MTTC Missed Topics Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Table of Contents

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

1. How many standard amino acids are used to build proteins?

A. Catalysts for reactions in cells; 30 types

B. Nucleotides; 4 types

C. Building blocks of proteins; 20 types

D. Carbohydrate monomers; 10 types

2. Higher salinity leads to what?

A. Higher density

B. Lower density

C. Higher temperature

D. Lower salinity

3. Which term describes the north reference used for maps, navigation, and GPS coordinates?

A. Geographic north

B. Magnetic north

C. Kekule's theory

D. Uniformitarianism

4. Anthophyta are which of the following?

A. Flowering Plants

B. Ferns

C. Conifers

D. Mosses

5. Dermal tissue protects the plant and reduces water loss while enabling gas exchange through stomata is primarily the:

A. Epidermis (plants)

B. Ground tissue

C. Vascular tissue

D. Cortex

6. Which statement best describes the thermosphere?

A. Very thin air, very high temperatures; includes auroras; where the ISS and satellites orbit

B. Dense air, low temperatures; home to weather systems

C. Medium air density with moderate temperatures; home to trade winds

D. Water cycle occurs here; forms clouds

7. What is the average ocean depth?

A. 24,000 meters

B. 12,400 meters

C. 1,000 meters

D. 100 meters

8. Which group are inner planets?

A. Jupiter, Saturn, Uranus, Neptune

B. Pluto, Eris, Haumea, Ceres

C. Mercury, Venus, Earth, Mars

D. Moon, Sun, Earth, Venus

9. Vascular tissue in plants (transport) is composed of which tissues?

A. Cortex and endodermis

B. Xylem and phloem

C. Epidermis and guard cells

D. Pith and mesophyll

10. Which term describes the phenomenon of the regular rise and fall of the ocean's surface?

A. The tides

B. High tide

C. Neap tide

D. Spring tide

Answers

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

Explanations

1. How many standard amino acids are used to build proteins?

A. Catalysts for reactions in cells; 30 types

B. Nucleotides; 4 types

C. Building blocks of proteins; 20 types

D. Carbohydrate monomers; 10 types

Proteins are built from amino acids, the building blocks arranged in long chains. The standard genetic code specifies twenty amino acids that are routinely incorporated into proteins during translation. These twenty differ by their side chains, which gives each amino acid distinct chemical properties and drives how the chain folds into three-dimensional structures with specific functions. While some organisms use a few nonstandard amino acids in particular contexts, the common, canonical set used to build most proteins is twenty. The other statements mix up what these building blocks are—nucleotides form nucleic acids, carbohydrate monomers form carbohydrates—so they don't describe the building blocks of proteins or their quantity.

2. Higher salinity leads to what?

A. Higher density

B. Lower density

C. Higher temperature

D. Lower salinity

When salinity increases, the density of the water increases. Density is mass per unit volume, and adding dissolved salts raises the mass without a proportional rise in volume, so the solution becomes heavier per unit volume. That's why saltier water sits lower in a column and can sink if it's also cool. Temperature also plays a role—warmer water expands and becomes less dense, while cooler water is denser—but the direct effect of higher salinity is to raise density. So the outcome is higher density; the other options don't fit because they describe the opposite (lower density) or introduce a separate factor (higher temperature) that can counteract density but doesn't negate the primary relationship with salinity.

3. Which term describes the north reference used for maps, navigation, and GPS coordinates?

A. Geographic north

B. Magnetic north

C. Kekule's theory

D. Uniformitarianism

Geographic north is the direction toward the Earth's geographic North Pole and serves as the fixed reference for latitude and longitude. Maps, navigation systems, and GPS coordinates are defined using this true north, along with the prime meridian for longitude. Magnetic north, by contrast, is where a compass points, and it shifts over time and varies by location, which would introduce inconsistency if used as the standard reference. That's why geographic north is the standard for maps, navigation, and GPS. The other terms refer to unrelated concepts (Kekule's theory about benzene, and uniformitarianism in geology).

4. Anthophyta are which of the following?

A. Flowering Plants

B. Ferns

C. Conifers

D. Mosses

Anthophyta are flowering plants, the angiosperms. The defining feature is that they produce flowers and seeds that develop inside a fruit formed from the ovary after fertilization. This distinguishes them from ferns, which reproduce by spores and lack seeds; conifers, which are gymnosperms with naked seeds borne on cones; and mosses, which are nonvascular and also reproduce by spores. So flowering plants are the best answer because they specifically describe the group that forms flowers and fruit.

5. Dermal tissue protects the plant and reduces water loss while enabling gas exchange through stomata is primarily the:

A. Epidermis (plants)

B. Ground tissue

C. Vascular tissue

D. Cortex

This question is about the outer protective layer of a plant and how it manages water loss while still allowing gas exchange. The epidermis is the outermost dermal tissue that covers leaves, stems, and young roots. It often has a waxy cuticle that minimizes water loss by reducing evaporation. Stomata—pores formed by specialized epidermal cells called guard cells—are embedded in this layer and regulate gas exchange: carbon dioxide can enter for photosynthesis, oxygen exits, and water vapor can escape. This combination of protection, water conservation, and controlled gas exchange through stomata is what makes the epidermis the best fit for the described functions. Ground tissue handles photosynthesis in internal cells and storage, vascular tissue transports water and nutrients, and the cortex is part of ground tissue located between the epidermis and vascular tissues, not primarily responsible for stomata or water loss control.

6. Which statement best describes the thermosphere?

A. Very thin air, very high temperatures; includes auroras; where the ISS and satellites orbit

B. Dense air, low temperatures; home to weather systems

C. Medium air density with moderate temperatures; home to trade winds

D. Water cycle occurs here; forms clouds

The thermosphere is where the air is extremely thin, yet it gets very hot due to absorbing a lot of solar radiation. This is also the layer where auroras occur and where human-made objects in low Earth orbit, like the International Space Station and many satellites, travel. So the statement that combines very thin air, very high temperatures, auroras, and orbiting spacecraft describes this layer best. In contrast, weather systems form in the much denser lower atmosphere (the troposphere), the trade winds and similar mid-atmosphere features aren't characteristics of the thermosphere, and the water cycle forming clouds happens in the troposphere as well.

7. What is the average ocean depth?

A. 24,000 meters

B. 12,400 meters

C. 1,000 meters

D. 100 meters

Think of ocean depth as an overall average across every part of the ocean, from shallow shelves to the deepest trenches. The commonly cited mean depth is about 3,700 meters (roughly 12,000 feet). This figure comes from combining all depths and weighing them by area, and it reflects that while there are very deep spots, most of the ocean isn't at the maximum depth. The options shown include numbers that are far too shallow (hundreds to a thousand meters) or far too deep for the typical average (tens of thousands of meters). In reality, the deepest trenches reach around 11,000 meters, so 12,400 meters is deeper than the average ocean depth. Therefore, the average is about 3.7 kilometers, not any of the values listed.

8. Which group are inner planets?

A. Jupiter, Saturn, Uranus, Neptune

B. Pluto, Eris, Haumea, Ceres

C. Mercury, Venus, Earth, Mars

D. Moon, Sun, Earth, Venus

Inner planets are the four planets closest to the Sun: Mercury, Venus, Earth, and Mars. They are rocky worlds with solid surfaces and orbit relatively near the Sun, completing their years more quickly than the outer planets. This set is distinct from the outer planets—Jupiter, Saturn, Uranus, and Neptune—which are much larger gas or ice giants farther out. Another option lists dwarf or minor bodies like Pluto, Eris, Haumea, and Ceres, which aren't classified as full planets. The last option mixes the Sun and the Moon, neither of which are planets. So the group that fits the inner-planet category is Mercury, Venus, Earth, and Mars.

9. Vascular tissue in plants (transport) is composed of which tissues?

A. Cortex and endodermis

B. Xylem and phloem

C. Epidermis and guard cells

D. Pith and mesophyll

Plant transport relies on a specialized conduit system called vascular tissue, which consists of the xylem and phloem. The xylem moves water and dissolved minerals from the roots upward into the shoots, forming long, hollow tubes. The phloem carries sugars and other organic nutrients produced by photosynthesis from sources to sinks, distributing them where needed. Together, these tissues form vascular bundles in stems and veins in leaves, enabling long-distance transport through the plant. The other tissues mentioned don't serve as the main conducting system. Cortex and endodermis are ground tissue and root boundary layers that support storage and regulate water uptake, but they aren't the primary transport channels. The epidermis and guard cells make up the outer protective layer and control gas exchange through stomata. Pith and mesophyll are internal tissues involved in storage and photosynthesis, not the plant's primary transport network. So, the tissues that constitute vascular tissue are xylem and phloem.

10. Which term describes the phenomenon of the regular rise and fall of the ocean's surface?

A. The tides

B. High tide

C. Neap tide

D. Spring tide

The regular rise and fall of the ocean’s surface is called tides. This happens because the gravitational pull of the Moon—and to a lesser extent the Sun—creates bulges in Earth's oceans. As Earth rotates, different areas move into and out of those bulges, so water levels rise to high tide and fall to low tide in a repeating cycle. The Sun’s gravity can strengthen or weaken this effect depending on the alignment with the Moon, leading to variations like spring tides (larger difference) and neap tides (smaller difference). The other terms refer to specific moments or types within the tidal cycle—high tide is simply a peak in water level, while neap and spring tides describe the strength of the tides—not the overall phenomenon.

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://mttcmissedtopics.examzify.com

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