BUILDING TECHNOLOGY AND UTILITIES PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED 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. 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!

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Questions

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1. Smaller units usually inside rooms or ceilings that blow cooled air.

A. AHUs

B. AC Units

C. FCUs (Fan Coil Units)

D. Smoke Detectors

2. Turnstiles are part of which system?

A. CCTV Systems

B. PA/BGM Systems

C. Fire Detection

D. Access Control / Biometrics

3. Which fire protection system uses vertical piping and hoses to deliver water to firefighters?

A. Piping Network

B. Fire Extinguishers

C. Dampers

D. Standpipe and Hose System

4. Which scientist demonstrated that an electric current can produce a magnetic field?

A. Albert Einstein

B. Ben Franklin

C. Hans Christian Orsted

D. James Watt

5. Which part acts as a cover for the escalator handrail and is made of synthetic polymers and rubber?

A. Outer layer

B. Slider or Glider Ply

C. Tension Member

D. Steps

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6. Atoms with no charge

A. Electrons

B. Neutrons

C. Protons

D. Atoms

7. Opposition to the flow of electric current is called which term?

A. Voltage

B. Current

C. Conductance

D. Resistance

8. Which escalator component is located at the upper section of the truss and contains the drive sprocket, step chain wheels, and main axis?

A. Steps

B. Drive System

C. Handrail

D. Step Chain

9. Which is the unit of inductance?

A. Volt

B. Siemen

C. Henry

D. Farad

10. Renewable source uses heat stored beneath the earth's surface to generate energy?

A. Solar Energy

B. Biomass

C. Geothermal Energy

D. Tidal Power

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Answers

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

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Explanations

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1. Smaller units usually inside rooms or ceilings that blow cooled air.

A. AHUs

B. AC Units

C. FCUs (Fan Coil Units)

D. Smoke Detectors

Smaller units inside rooms or ceilings that blow cooled air are fan coil units. A fan coil unit contains a small fan and a cooling coil that's connected to a centralized plant, such as chilled water or a refrigerant loop. Air is drawn over the cooled coil, cooled, and blown into the space, providing local, zoned cooling directly where people are. This setup is designed for individual rooms or zones, which is why you'll often see these units in ceilings or inside a room. Air handling units, in contrast, are larger central devices that condition and distribute air to many spaces through a network of ducts and are usually located in mechanical rooms or on rooftops. "AC units" can refer to standalone room air conditioners, which are not typically integrated into a building's central distribution system. Smoke detectors don't provide cooling at all.

2. Turnstiles are part of which system?

A. CCTV Systems

B. PA/BGM Systems

C. Fire Detection

D. Access Control / Biometrics

Turnstiles function as a physical barrier that enforces controlled entry by requiring a credential (card, fob, or biometric) before passage. They are part of access control / biometrics because this system identifies individuals and grants or denies access, often logging who passes through. This is distinct from CCTV, which mainly monitors and records activity; fire detection, which detects fires and triggers alarms; and PA/BGM systems, which deliver announcements. In practice, turnstiles are integrated with the access control system to ensure only authorized personnel can enter and to provide entry data for security monitoring.

3. Which fire protection system uses vertical piping and hoses to deliver water to firefighters?

A. Piping Network

B. Fire Extinguishers

C. Dampers

D. Standpipe and Hose System

Fires inside multi-story buildings are fought best when water can be delivered to firefighters at various levels without carrying hoses up stairways. The standpipe and hose system provides a vertical standpipe network that runs through the structure with hose outlets on each floor. Firefighters connect hoses to these outlets to battle the fire from inside, using the building's water supply or a fire department connection to supply the water. This system can be configured as wet (water-filled) or dry (water supplied when a hose is opened). Other options don't fit because a general piping network is just a broad term for distributing water and doesn't specify vertical standpipes with readily available hoses on multiple floors. Dampers are devices that control airflow in ductwork, not water delivery for firefighting. Fire extinguishers are portable devices for small, immediate fires and aren't part of a building-wide system used by firefighters.

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4. Which scientist demonstrated that an electric current can produce a magnetic field?

A. Albert Einstein

B. Ben Franklin

C. Hans Christian Orsted

D. James Watt

Electric current creates a magnetic field around a conductor. Hans Christian Ørsted demonstrated this by observing that a compass needle deflected when a current flowed in a nearby wire. This showed that the moving electric charges generate a magnetic field in the surrounding space, and the direction of that field follows the curl of the current (reversing the current reverses the field). This finding linked electricity and magnetism and led to the development of electromagnets, motors, and generators. The other figures are known for different contributions: Franklin with early electricity experiments, Watt with steam engine improvements, and Einstein with relativity and quantum ideas. So the best answer is the scientist who directly showed that an electric current can produce a magnetic field.

5. Which part acts as a cover for the escalator handrail and is made of synthetic polymers and rubber?

A. Outer layer

B. Slider or Glider Ply

C. Tension Member

D. Steps

The outer layer serves as the cover for the escalator handrail. It's typically made from synthetic polymers and rubber to provide a durable, flexible surface that protects the inner core, resists wear and moisture, and offers a comfortable, grippy feel for users. The other parts have different roles: a slider or glider ply relates to the sliding interface and reduces friction, a tension member keeps the system properly taut, and the steps are the raised platforms passengers step on. So, the outer layer is the protective handrail cover made from polymers and rubber.

6. Atoms with no charge

A. Electrons

B. Neutrons

C. Protons

D. Atoms

Electric charge varies among subatomic particles; the one with no charge is the neutron. Neutrons reside in the nucleus alongside protons and contribute mass without adding any electrical charge, so they are electrically neutral. Electrons carry negative charge, and protons carry positive charge. An atom can be neutral overall when the numbers of protons and electrons are equal, but the particle that itself has no charge is the neutron.

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7. Opposition to the flow of electric current is called which term?

A. Voltage

B. Current

C. Conductance

D. Resistance

Opposition to the flow of electric current is called resistance. It's a property of a material that resists the movement of electrons, quantified by the symbol R and measured in ohms. Ohm's law links voltage, current, and resistance with V = I × R, so for a given voltage, higher resistance reduces current. The resistance of a conductor increases with length and decreases with cross-sectional area; temperature can also affect it, especially in metals where resistance typically rises with temperature. Materials with high resistance act as insulators, while low-resistance materials conduct more easily. Conductance is the reciprocal of resistance and indicates how readily current can flow, whereas voltage is the driving potential difference, and current is the rate of charge flow.

8. Which escalator component is located at the upper section of the truss and contains the drive sprocket, step chain wheels, and main axis?

A. Steps

B. Drive System

C. Handrail

D. Step Chain

The motion that makes the escalator move comes from the drive system, which is placed in the upper section of the truss. This assembly contains the drive sprocket, step chain wheels, and the main axis, and it's the part that converts electrical energy into the rotating torque that pulls the step chain around the loop. The drive sprocket grips the step chain to pull it, the step chain wheels guide the chain around its path, and the main axis is the central shaft that these components rotate on, transmitting power from the motor to the chain. The steps ride on carriers attached to the chain, so they move as the chain moves, but the actual components that generate and transfer the motion are part of the drive system. The handrail operates on a separate loop and guide system, and the step chain itself is the conveyor that carries the steps, not the source of drive by itself.

9. Which is the unit of inductance?

A. Volt

B. Siemen

C. Henry

D. Farad

Inductance quantifies how much voltage is generated in response to a changing current. The unit of inductance is the Henry. This comes from the relationship emf = L(dI/dt). If emf is in volts and the current changes at a rate of dI/dt amperes per second, then L must have units of volt-second per ampere, defined as one Henry. The Henry can also be expressed as weber per ampere. In practical terms, 1 Henry means a 1-volt emf is produced when the current changes at 1 ampere per second. The other options correspond to different electrical properties: volt for potential difference, Siemens for conductance, and Farad for capacitance.

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10. Renewable source uses heat stored beneath the earth's surface to generate energy?

A. Solar Energy

B. Biomass

C. Geothermal Energy

D. Tidal Power

Geothermal energy uses heat stored beneath the Earth's surface. The heat comes from the planet's formation and ongoing radioactive decay, providing a steady, renewable source of energy. Wells can access hot water or steam from underground reservoirs to drive turbines for electricity or to supply direct heating, making it suitable as baseload power when managed sustainably. Other options rely on different energy sources: solar energy captures sunlight, biomass uses organic material, and tidal power harnesses the motion of ocean tides. They do not depend on heat from beneath the Earth's surface in the same way geothermal energy does.

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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://buildingtechutilities.examzify.com

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

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