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

Study Guide

BY EXAMZIFY

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. 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.

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. **75 mm is equivalent to how many inches?**
   A. 3
   B. 4
   C. 5
   D. 6

2. **Which quadrilateral has one pair of parallel sides?**
   A. trapezoid
   B. rectangle
   C. square
   D. rhombus

3. **Heat which brings about a change of state is referred to as what?**
   A. Sensible heat
   B. Latent heat
   C. Expansive heat
   D. Conduction heat

4. **What is typically found at the beginning of a paragraph to guide the reader?**
   A. Summary statement
   B. Topic sentence
   C. Supporting details
   D. Conclusion statement

5. **What happens to sensible heat when temperature rises?**
   A. It remains constant
   B. It decreases
   C. It increases
   D. It cannot be measured

6. The term used to describe the shape created by the points at a constant distance from a central point is?

   A. Line

   B. Circle

   C. Polygon

   D. Ellipse

7. When two pulleys of different diameters are connected by a belt, how does the larger diameter pulley rotate compared to the smaller diameter pulley?

   A. the same speed as

   B. faster than

   C. slower than

   D. in the opposite direction to

8. What is the fraction equivalent of 15% in lowest terms?

   A. 1/5

   B. 3/20

   C. 1/10

   D. 1/4

9. In the SI system, how is capacity (volume) expressed?

   A. m/s

   B. litre per second

   C. joule

   D. litres

10. If the radius of a sphere is 5 cm, what is the volume in cubic cm?

   A. 0.523

   B. 5.232

   C. 52.32

   D. 523.2

Answers

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

Explanations

1. 75 mm is equivalent to how many inches?

A. 3

B. 4

C. 5

D. 6

To determine how many inches are equivalent to 75 mm, it's essential to use the conversion factor where 1 inch is equal to 25.4 mm. By performing the calculation, you can convert millimeters to inches as follows: First, take the millimeters (75 mm) and divide by the conversion factor (25.4 mm/inch): 75 mm ÷ 25.4 mm/inch = approximately 2.95 inches. When rounded to the nearest whole number, this value is approximately 3 inches. Hence, the equivalent of 75 mm is approximately 3 inches, making this the correct choice. While other options suggest different amounts, they do not align with the proper conversion calculation, which confirms that 75 mm is closest to 3 inches.

2. Which quadrilateral has one pair of parallel sides?

A. trapezoid

B. rectangle

C. square

D. rhombus

A trapezoid is defined as a quadrilateral that possesses at least one pair of parallel sides. This characteristic distinguishes trapezoids from other types of quadrilaterals, such as rectangles, squares, and rhombuses, which have more specific properties. In a rectangle, both pairs of opposite sides are parallel, while a square, which is a special type of rectangle, shares this characteristic along with equal side lengths. A rhombus also qualifies as a type of parallelogram, meaning both pairs of its opposite sides are parallel. The defining feature of a trapezoid, however, is its unique condition of having just one pair of parallel sides, making it the correct answer in this scenario.

3. Heat which brings about a change of state is referred to as what?

A. Sensible heat

B. Latent heat

C. Expansive heat

D. Conduction heat

Heat that brings about a change of state is known as latent heat. This type of heat is associated with phase changes in a substance, such as melting, freezing, boiling, or condensing. During these processes, the temperature of the substance remains constant even though heat is being added or removed. For example, when ice melts to become water, it absorbs heat but does not increase in temperature until all the ice has transitioned to water. The same principle applies when water turns into steam; it requires heat energy to change state from liquid to gas without a change in temperature during that phase transition. In contrast, sensible heat refers to the heat exchanged by a substance that results in a temperature change without a change in state. Expansive heat is not a recognized term in thermodynamics relating to heat transfer or phase changes. Conduction heat refers to the transfer of heat through a material without the movement of the material itself and does not specifically relate to changes of state. Thus, the terminology of latent heat specifically defines the heat involved in changing the state of a substance, making it the correct choice for this question.

4. What is typically found at the beginning of a paragraph to guide the reader?

A. Summary statement

B. Topic sentence

C. Supporting details

D. Conclusion statement

A topic sentence serves as a crucial component at the beginning of a paragraph, guiding the reader by presenting the main idea or overall theme of that paragraph. It sets the tone for what is to follow and provides context for the supporting details that follow. This helps the reader to understand the direction of the paragraph and what to expect in terms of information. In contrast, a summary statement is generally found at the end of a text, encapsulating the main points made throughout. Supporting details are typically found within the body of the paragraph, providing evidence or examples that reinforce the topic sentence. A conclusion statement is designed to wrap up an argument or idea, summarizing the information presented rather than introducing it. Therefore, the topic sentence is clearly the key element that establishes the focus and direction for the reader from the outset of the paragraph.

5. What happens to sensible heat when temperature rises?

A. It remains constant

B. It decreases

C. It increases

D. It cannot be measured

When the temperature of a substance rises, the sensible heat increases. Sensible heat refers to the amount of thermal energy that can be measured by a temperature change in a substance without a phase change occurring. As temperature increases, the kinetic energy of the molecules within the substance also increases, which leads to a rise in sensible heat. This phenomenon is a fundamental principle in thermodynamics, where the relationship between temperature and heat content is critical for understanding energy transfers within systems. Therefore, when contemplating the effects of a temperature rise on sensible heat, it is clear that it directly correlates—an increase in temperature results in an increase in sensible heat.

6. **The term used to describe the shape created by the points at a constant distance from a central point is?**

   A. Line

   B. Circle

   C. Polygon

   D. Ellipse

The term that describes the shape created by points at a constant distance from a central point is indeed a circle. A circle is defined mathematically as the set of all points in a plane that are equidistant from a fixed point, known as the center. This constant distance is known as the radius of the circle. For clarity, while a line can extend infinitely in both directions and is defined by two endpoints or can represent linear relations, it does not encompass a shape defined by distance from a center. A polygon consists of straight edges and vertices and does not represent the concept of a radius from a central point; it requires a minimum of three sides. An ellipse, on the other hand, is defined by two focal points, and while it can appear similar to a circle, it does not maintain a constant distance from a central point as defined for circles. Thus, the definition of a circle aligns perfectly with the question's criteria.

7. **When two pulleys of different diameters are connected by a belt, how does the larger diameter pulley rotate compared to the smaller diameter pulley?**

   A. the same speed as

   B. faster than

   C. slower than

   D. in the opposite direction to

When two pulleys of different diameters are connected by a belt, the larger diameter pulley rotates slower than the smaller diameter pulley. This is due to the relationship between the pulleys' diameters and their rotational speeds. The belt connecting the pulleys moves at a consistent linear speed. For the larger pulley, which has a greater circumference, it requires a longer distance to complete one revolution compared to the smaller pulley. As a result, to maintain the same belt speed, the larger pulley will rotate fewer times per minute than the smaller pulley, resulting in a slower rotational speed for the larger diameter pulley. In practical applications, this principle is often utilized in systems where torque multiplication is required. By having a larger pulley driving a smaller one, the system can achieve higher speeds in the smaller pulley while sacrificing some rotational speed in the larger pulley, which is effective for mechanisms requiring different operational speeds.

8. What is the fraction equivalent of 15% in lowest terms?

A. 1/5

B. 3/20

C. 1/10

D. 1/4

To determine the fraction equivalent of 15% in lowest terms, it's important to understand the concept of percentages as a fraction of 100. The percentage 15% means 15 out of 100, which can be written as the fraction 15/100. Next, this fraction can be simplified. To simplify 15/100, we find the greatest common divisor (GCD) of the numerator (15) and the denominator (100). The GCD of 15 and 100 is 5. Now, we can divide both the numerator and the denominator by the GCD: - 15 ÷ 5 = 3 - 100 ÷ 5 = 20 This gives us the fraction 3/20. 3/20 is indeed in its lowest terms, as there are no common factors between the numerator and the denominator other than 1. Therefore, the fraction equivalent of 15% is 3/20. This is why the correct answer is B.

9. In the SI system, how is capacity (volume) expressed?

A. m/s

B. litre per second

C. joule

D. litres

In the International System of Units (SI), capacity or volume is expressed in liters (litres). The liter is a fundamental unit for measuring the space occupied by substances, typically liquids. This measurement is essential in various fields, including engineering, chemistry, and everyday life, as it helps quantify how much of a substance is present. The reason why this choice is the correct one is that liters are widely accepted and standardized for volume measurements in scientific contexts, making them a primary reference. This contrasts with other units; for instance, meters per second measures speed, joules measure energy, and liters per second indicates a flow rate rather than outright capacity. These other options do not measure volume directly, which reinforces the validity of liters as the appropriate answer.

10. If the radius of a sphere is 5 cm, what is the volume in cubic cm?

A. 0.523

B. 5.232

C. 52.32

D. 523.2

To determine the volume of a sphere, the formula used is $V = \frac{4}{3} \pi r^3$, where V is the volume and r is the radius of the sphere. Given that the radius r is 5 cm, we can substitute this value into the formula: 1. Calculate r^3: $$r^3 = 5^3 = 125 \text{ cm}^3$$ 2. Now substitute r^3 into the volume formula: $$V = \frac{4}{3} \pi (125)$$ 3. Using π approximately as 3.14 for calculation purposes: $$V \approx \frac{4}{3} \times 3.14 \times 125$$ 4. First, calculate $\frac{4 \times 3.14 \times 125}{3}$: $$4 \times 3.14 = 12.56$$ $$12.56 \times 125 = 1570$$

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!