to remove it. This is why controlling charging current based on temperature is the most effective preventive measure. Hydrometer is for measuring specific gravity in lead-acid batteries and isn't applicable for preventing thermal runaway in modern chemistries. Discharging completely won't reliably prevent runaway and can be risky while not addressing the underlying heat generation. Increasing charging current would raise heat and worsen the problem.

4. In the identification number 91-08-07 R1, what does 91 signify?

A. 1981

B. 1998

C. 1991

D. 2001

The first part of that identification number is a date code. In this format, the two digits at the front indicate the year of manufacture or issue. The value 91 corresponds to 1991. The next numbers (08 and 07) are the month and day, August 7, and the trailing R1 shows the revision level. So, 91 signifies the year 1991.

5. What are the three basic physical states in which matter can exist?

A. Solid, plasma, and gas.

B. Solid, liquid, plasma.

C. Solid, liquid, and gas.

D. Energy, matter, and mass.

Matter exists in three basic physical states based on how tightly its particles are arranged and how much energy they have: in a solid, particles are tightly packed and vibrate in place, giving solids a definite shape and volume; in a liquid, particles can flow and adapt to the shape of their container while keeping a definite volume; in a gas, particles are far apart and spread out to fill the space available, with neither a fixed shape nor a fixed volume. Energy input can cause changes between these states, such as melting, freezing, vaporization, and condensation. Plasma is a high-energy state where atoms are ionized, but it's typically considered separate from the three basic states under ordinary conditions. So the trio that describes the three basic states is solid, liquid, and gas. The other options introduce plasma or mix in terms that aren't states of matter, which is why they aren't correct.

6. How does filiform corrosion usually appear on an aircraft structure?

A. As thread-like lines of puffiness under a film of polyurethane or other dense finish system topcoats.

B. As rust spots on exposed metal.

C. As blistering under the paint.

D. As delamination at fasteners.

Filiform corrosion is a subsurface process that develops under a coating. It starts at tiny defects or pinholes in the topcoat and moisture gets beneath the film. The corrosion then advances along the metal–coating interface in slender, threadlike filaments, which push the coating up into fine, wormlike lines. This is why it's seen as thread-like lines of puffiness under a dense finish such as polyurethane on aluminum structures. The damage remains under the coating, so you don't typically see rust spots on exposed metal, blistering of the paint, or delamination at fasteners; those are different failure modes. The distinctive threadlike appearance under the paint is the hallmark of filiform corrosion.

7. In DC circuits, power is calculated as:

A. Power = Current × Resistance

B. Power = Voltage × Current

C. Power = Voltage ÷ Current

D. Power = Voltage × Resistance

Power in a DC circuit is the rate at which electrical energy is transferred, and it equals the product of voltage and current: P = V × I. The voltage provides the driving potential, and the current is the rate of charge flow, so multiplying them gives how much energy per second is delivered to the load. If you know resistance as well, you can also express power as P = I^2R or P = V^2 / R, both of which come from combining P = VI with Ohm's law V = IR. For example, a 12-volt source delivering 2 amperes yields 24 watts of power. The other forms don't represent power in watts: I × R equals voltage, not power; V ÷ I equals resistance, not power; V × R equals volt-ohms, not watts.

8. Which instrument is used to determine the state of charge by measuring the electrolyte's density in a lead-acid battery?

A. Hydrometer

B. Voltmeter

C. Ammeter

D. Thermometer

In a lead-acid battery, the state of charge is reflected by the electrolyte's density because charging and discharging change the sulfuric acid concentration in the electrolyte. A hydrometer is the instrument designed to measure this density, usually expressed as specific gravity. When the battery is fully charged, the electrolyte is more concentrated with sulfuric acid, giving a higher specific gravity. As the battery discharges, the acid is converted to water and lead sulfate, lowering the density. So by reading the electrolyte's density with a hydrometer, you get a direct indication of how charged the battery is. Remember to account for temperature, since electrolyte density changes with temperature and readings should be temperature-corrected. The other instruments don't measure density: a voltmeter gauges electrical potential, which can loosely indicate charge but not via electrolyte density; an ammeter measures current; and a thermometer measures temperature.

9. Which of the following is an example of heat transfer by convection?

A. Removal of heat from an engine cylinder by air flowing over its surface.

B. The heating of the Earth's surface by heat transmitted through space from the sun.

C. The uniform heating of the air in a room by a floor heater. The heated air rises and forces the cooler air down so it can be heated by conduction.

D. Heat transfer by radiation from the Sun.

Convection is heat transfer through the movement of a fluid. In the room scenario, the floor heater warms the air right at the floor. That heated air becomes less dense and rises, while cooler air moves in to take its place. This creates a continuous circulation known as a convection current, which transports heat through the room. It's a clear example because you can see the actual movement of the air carrying heat from the floor upward, rather than heat moving only by contact or radiation. The other options involve different mechanisms: heat reaching the Earth's surface from the Sun through space is radiation, and heat transfer from the Sun by radiation is also radiation. The first option describes heat transfer to moving air (which is a form of convection as well), but the floor-heater scenario most clearly illustrates the buoyancy-driven air movement that characterizes convection in a room.

10. In the designation MS20470 AD-4-6, what does AD stand for?

A. 1100 aluminum

B. 2024-T aluminum

C. 5056-T aluminum

D. 2117-T aluminum

The two-letter alloy code after the MS20470 designation tells you which aluminum alloy is used. In MS20470 AD-4-6, the "AD" is not about size or finish; it identifies the specific aluminum alloy, which in this case is 2117-T aluminum. The "-4-6" part refers to the size and grip length of the hardware, not the material. Other alloy options would have different two-letter codes in their MS designations, so the presence of "AD" points to the 2117-T alloy.

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://asaaviationmainttechgen.examzify.com

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