

CWEA MECHANICAL TECHNOLOGIST II PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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THE FULL VERSION STUDY GUIDE

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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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 alternating current characterized?**
 - A. It flows in one direction
 - B. It is always constant
 - C. It is continuously reversing in direction
 - D. It is only used in battery systems
- 2. What type of maintenance might be necessary for bearings in rotary pumps?**
 - A. Re-lubrication or replacement
 - B. Realignment
 - C. Adjustment of clearance
 - D. Cleaning only
- 3. How many grams are in one cubic centimeter (cc) of water?**
 - A. 0.1 grams
 - B. 1 gram
 - C. 10 grams
 - D. 100 grams
- 4. How often should pumps generally be greased to ensure proper operation?**
 - A. Once a month
 - B. Every six months
 - C. Every three months
 - D. Every year
- 5. What safety precaution should you take when working with digester gas?**
 - A. Only work in outdoor environments
 - B. Use a proper mask and keep any flame away
 - C. Use protective gloves and goggles
 - D. Ensure there are no electrical appliances nearby

- 6. What is the term for the sum of total static head, head loss, and velocity head?**
- A. Net head.
 - B. Dynamic head.
 - C. Total head.
 - D. Effective head.
- 7. What is the best choice of work clothing fabric for electrical work?**
- A. Polyester
 - B. Cotton
 - C. Nomex
 - D. Wool
- 8. In mounting a bearing, which ring should be primarily applied with force?**
- A. The outer ring
 - B. The inner ring
 - C. The ring that rotates with the application
 - D. The ring that is stationary
- 9. What does EMT stand for in electrical installations?**
- A. Electronic Metal Technology
 - B. Electrical Metal Tubing
 - C. Energy Management Tool
 - D. Electromagnetic Transmission
- 10. What is the main function of a bourdon-tube gauge?**
- A. To measure the flow rate of liquids
 - B. To measure the pressure of gases or liquids
 - C. To measure the temperature of a substance
 - D. To measure the volume of gas within a container

Answers

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

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Explanations

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1. How is alternating current characterized?

- A. It flows in one direction
- B. It is always constant
- C. It is continuously reversing in direction**
- D. It is only used in battery systems

Alternating current (AC) is characterized by its ability to continuously reverse direction, which is inherent to its definition and functioning. Unlike direct current (DC), which flows steadily in one direction, AC periodically changes its flow direction. This reversal occurs at a certain frequency, measured in hertz (Hz), which indicates how many times per second the current changes direction. This property of AC allows it to be transmitted over long distances more efficiently and is the reason why it is predominantly used in power distribution systems, such as those supplying electricity to homes and industries. The alternating nature of the current is also what enables the operation of transformers and various types of electrical equipment that rely on this fluctuation for effective performance. The other options do not accurately represent the characteristics of alternating current, thereby underscoring the uniqueness of option C. The precise behavior of AC is critical in understanding electricity generation, distribution, and its application across various technologies.

2. What type of maintenance might be necessary for bearings in rotary pumps?

- A. Re-lubrication or replacement**
- B. Realignment
- C. Adjustment of clearance
- D. Cleaning only

In the context of rotary pumps, the maintenance of bearings is crucial for ensuring the smooth operation and longevity of the equipment. Bearings are subject to wear and tear due to continuous movement and load. Over time, the lubricant within the bearings can degrade, leading to increased friction, overheating, and ultimately failure. Re-lubrication is the process of adding fresh lubricant to maintain adequate lubrication levels and minimize friction and wear. In cases where the bearings have experienced significant wear or damage, replacement may be necessary to restore optimal performance. Regularly assessing the condition of the bearings and addressing lubrication is fundamental in preventing pump failure and ensuring efficient operation. Although realignment, adjustment of clearance, and cleaning can be part of a broader maintenance strategy for rotary pumps, they do not directly address the typical wear and tear that affects bearings specifically. These alternative actions serve other functions, such as ensuring overall pump efficiency, but they do not focus on the lubrication and condition of the bearings, which is why re-lubrication or replacement is the most critical type of maintenance for them.

3. How many grams are in one cubic centimeter (cc) of water?

- A. 0.1 grams
- B. 1 gram**
- C. 10 grams
- D. 100 grams

One cubic centimeter (cc) of water is equivalent to 1 gram due to the definition of density. The density of water at standard temperature and pressure is approximately 1 gram per cubic centimeter. This means that if you take a volume of water that measures 1 cubic centimeter, it will weigh exactly 1 gram. This relationship is fundamental in various scientific fields, especially in chemistry and physics, where the measurement of density plays a critical role in calculations related to mass and volume. The choice that states 1 gram accurately reflects this direct and universally accepted conversion, making it the correct answer. Other choices of 0.1 grams, 10 grams, and 100 grams do not represent the mass of water in this specific volume at standard conditions.

4. How often should pumps generally be greased to ensure proper operation?

- A. Once a month
- B. Every six months
- C. Every three months**
- D. Every year

Pumps should generally be greased every three months to maintain optimal performance and prevent premature wear. Regular greasing is crucial because it ensures that the bearings and other moving parts are adequately lubricated, reducing friction and heat generation. This lubrication helps in extending the lifespan of the pump and contributes to its efficiency during operation. Greasing every three months strikes a balance between sufficient maintenance and practical scheduling, allowing technicians to keep an ongoing check on the pump's condition without overwhelming service intervals. While some pumps may have specific greasing requirements based on manufacturer recommendations or operating conditions, the three-month interval is a widely accepted standard in many industrial applications.

5. What safety precaution should you take when working with digester gas?

- A. Only work in outdoor environments
- B. Use a proper mask and keep any flame away**
- C. Use protective gloves and goggles
- D. Ensure there are no electrical appliances nearby

When working with digester gas, it is crucial to use a proper mask and keep any flame away due to the highly volatile and potentially explosive nature of the gas. Digester gas, which is primarily composed of methane, can present significant health and safety risks, including fire and explosion hazards, if not handled properly. A proper mask helps to protect against inhalation of harmful gases or vapors that may be present in the work environment. Additionally, keeping flames away is essential because methane is flammable and can ignite easily, leading to dangerous situations. While other safety measures like using protective gloves and goggles, ensuring there are no electrical appliances nearby, and working outdoors can contribute to a safer working environment, they do not directly address the immediate hazards posed by the combustion and toxic properties of digester gas. Therefore, utilizing a proper mask and avoiding open flames are the most critical precautions when dealing with this type of gas.

6. What is the term for the sum of total static head, head loss, and velocity head?

- A. Net head.
- B. Dynamic head.
- C. Total head.**
- D. Effective head.

The term that represents the sum of total static head, head loss, and velocity head is known as total head. Total head is a concept used to describe the total potential energy available in a fluid system due to the elevation and pressure differences, along with the kinetic energy due to velocity. When considering fluid dynamics, total static head refers to the height of a fluid column due to the pressure at the system's elevation. Head loss accounts for the energy lost due to friction or turbulence as the fluid moves through pipes or fittings. Velocity head is related to the kinetic energy of the fluid as it flows. By summing these three components, one obtains the total head, which is crucial in determining flow rates, pump performance, and the overall efficiency of fluid systems. This comprehensive view enables engineers to assess how effectively a fluid can be transported from one point to another in a system. Other terms like net head, dynamic head, or effective head do not accurately encapsulate the combination of all these aspects, which is why total head is the correct terminology in this context.

7. What is the best choice of work clothing fabric for electrical work?

- A. Polyester
- B. Cotton
- C. Nomex**
- D. Wool

Nomex is a specially designed fabric that is inherently flame-resistant and is often used in environments where electrical work is performed. This fabric is particularly advantageous for electrical work because it provides protection against electrical arc flashes, which can occur when there is a short circuit or equipment failure. Nomex does not melt or drip when exposed to high heat, which is critical in preventing severe burns during electrical incidents. Additionally, Nomex is breathable and comfortable for the worker, allowing for better mobility and less overheating during physically demanding tasks. This fabric meets various safety standards required for workers in electrical fields, making it a reliable choice for those needing protective clothing that can withstand hazardous conditions. In comparison, while cotton is a natural fiber and may offer some level of comfort and breathability, it does not provide the same level of protection against flames and electric arcs. Wool, although flame resistant to some extent, can retain moisture and is less effective at protecting against electric shock. Polyester, on the other hand, is not flame resistant and can melt when exposed to high heat, which poses a significant risk in electrical work scenarios. Thus, Nomex stands out as the best choice for work clothing fabric for electrical work due to its protective qualities and compliance with safety regulations.

8. In mounting a bearing, which ring should be primarily applied with force?

- A. The outer ring
- B. The inner ring
- C. The ring that rotates with the application**
- D. The ring that is stationary

When mounting a bearing, it is essential to apply force to the ring that rotates, which is typically the inner ring. This approach ensures that the bearing is properly fitted onto the shaft, allowing for smooth rotation and optimal performance. Applying force to the rotating ring helps to achieve the correct interference fit between the bearing and the shaft, preventing slippage and ensuring that the bearing functions effectively under load. When the inner ring is pressed onto the shaft, it creates a tight fit that enables the outer ring to remain stationary in its housing. This method also reduces the risk of damaging the rolling elements or the raceway surfaces of the bearing, which could lead to premature failure. Additionally, focusing on the inner ring during installation allows for better control of the mounting process, making it easier to achieve precise alignment. In scenarios where the outer ring is forced instead of the inner, there is a risk of misalignment and damage to the bearing's internal components. Therefore, mounting force on the inner ring, which is designed to rotate with the application, is crucial for ensuring reliable operation and longevity of the bearing.

9. What does EMT stand for in electrical installations?

- A. Electronic Metal Technology
- B. Electrical Metal Tubing**
- C. Energy Management Tool
- D. Electromagnetic Transmission

The term EMT in the context of electrical installations stands for Electrical Metal Tubing. EMT is a type of conduit that is used to protect and route electrical wiring in a building or structure. It is made of thin-walled, galvanized steel, which provides a durable and protective enclosure for electrical conductors. This type of conduit is popular because it is lightweight, easy to handle, and offers good corrosion resistance. Using EMT allows for the organization of electrical wiring, maintaining safety standards, and protecting wires from physical damage. It's especially useful in environments where the installation needs to be neat and concise, such as in commercial or industrial settings. Understanding the function and application of EMT is crucial for anyone working in the field of electrical installations, as it contributes to both safety and efficiency in electrical system design and layout.

10. What is the main function of a bourdon-tube gauge?

- A. To measure the flow rate of liquids
- B. To measure the pressure of gases or liquids**
- C. To measure the temperature of a substance
- D. To measure the volume of gas within a container

The bourdon-tube gauge is primarily designed to measure the pressure of gases or liquids. It operates based on the mechanical deformation of a curved tube, which tends to straighten out as pressure increases. This change in shape is then translated into a movement that indicates pressure on a dial. The sensitivity and reliability of this device make it suitable for a wide range of applications where pressure monitoring is crucial, such as in hydraulic systems, pneumatic systems, and various industrial processes. Measuring flow rate, temperature, or volume pertains to different principles and devices that are specifically engineered for those parameters, such as flow meters for flow rate, thermometers for temperature, and gas volume meters for volume measurement. These instruments do not utilize the same mechanical principles as the bourdon tube, which is inherently focused on the correlation between pressure and the physical response of the tube.

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://cweamechtech2.examzify.com>

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

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