

City and Guilds Animal Management Level 3 Biological Systems Practice Test (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

- 1. How are the lungs of an axolotl adapted to their aquatic environment?**
 - A. They are more complex than those of terrestrial animals**
 - B. They allow oxygen extraction from both water and skin**
 - C. They are designed for air breathing only**
 - D. They contain a less effective gill system**
- 2. When is the parasympathetic system typically dominant?**
 - A. During stressful situations and emergencies**
 - B. When an animal is experiencing fear**
 - C. During normal physiological functioning**
 - D. In response to physical exertion**
- 3. Which structure connects two bones together?**
 - A. Tendons**
 - B. Cartilage**
 - C. Ligaments**
 - D. Muscles**
- 4. How do the kidneys help regulate blood pressure?**
 - A. By excreting all sodium in the body**
 - B. By maintaining water balance and producing hormones**
 - C. By filtering excess glucose**
 - D. By circulating blood through the heart**
- 5. How does blood circulation differ between mammals and fish?**
 - A. Mammals have single circulation; fish have double circulation**
 - B. Mammals have double circulation; fish have single circulation**
 - C. Both have double circulation**
 - D. Both have single circulation**

- 6. Where is cartilage commonly found to provide cushioning and flexibility?**
- A. In tendons**
 - B. In ligaments**
 - C. Between vertebrae**
 - D. In muscles**
- 7. Which of the following is considered a waste media?**
- A. Blood**
 - B. Hormones**
 - C. Urine**
 - D. Glucose**
- 8. Which adaptation in aquatic mammals allows them to dive effectively?**
- A. Elongated phalanges**
 - B. Compact neck vertebrae**
 - C. Lightweight bones**
 - D. Thick fur for insulation**
- 9. What type of bones are primarily associated with weight support and movement?**
- A. Flat bones**
 - B. Long bones**
 - C. Short bones**
 - D. Irregular bones**
- 10. What is the primary challenge for ectotherms when faced with extreme temperatures?**
- A. Inability to generate body heat internally**
 - B. Lack of access to water**
 - C. Over-dependence on dietary habits**
 - D. Low metabolic rates**

Answers

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

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Explanations

1. How are the lungs of an axolotl adapted to their aquatic environment?

- A. They are more complex than those of terrestrial animals**
- B. They allow oxygen extraction from both water and skin**
- C. They are designed for air breathing only**
- D. They contain a less effective gill system**

The adaptation of an axolotl's lungs to an aquatic environment is particularly fascinating because they function in a unique manner that supports the animal's respiratory needs. The correct choice highlights how axolotls can extract oxygen not just from the air via their lungs, but also from water through their permeable skin. This dual capability is crucial, especially when considering the oxygen levels in both their aquatic surroundings and air. In aquatic environments, oxygen is less soluble in water than in air, and the skin of axolotls plays a significant role in respiration. Their skin is highly vascularized, allowing for effective gas exchange, which is essential for their survival in water, especially when they are not accessing the surface to breathe air. The capacity of axolotls to utilize both their lungs and skin for oxygen intake enables them to thrive in various oxygen conditions, making them well-adapted to their environment.

2. When is the parasympathetic system typically dominant?

- A. During stressful situations and emergencies**
- B. When an animal is experiencing fear**
- C. During normal physiological functioning**
- D. In response to physical exertion**

The parasympathetic system is typically dominant during normal physiological functioning, often referred to as the "rest and digest" state. This state is characterized by a range of bodily functions that promote conservation of energy and maintenance of normal bodily functions. When the parasympathetic nervous system is activated, it leads to decreased heart rate, increased digestive activity, and relaxation of muscles. This allows the body to focus on routine maintenance processes, such as digestion and resting state metabolism, which are crucial for overall well-being and health. In contrast, situations involving stress, fear, or physical exertion activate the sympathetic nervous system. This system prepares the body for 'fight or flight' responses, resulting in heightened alertness, increased heart rate, and suppression of non-essential functions like digestion. Thus, recognizing the dominance of the parasympathetic system during periods of rest and routine activities is important in understanding how the body's systems balance and respond appropriately to various stimuli.

3. Which structure connects two bones together?

- A. Tendons
- B. Cartilage
- C. Ligaments**
- D. Muscles

The structure that connects two bones together is ligaments. Ligaments are made of dense connective tissue and serve the crucial function of stabilizing joints by joining bones at various points in the body. They provide support while allowing for a certain degree of flexibility, essential for the range of motion required during movement. Other options in this context serve different roles. Tendons connect muscles to bones, enabling the force generated by muscles to move the skeleton. Cartilage, while providing cushioning and support within joints, does not directly connect bones; instead, it often lines the surfaces where bones meet. Muscles, on the other hand, are responsible for movement but do not connect bones to one another. Therefore, the role of ligaments is distinct and vital for maintaining joint integrity and functionality.

4. How do the kidneys help regulate blood pressure?

- A. By excreting all sodium in the body
- B. By maintaining water balance and producing hormones**
- C. By filtering excess glucose
- D. By circulating blood through the heart

The kidneys play a crucial role in regulating blood pressure primarily through the maintenance of water balance and the production of hormones. When the kidneys filter blood, they not only remove waste products and excess substances but also manage the volume of blood by controlling the amount of water reabsorbed into the bloodstream. This process is closely linked to the regulation of sodium levels; when sodium is reabsorbed, water follows osmotically, which can increase blood volume and, consequently, blood pressure. The kidneys also produce hormones such as renin, which initiates a cascade that leads to increased blood pressure by promoting sodium retention and water reabsorption. Additionally, the hormone angiotensin II, formed from renin, constricts blood vessels, contributing further to the increase in blood pressure. Therefore, the kidney's ability to maintain the balance of fluids and electrolytes in the body directly impacts blood pressure regulation, making the choice of maintaining water balance and producing hormones the correct answer.

5. How does blood circulation differ between mammals and fish?

- A. Mammals have single circulation; fish have double circulation**
- B. Mammals have double circulation; fish have single circulation**
- C. Both have double circulation**
- D. Both have single circulation**

In mammals, the circulatory system is characterized by double circulation, which means that blood flows through the heart twice in one complete circuit around the body. There are two distinct circuits: the pulmonary circuit, where deoxygenated blood is pumped from the right side of the heart to the lungs for oxygenation, and the systemic circuit, where oxygenated blood is distributed from the left side of the heart to the rest of the body. This efficient system supports high metabolic rates and active lifestyles, allowing mammals to maintain their body temperature and engage in complex behaviors. On the other hand, fish have a single circulation system. In fish, the heart pumps deoxygenated blood directly to the gills, where it gets oxygenated before flowing to the rest of the body. The blood passes through the heart only once per complete circuit, which is less efficient compared to the double circulation seen in mammals. This single circulation is adequate for the aquatic environment in which fish live, as they rely on water flow over their gills to supply oxygen. Understanding these differences in circulation is crucial because it highlights how each group of animals has adapted its circulatory system to meet its physiological demands based on its habitat and lifestyle.

6. Where is cartilage commonly found to provide cushioning and flexibility?

- A. In tendons**
- B. In ligaments**
- C. Between vertebrae**
- D. In muscles**

Cartilage is a specialized connective tissue that plays a crucial role in providing cushioning and flexibility in various parts of the body. One of the key locations where cartilage is found is between the vertebrae, which are the individual bones that make up the spine. Intervertebral discs are composed of fibrocartilage, which acts as a shock absorber, allowing for movement and flexibility while also ensuring that the vertebrae do not grind against each other. This flexibility is essential for maintaining an upright posture, bending, and twisting movements of the spine. In contrast, tendons connect muscles to bones and are made of dense connective tissue rather than cartilage. Ligaments, which connect bones to other bones at joints, also consist of dense connective tissue and do not provide the same cushioning properties that cartilage does. Muscles, while essential for movement, contain muscle tissue rather than cartilage. Therefore, the presence of cartilage between the vertebrae is critical for their function and resilience, highlighting why this location is particularly noted for its cushioning and flexibility.

7. Which of the following is considered a waste media?

- A. Blood**
- B. Hormones**
- C. Urine**
- D. Glucose**

Urine is considered a waste media because it is primarily composed of byproducts that the body needs to eliminate to maintain homeostasis. As the kidneys filter blood, they remove excess substances, such as urea, creatinine, and electrolytes, which are then excreted in urine. This excretion process is essential for regulating the body's fluid balance and removing toxins that can accumulate from metabolic processes. In contrast, blood is a vital fluid that transports nutrients, oxygen, and waste products throughout the body, while hormones are signaling molecules that play critical roles in regulating various physiological processes. Glucose, on the other hand, serves as a primary energy source for cells and is not waste; rather, it is crucial for cellular metabolism. Therefore, urine stands out as a definitive waste material due to its role in the excretion of metabolic byproducts.

8. Which adaptation in aquatic mammals allows them to dive effectively?

- A. Elongated phalanges**
- B. Compact neck vertebrae**
- C. Lightweight bones**
- D. Thick fur for insulation**

The adaptation that allows aquatic mammals to dive effectively is the presence of compact neck vertebrae. This anatomical feature provides enhanced stability and flexibility during swimming, enabling these animals to maneuver efficiently underwater. Compact vertebrae reduce the overall length of the neck, contributing to a streamlined body shape, which minimizes drag while diving. This design is crucial for maximizing propulsion and conserving energy as they navigate through water. Other adaptations may play roles in the survival of aquatic mammals, but they do not directly contribute to their diving capabilities as significantly as compact neck vertebrae. For instance, lightweight bones might help with buoyancy, thick fur is primarily for insulation in cold waters, and elongated phalanges are often more relevant to locomotion on land or specific swimming adaptations rather than diving efficiency.

9. What type of bones are primarily associated with weight support and movement?

- A. Flat bones
- B. Long bones**
- C. Short bones
- D. Irregular bones

Long bones are primarily associated with weight support and movement due to their structural characteristics and function within the skeletal system. They are typically longer than they are wide, with a shaft (diaphysis) that contains the medullary cavity, where bone marrow is stored. Long bones, such as the femur, tibia, and humerus, play a crucial role in facilitating movement by providing levers for muscles to act upon. Additionally, these bones are designed to bear weight and withstand the forces exerted during activities such as walking, running, and jumping. The dense and heavy nature of long bones also contributes to their strength, allowing them to support the weight of the body and provide stability during movement. This functional aspect distinguishes them from other types of bones, each of which has different roles in the body.

10. What is the primary challenge for ectotherms when faced with extreme temperatures?

- A. Inability to generate body heat internally**
- B. Lack of access to water
- C. Over-dependence on dietary habits
- D. Low metabolic rates

The primary challenge for ectotherms when faced with extreme temperatures is their inability to generate body heat internally. Ectotherms, such as reptiles and amphibians, rely on external environmental conditions to regulate their body temperature. Unlike endotherms, which can produce heat through metabolic processes, ectotherms have to depend on the ambient temperature for physiological activities. When faced with extreme temperatures, ectotherms may struggle to maintain an optimal body temperature necessary for metabolic functions, such as digestion, locomotion, and reproduction. Too low a temperature can lead to reduced metabolic rates, while excessively high temperatures can cause physiological stress or even lethal conditions. Their dependency on environmental temperatures makes them particularly vulnerable during fluctuating weather patterns, which can either overheat or overly chill them, impacting their survival. Understanding this aspect highlights the critical role of external temperature in ectotherm biology and outlines the significant challenges they face as a result.

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://cityandguildsanimalmgmtlvl3biosys.examzify.com>

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