ABSA 4th Class Power Engineer Certificate of Competency – Part A Practice Test (Sample)

Study Guide

BY EXAMZIFY

Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of 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.

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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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

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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!

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Questions

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1. If the subject of a sentence is singular and the verb is plural, this condition is described as:

A. partial sentence

B. run-on sentence

C. lack of agreement

D. confused sentence

2. Which code has not been uniformly adopted by all provinces regarding boilers and pressure vessels?

A. CSA B51

B. NFA

C. ANSI B.31.5

D. ASME I through IX

3. 15 square cm is equal to _____ square inches?

A. 13.950

B. 10.750

C. 2.953

D. 2.325

4. What type of shift is typically expected for power engineers?

A. Straight 8 hour day shifts

B. Straight 12 hour night shifts

C. Straight 8 hour night shifts

D. Rotating shifts

5. A vehicle travelling at 90 km/h decelerates to 50 km/h in 9 seconds. How far does it travel in this duration?

A. 125 m

B. 150 m

C. 175 m

D. 200 m

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6. Which of the following statements about parallel lines is false?

A. They can cross

B. They can run horizontally

C. They never cross

D. They can run vertically

7. An example of a chemical property is the?

A. Formation of steam from water

B. Melting point of a metal

C. Formation of ice from water

D. Formation of rust on a metal

8. Which triangle has at least two sides of equal length?

A. equilateral

B. isosceles

C. right

D. obtuse

9. If length is 10 cm, width is 120 mm, and height is 5 m, what is the volume?

A. 600 litres

B. 60 litres

C. 60 cubic metres

D. 600 cubic metres

10. If a sphere has a volume of 288π cubic cm, what is its radius?

A. 4 cm

B. 6 cm

C. 8 cm

D. 10 cm

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Answers

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

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Explanations

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1. If the subject of a sentence is singular and the verb is plural, this condition is described as:

A. partial sentence

B. run-on sentence

C. lack of agreement

D. confused sentence

When the subject of a sentence is singular, it should typically be paired with a singular verb for grammatical consistency. When a singular subject is matched with a plural verb, it creates a situation where there is a lack of agreement between the subject and the verb. This lack of agreement can lead to confusion in understanding the sentence, as the reader may expect the verb to reflect the number of the subject. In English grammar, maintaining agreement in number between subjects and verbs is essential for clarity. For example, "The cat runs fast" demonstrates proper agreement with a singular subject and a singular verb. Conversely, if we say "The cat run fast," the verb does not agree with the singular subject, leading to a lack of grammatical correctness. Understanding the importance of subject-verb agreement is critical for clear communication, particularly for those preparing for assessments like the ABSA 4th Class Power Engineer Certificate of Competency, where precise language can significantly impact the meaning of technical instructions and documentation.

2. Which code has not been uniformly adopted by all provinces regarding boilers and pressure vessels?

A. CSA B51

B. NFA

C. ANSI B.31.5

D. ASME I through IX

The National Fire Alarm (NFA) code does not pertain specifically to boilers and pressure vessels, which is why it is not uniformly adopted across provinces for this context. This code primarily addresses fire alarm systems and their installations, regulations, and safety requirements rather than the operation or safety standards for boilers and pressure vessels. On the other hand, CSA B51 is a Canadian Standard that specifically addresses the requirements for the design and construction of boilers and pressure vessels, and it is widely recognized across various provinces. ANSI B31.5 covers the safety standards for refrigeration piping, which is relevant to pressure systems, and ASME I through IX includes essential guidelines on the construction and design of pressure vessels and boilers, fundamentally integrating accepted engineering practices. Since these codes directly pertain to the operation and regulation of boilers and pressure vessels, their adoption is more consistent among the provinces compared to the NFA.

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3. 15 square cm is equal to _____ square inches?

A. 13.950

B. 10.750

C. 2.953

D. 2.325

To convert square centimeters to square inches, it is important to understand the relationship between these two units of measurement. One square inch equals approximately 6.4516 square centimeters. Therefore, to convert square centimeters to square inches, one needs to divide the area in square centimeters by the conversion factor (6.4516). Calculating the conversion for 15 square centimeters involves the following steps: 1. Divide the number of square centimeters (15 cm²) by the conversion factor (6.4516 cm²/in²): \(15 \, \text{cm}^2 \div 6.4516 \, \text{cm}^2/\text{in}^2 \approx 2.325 \, \text{in}^2 \) Thus, 15 square centimeters is equal to approximately 2.325 square inches. This calculation confirms that the correct conversion is accurate and matches the answer option provided.

4. What type of shift is typically expected for power engineers?

A. Straight 8 hour day shifts

B. Straight 12 hour night shifts

C. Straight 8 hour night shifts

D. Rotating shifts

Power engineers typically work in rotating shifts due to the continuous operation of facilities they manage, such as power plants. The rotating shift system allows for coverage of all hours of operation while providing engineers the opportunity to gain experience in different time slots. This approach ensures that all shifts are adequately staffed, which is critical for maintaining safety, compliance, and operational efficiency. Rotating shifts can help distribute workload among the engineering staff, allowing them to adapt to changing demands and schedules. It also helps mitigate fatigue that can accumulate from working prolonged night shifts or day shifts exclusively, thus promoting better overall health and performance among power engineers. In contrast, other shift types such as straight 8-hour or straight 12-hour shifts usually do not offer the flexibility or comprehensive coverage required in facilities where continuous operation is essential.

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5. A vehicle travelling at 90 km/h decelerates to 50 km/h in 9 seconds. How far does it travel in this duration?

A. 125 m

B. 150 m

C. 175 m

D. 200 m

**To determine the distance traveled by the vehicle during the deceleration from 90 km/h to 50 km/h over a period of 9 seconds, we can use the formula for average speed when the initial and final speeds are known. First, we convert the speeds from km/h to m/s: - The initial speed (90 km/h) is converted by multiplying by (1000 m / 1 km) and dividing by (3600 s / 1 h), resulting in: \[90 \, \text{km/h} \times \frac{1000}{3600} = 25 \, \text{m/s} \] - The final speed (50 km/h) converts to: \[50 \, \text{km/h} \times \frac{1000}{3600} = \approx 13.89 \, \text{m/s} \] Next, calculate the average speed during this deceleration: \[\text{Average Speed} = \frac{\text{Initial Speed} + \text{Final Speed}}{2} = \frac{25 \, \text{m/s} + 13.89 **

6. Which of the following statements about parallel lines is false?

A. They can cross

B. They can run horizontally

C. They never cross

D. They can run vertically

The statement that parallel lines can cross is false because, by definition, parallel lines are lines in a plane that are always the same distance apart and never meet or intersect, regardless of how far they are extended in either direction. This characteristic distinguishes parallel lines from other types of lines, as they maintain a consistent distance from one another. In contrast, the other statements regarding parallel lines are true. They can run horizontally, as many parallel lines do in a typical Cartesian coordinate system or similar frameworks. Similarly, parallel lines can run vertically, which is often observed when dealing with lines oriented along the y-axis. Thus, these orientations do not affect their parallel nature; they will still remain equidistant and never intersect.

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7. An example of a chemical property is the?

A. Formation of steam from water

B. Melting point of a metal

C. Formation of ice from water

D. Formation of rust on a metal

The formation of rust on a metal is indeed an example of a chemical property because it involves a chemical reaction between the metal and oxygen in the presence of moisture, resulting in the formation of iron oxide. This process is not just a physical change; it alters the composition of the metal, signifying a chemical change. The creation of rust demonstrates how materials can change at the molecular level due to reactions, which is the essence of a chemical property. The other options provided do not fit the definition of a chemical property. For instance, the formation of steam from water and the formation of ice from water are both physical changes, where water changes states but its chemical composition remains the same. Melting point, on the other hand, is a physical property that describes the temperature at which a solid becomes a liquid, also not involving any chemical transformation. Thus, the identification of rust formation highlights the distinction between physical changes and chemical properties effectively.

8. Which triangle has at least two sides of equal length?

A. equilateral

B. isosceles

C. right

D. obtuse

An isosceles triangle is defined by having at least two sides of equal length. This characteristic gives the isosceles triangle its name, as "iso" means equal in Greek, and "sceles" refers to legs or sides. In an isosceles triangle, the angles opposite the equal sides are also equal, contributing to the triangle's symmetry. Equilateral triangles, while having three equal sides, are not specifically classified as having "at least two" equal sides, although they do meet that requirement as a subset of isosceles triangles. Right and obtuse triangles describe types of angles within the triangle rather than the lengths of the sides, so while they may or may not have equal sides, they do not inherently meet the criterion of having at least two sides of equal length. Therefore, the correct choice specifically highlights the defining feature of isosceles triangles.

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9. If length is 10 cm, width is 120 mm, and height is 5 m, what is the volume?

A. 600 litres

B. 60 litres

C. 60 cubic metres

D. 600 cubic metres

To compute the volume of a rectangular object, the formula used is Volume = Length × Width × Height. However, it is crucial that all dimensions are in the same unit before performing the calculation. In this case, we have the length as 10 cm, the width as 120 mm, and the height as 5 m. To simplify the calculation, we can convert all measurements to a common unit, preferably to meters: - The length of 10 cm can be converted to meters: 10 cm = 0.10 m. - The width of 120 mm can also be converted to meters: 120 mm = 0.12 m. - The height is already given as 5 m. Now substituting in the formula: Volume = 0.10 m × 0.12 m × 5 m. Calculating this yields: Volume = 0.10 × 0.12 × 5 = 0.06 cubic meters. To convert this volume into liters (since 1 cubic meter equals 1000 liters), we multiply by 1000: 0.06 m³ × 1000 = 60 liters. Thus, the correct answer aligns with the function of volume measurement and the unit

10. If a sphere has a volume of 288π cubic cm, what is its radius?

A. 4 cm

B. 6 cm

C. 8 cm

D. 10 cm

To find the radius of a sphere given its volume, we use the formula for the volume of a sphere, which is: $$ V = \frac{4}{3} \pi r^3 $$ where $$ V $$ is the volume and $$ r $$ is the radius. In this case, we're given that the volume $$ V = 288\pi $$ cubic cm. To find the radius, we can set up the equation: $$ 288\pi = \frac{4}{3} \pi r^3 $$ We can eliminate $$ \pi $$ from both sides of the equation, resulting in: $$ 288 = \frac{4}{3} r^3 $$ Next, we will isolate $$ r^3 $$ by multiplying both sides by $$ \frac{3}{4} $$: $$ r^3 = 288 \times \frac{3}{4} $$ Calculating that gives: $$ r^3 = 288 \times 0.75 = 216 $$ Now to find $$ r $$, we take the cube root of 216: $$ r = \sqrt[3]{216} = 6 \, \text{cm} $$

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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://absa4thclasspepta.examzify.com

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

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