

FFA Small Engines Career Development Event (CDE) Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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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

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- 1. Pressure relief valves are commonly found in which type of lubrication systems?**
 - A. Pressurized lubrication systems**
 - B. Gravity lubrication systems**
 - C. Wet sump systems**
 - D. Dry sump systems**

- 2. Which piston ring is primarily responsible for controlling oil consumption?**
 - A. Compression ring**
 - B. Scraper ring**
 - C. Oil ring**
 - D. Second ring**

- 3. What factor affects how the governor should be adjusted on lawn mowers?**
 - A. Engine power**
 - B. Length of blade**
 - C. Fuel type**
 - D. Oil viscosity**

- 4. What would happen if the piston rings do not seal properly?**
 - A. The engine would run cooler**
 - B. There would be increased blow-by**
 - C. The piston would move more efficiently**
 - D. The fuel mixture would improve**

- 5. Which of the following is a symptom of stale gasoline?**
 - A. Increased horsepower**
 - B. Frequent engine stalling**
 - C. Clear exhaust smoke**
 - D. Improved ignition**

6. Spark plugs are manufactured in various heat ranges from?

- A. Cold to warm**
- B. Hot to cold**
- C. Low to high**
- D. Standard to premium**

7. What is the basic purpose of a carburetor in a small engine?

- A. To stabilize engine temperature**
- B. To regulate the mixture of air and fuel**
- C. To enhance exhaust flow**
- D. To improve ignition timing**

8. Which part of the carburetor regulates the amount of air-fuel mixture entering the combustion chamber?

- A. throttle**
- B. float**
- C. choke**
- D. jet**

9. What is the name of the round disc in a carburetor located beyond the main fuel nozzle?

- A. choke**
- B. throttle**
- C. float**
- D. needle valve**

10. Which cleaning methods can be used for a foam air cleaner?

- A. Soap and water**
- B. Kerosene or liquid detergent and water**
- C. Compressed air**
- D. Steam cleaning**

Answers

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

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Explanations

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1. Pressure relief valves are commonly found in which type of lubrication systems?

- A. Pressurized lubrication systems**
- B. Gravity lubrication systems**
- C. Wet sump systems**
- D. Dry sump systems**

Pressure relief valves are essential components in pressurized lubrication systems. These systems maintain a consistent oil pressure to ensure that all moving parts within an engine receive adequate lubrication, reducing friction and wear. The pressure relief valve serves a critical function by preventing excessive pressure build-up in the lubrication system, which could lead to potential damage or failure of components. When the oil pressure exceeds a predetermined limit, the relief valve opens, allowing oil to bypass the system and return to the oil reservoir or sump. This function ensures that the system operates within safe pressure ranges, ultimately protecting the engine. In contrast, gravity lubrication systems rely on the force of gravity to distribute oil, and they do not require pressurization, making pressure relief valves unnecessary. Similarly, both wet sump and dry sump systems can include features that regulate oil, but not all designs necessitate pressure relief valves. Therefore, while these other systems have their own lubrication management strategies, pressure relief valves are specifically designed to address the needs of pressurized lubrication systems.

2. Which piston ring is primarily responsible for controlling oil consumption?

- A. Compression ring**
- B. Scraper ring**
- C. Oil ring**
- D. Second ring**

The oil ring is specifically designed to manage the lubrication and oil consumption in an engine. Its primary function is to control the amount of oil that reaches the cylinder walls. By doing so, the oil ring helps maintain the proper film of oil for lubrication while preventing excessive oil from entering the combustion chamber, which could lead to issues like smoking and increased emissions. In contrast, the compression ring is primarily responsible for sealing the combustion chamber to maintain pressure during the combustion process. The scraper ring assists in scraping excess oil off the cylinder wall to prevent it from entering the combustion chamber, while the second ring, which is often a compression ring as well, aids in sealing and controlling gas flow. While these rings play critical roles in overall engine performance, it is the oil ring that is specifically tasked with controlling oil consumption.

3. What factor affects how the governor should be adjusted on lawn mowers?

- A. Engine power
- B. Length of blade**
- C. Fuel type
- D. Oil viscosity

The adjustment of the governor on lawn mowers is primarily influenced by the length of the blade. A longer blade requires the engine to maintain a certain speed to ensure effective cutting and performance. If the blade is too long, it can create excessive load on the engine, causing it to bog down. The governor helps to regulate the engine speed to compensate for this load by adjusting the throttle position accordingly. Properly adjusting the governor in relation to the blade length ensures that the engine can maintain optimal performance without stalling or losing power during operation. Other factors, such as engine power, fuel type, and oil viscosity, may impact overall engine performance and efficiency, but they do not directly dictate the specific adjustments needed for the governor related to blade length. Engine power is more about the capability of the engine itself, fuel type focuses on combustion efficiency, and oil viscosity relates to lubrication rather than the specific operational mechanics of the governor concerning blade length.

4. What would happen if the piston rings do not seal properly?

- A. The engine would run cooler
- B. There would be increased blow-by**
- C. The piston would move more efficiently
- D. The fuel mixture would improve

When piston rings do not seal properly, it results in increased blow-by. Blow-by refers to the escape of combustion gases past the piston into the crankcase. This phenomenon occurs when there are gaps in the sealing capability of the piston rings, allowing pressure from the combustion chamber to bypass the piston. The primary role of the piston rings is to create a tight seal that keeps the combustion gases contained within the cylinder during the power stroke of the engine. Proper sealing is crucial for maintaining engine efficiency, power output, and preventing oil contamination. When blow-by occurs, it not only leads to a loss of engine power and efficiency but can also allow unburned fuel to escape into the crankcase, leading to further operational issues. In contrast to the other options, which suggest improved performance in terms of cooling, efficiency, or fuel mixture, the reality is that poor sealing due to faulty piston rings directly correlates with a problem in engine performance and increased emissions, making the correct outcome the increased blow-by.

5. Which of the following is a symptom of stale gasoline?

- A. Increased horsepower**
- B. Frequent engine stalling**
- C. Clear exhaust smoke**
- D. Improved ignition**

Frequent engine stalling is indeed a symptom of stale gasoline. Over time, gasoline can degrade and lose its effectiveness, particularly due to factors like evaporation or the absorption of moisture. When gasoline becomes stale, it may not combust properly, leading to inconsistent fuel delivery to the engine. As a result, this can cause the engine to stall frequently, as it struggles to maintain operation with subpar fuel quality. Stale gasoline also tends to lead to various performance issues such as poor acceleration and rough idling due to its altered chemical composition. Regularly using fresh gasoline is essential to ensure optimal engine performance and reliability. Conversely, increased horsepower, clear exhaust smoke, and improved ignition are not associated with stale gasoline, but rather indicate good fuel quality performance.

6. Spark plugs are manufactured in various heat ranges from?

- A. Cold to warm**
- B. Hot to cold**
- C. Low to high**
- D. Standard to premium**

Spark plugs are designed with a specific heat range that plays a crucial role in engine performance and efficiency. The heat range refers to how effectively the spark plug can transfer heat from the combustion chamber to the engine. A spark plug that operates within an optimal temperature range is essential for preventing issues such as pre-ignition or fouling. The correct option describes the heat range as proceeding from hot to cold. A hotter spark plug will retain more heat, which can be beneficial for high-performance engines operating at higher temperatures, while a colder spark plug dissipates heat more efficiently, making it suitable for engines that operate at lower temperatures or under conditions where there is less heat generation. Understanding this concept helps in choosing the right spark plug for specific engine requirements, ensuring that the engine runs smoothly and effectively under varying operating conditions.

7. What is the basic purpose of a carburetor in a small engine?

- A. To stabilize engine temperature**
- B. To regulate the mixture of air and fuel**
- C. To enhance exhaust flow**
- D. To improve ignition timing**

The basic purpose of a carburetor in a small engine is to regulate the mixture of air and fuel. This regulation is essential because the optimal air-fuel ratio is crucial for efficient combustion. When the carburetor operates properly, it ensures that the engine receives the right amount of air and fuel, which allows it to run smoothly and efficiently. The carburetor accomplishes this by using the principle of air pressure. As air flows through the carburetor, it creates a vacuum that draws in fuel from the float chamber, mixing it with the incoming air. This mixture is then delivered to the engine's combustion chamber for ignition. A well-calibrated carburetor can adjust for varying engine demands, such as different speeds and loads, which ensures performance remains optimal across a range of operating conditions. While stabilizing engine temperature, enhancing exhaust flow, and improving ignition timing are important aspects of engine performance, they are not the primary functions of a carburetor. The cooling system and exhaust system handle temperature and emission concerns, while ignition timing is managed by the ignition system of the engine. Therefore, regulating the air-fuel mixture is the core role of the carburetor, making it a vital component in the operation of small engines.

8. Which part of the carburetor regulates the amount of air-fuel mixture entering the combustion chamber?

- A. throttle**
- B. float**
- C. choke**
- D. jet**

The throttle is the component of the carburetor responsible for regulating the amount of air-fuel mixture that enters the combustion chamber. It controls the engine's power output by managing the airflow and subsequently adjusting the fuel flow to match the engine's demand for power at various speeds and loads. When the throttle is opened, more air is allowed to enter the engine, and subsequently, more fuel is drawn in, which enhances combustion and increases engine performance. The float, meanwhile, serves a different function as part of the carburetor's fuel delivery system, maintaining the proper fuel level within the float chamber to ensure an adequate supply for atomization. The choke primarily assists with cold starting the engine by restricting airflow, enriching the fuel mix temporarily until the engine warms up. On the other hand, the jet is the component through which fuel is metered and delivered into the air stream but does not directly control the overall air-fuel mixture entering the combustion chamber.

9. What is the name of the round disc in a carburetor located beyond the main fuel nozzle?

- A. choke**
- B. throttle**
- C. float**
- D. needle valve**

The correct term for the round disc in a carburetor located beyond the main fuel nozzle is the throttle. The throttle is a critical component in regulating the air-fuel mixture entering the engine, as it controls the engine's power output and speed. When the throttle valve opens, it allows more air to flow into the engine, which in turn increases the amount of fuel drawn from the main fuel nozzle, leading to higher engine performance. The choke, while an important part of the carburetor, is mainly used to restrict airflow during cold starts to enrich the fuel mixture. The float is involved in maintaining the proper fuel level in the carburetor bowl, while the needle valve controls the flow of fuel into the carburetor but is not a disc. Understanding the function of the throttle is essential for recognizing how carburetors work and how they influence engine performance.

10. Which cleaning methods can be used for a foam air cleaner?

- A. Soap and water**
- B. Kerosene or liquid detergent and water**
- C. Compressed air**
- D. Steam cleaning**

The use of kerosene or liquid detergent in combination with water is particularly effective for cleaning foam air cleaners due to the nature of the materials involved. Foam air cleaners are designed to trap dirt and debris while allowing air to flow through, but they can become clogged over time. Kerosene and liquid detergents help to break down oils and contaminants that accumulate on the foam, effectively restoring the cleaner's performance. This method allows for thorough cleaning without damaging the foam material. After soaking and agitating the foam in the cleaning solution, rinsing it out thoroughly ensures that any residual contaminants and cleaning agents are removed, preventing potential interference with performance once the cleaner is reinstalled. This approach is practical and typically recommended in maintenance guidelines for equipment utilizing foam air filters, making it the most suitable choice for effective cleaning. Other methods, while they can be used in some contexts, may not be as effective or appropriate for foam air cleaners. For example, using soap and water might not effectively remove certain oils, and while compressed air can blow out loose debris, it does not provide a deep clean. Steam cleaning, while effective for some purposes, can risk damaging the foam material if not done with caution.

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://ffasmallenginescde.examzify.com>

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

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