

# Transformers Test 1 Practice (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. How is non-PCB fluid indicated?**
  - A. A Non-PCB tag/sticker or on the nameplate**
  - B. A PCB tag**
  - C. A color code**
  - D. A serial number**
  
- 2. What does kVA stand for?**
  - A. Kilovolt-Amperes**
  - B. Kilovolt-Ampere**
  - C. Kilowatts**
  - D. Megavolt-Amperes**
  
- 3. Besides low resistance, what other property of copper contributes to its use in windings?**
  - A. High conductivity**
  - B. Low density**
  - C. High melting point**
  - D. Magnetic permeability**
  
- 4. What is the Turns ratio for 138000 (primary) and 19900 (secondary)?**
  - A. 6.9:1**
  - B. 1:6.9**
  - C. 138000:19900**
  - D. 19900:138000**
  
- 5. On a pad-mounted transformer, the primary side is located on which side?**
  - A. Left side**
  - B. Right side**
  - C. Top**
  - D. Bottom**

6. The transformer core provides a path for the \_\_\_\_\_ of the transformer windings.
- A. Magnetic coupling
  - B. Electrical resistance
  - C. Thermal conduction
  - D. Structural support
7. When the winding ends are brought out of the core they are labeled \_\_\_\_\_.
- A. A-B-C-D
  - B. 1-2-3-4
  - C. I-II-III-IV
  - D. W-X-Y-Z
8. Being able to transform a voltage is not possible with which circuits?
- A. AC
  - B. DC
  - C. Pulsed
  - D. Mixed
9. A large size home will draw how many watts at peak load?
- A. 6,000
  - B. 12,000
  - C. 15,000
  - D. 25,000
10. Which of the following statements is true regarding labeling of non-PCB fluids?
- A. Non-PCB fluids are identified with a non-PCB tag or nameplate
  - B. Non-PCB fluids must be yellow
  - C. Non-PCB fluids are never tested
  - D. Non-PCB fluids are identical to PCB fluids

## Answers

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

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## **Explanations**

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## 1. How is non-PCB fluid indicated?

- A. A Non-PCB tag/sticker or on the nameplate**
- B. A PCB tag**
- C. A color code**
- D. A serial number**

Non-PCB fluid is identified with a Non-PCB tag or sticker, or a marking on the nameplate. This labeling is used so workers can quickly tell that the fluid does not contain PCBs, which affects handling, disposal, and safety procedures. A PCB tag would signal the presence of PCBs, not their absence, so it's not the right indicator for non-PCB fluid. Color codes and serial numbers serve other purposes (color codes for general tagging schemes, serial numbers for unit identification) and don't reliably convey whether PCBs are present. So the standard way to indicate non-PCB fluid is a Non-PCB tag/sticker or a Non-PCB marking on the nameplate.

## 2. What does kVA stand for?

- A. Kilovolt-Amperes**
- B. Kilovolt-Ampere**
- C. Kilowatts**
- D. Megavolt-Amperes**

kVA is the unit for apparent power in AC circuits—the product of voltage and current, without considering the phase angle between them. Kilovolt-amperes literally describes voltage (in kilovolts) times current (in amperes). This is different from kilowatts, which measure real power actually delivered as useful work and depend on the power factor. The relationship is  $P \text{ (kW)} = S \text{ (kVA)} \times \text{pf}$ , where pf is the power factor; when pf is 1, kW equals kVA. For example, a 100 kVA device at pf 0.8 delivers about 80 kW. Megavolt-amperes are just a larger unit of the same concept, while kilowatts refer to real power. That makes Kilovolt-Amperes the correct term.

## 3. Besides low resistance, what other property of copper contributes to its use in windings?

- A. High conductivity**
- B. Low density**
- C. High melting point**
- D. Magnetic permeability**

High electrical conductivity is the key property. Copper's ability to conduct electricity exceptionally well means current can flow with minimal energy lost as heat, so windings carry large currents efficiently and stay cooler. This complements its low resistance to keep voltage drops small and minimize  $I^2R$  losses, which is crucial for efficient transformers and motors. The other options aren't as relevant: low density affects weight more than electrical performance; a high melting point helps with heat tolerance but isn't the main reason windings work well; magnetic permeability in copper is not high (it's about the same as free space), so it doesn't contribute to winding behavior.

4. What is the Turns ratio for 138000 (primary) and 19900 (secondary)?

**A. 6.9:1**

B. 1:6.9

C. 138000:19900

D. 19900:138000

Turns ratio is the comparison of how many turns are on the primary relative to the secondary. With 138000 turns on the primary and 19900 on the secondary, divide 138000 by 19900 to get about 6.94. This means the primary has roughly 6.9 times as many turns as the secondary, so the turns ratio is about 6.9:1. This indicates a step-down action, since more primary turns yield a higher primary voltage and a lower secondary voltage. The other ways to write it either invert the order (secondary to primary) or present the exact raw ratio without simplifying; the chosen form matches the standard primary:secondary expression and a practical rounded value.

5. On a pad-mounted transformer, the primary side is located on which side?

**A. Left side**

B. Right side

C. Top

D. Bottom

The primary side is on the left side. In electrical diagrams and equipment labeling, the input or source side (high voltage) is typically shown on the left, with the output or load side (lower voltage) on the right. For a pad-mounted transformer, the high-voltage primary terminals are arranged so the incoming distribution feeder connects on the left, while the low-voltage secondary side is on the right. This left-side placement aligns with the standard left-to-right flow from source to load, making the primary side the left side.

6. The transformer core provides a path for the \_\_\_\_\_ of the transformer windings.

**A. Magnetic coupling**

B. Electrical resistance

C. Thermal conduction

D. Structural support

The key idea is that a transformer transfers energy through magnetic flux linking the windings, and the core provides the path for that flux. By offering a low-reluctance, closed magnetic path, the core concentrates the magnetic flux and links it efficiently to both windings, creating strong magnetic coupling and enabling energy to be transferred with high efficiency. The core isn't primarily about electrical resistance, heat transfer, or structural support, though it can play minor roles in those areas; its main function is to guide the magnetic flux and enable the windings to couple magnetically.

7. When the winding ends are brought out of the core they are labeled \_\_\_\_\_.

**A. A-B-C-D**

B. 1-2-3-4

C. I-II-III-IV

D. W-X-Y-Z

Labeling winding terminals with simple letters provides a clear, universal way to identify the ends of two windings when they are brought out of the core. Using designated ends such as A and B for one winding and C and D for the other makes diagrams, wiring, and polarity checks straightforward. It's easy to reference in schematics and ensures consistent communication across diagrams, tests, and connections. Other labeling schemes like numbers, Roman numerals, or less common letter sets aren't the standard, so they can cause confusion or misconnection. That's why the common practice is to use four distinct lettered terminals, typically A, B, C, and D.

8. Being able to transform a voltage is not possible with which circuits?

A. AC

**B. DC**

C. Pulsed

D. Mixed

Voltage transformation relies on a transformer, which works through changing magnetic flux in the core. A steady direct current, once the initial energizing transient passes, creates a constant flux, so there's no changing flux to induce a different voltage in the secondary. Without that changing flux, a pure DC signal cannot be stepped up or down by a simple transformer. If the input includes time-varying components—like alternating current, or pulses with rising and falling edges—the flux changes and the transformer can transfer energy to produce a different voltage level. Mixed signals also contain changing parts that allow transformation. In practice, to change a DC level, people use DC-DC converters that switch to create an effective AC-like waveform and then reassemble it at the desired DC level. So the circuit type where voltage transformation isn't possible in the usual transformer sense is direct current.

9. A large size home will draw how many watts at peak load?

A. 6,000

B. 12,000

**C. 15,000**

D. 25,000

Peak load is the maximum amount of power a residence will draw at the same time, when several big loads like HVAC, electric water heater, range, dryer, and lights run together. For a large-size home, a common rule-of-thumb used in practice is about 15,000 watts. That amount roughly corresponds to around 60 to 65 amps on a 240-volt service, which fits typical large-home equipment combinations. The other numbers are either too low to cover a large home's simultaneous demands (6,000 W) or too high unless many high-power appliances are on at once (25,000 W); 12,000 W is plausible but the standard example that matches a large home's peak effort is 15,000 W.

**10. Which of the following statements is true regarding labeling of non-PCB fluids?**

**A. Non-PCB fluids are identified with a non-PCB tag or nameplate**

**B. Non-PCB fluids must be yellow**

**C. Non-PCB fluids are never tested**

**D. Non-PCB fluids are identical to PCB fluids**

Clearly identifying whether a transformer fluid is non-PCB is essential for safe handling and regulatory compliance. The best approach is to attach a non-PCB tag or nameplate to the equipment or container, so everyone immediately knows the fluid does not contain PCBs and should be treated accordingly. Color alone isn't a universal or required identifier, so stating that non-PCB fluids must be yellow isn't reliable. Non-PCB fluids are not inherently different in labeling from PCB fluids in terms of requirement to verify status, so the idea that they are never tested isn't accurate. And non-PCB fluids are not identical to PCB fluids; they differ in PCB content and require clear labeling to prevent mixing up or improper disposal.

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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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://transformers1.examzify.com>**

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

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