

ACVIM GENERAL BOARDS 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.

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. What is the recommended treatment for acetaminophen toxicity in animals?**
 - A. Activated charcoal only
 - B. Supportive care and fluids
 - C. N-acetylcysteine and liver protectants
 - D. Intravenous fluids alone
- 2. Which type of V/Q mismatch would not benefit from oxygen supplementation?**
 - A. Physiologic dead space
 - B. Physiologic shunt
 - C. Intrapulmonary shunting
 - D. Airway obstruction
- 3. What clinical sign might you expect in a dog with trigeminal neuritis affecting the mandibular branch?**
 - A. Seizures
 - B. Dropped jaw
 - C. Facial droop
 - D. Excessive salivation
- 4. What is the mechanism of action of sulfonamides?**
 - A. Inhibit DNA replication
 - B. Compete with PABA to inhibit folate synthesis
 - C. Inhibit protein synthesis
 - D. Block cell wall synthesis
- 5. What is a consequence of untreated heartworm disease in dogs?**
 - A. Decreased exercise tolerance
 - B. Increased skin infections
 - C. Improved blood flow
 - D. Enhanced lung function

- 6. In veterinary immunology, what function do perforin and granzyme play in the immune response?**
- A. Enhancing antibody production
 - B. Killing infected cells
 - C. Activating macrophages
 - D. Stimulating B cells
- 7. What is the mechanism of action (MOA) of Diazoxide?**
- A. Increases insulin secretion
 - B. Inhibits ATP-sensitive K-channels
 - C. Keeps ATP-dependent K-channel open, preventing insulin release
 - D. Stimulates insulin release
- 8. When treating a cat with stage 3 chronic kidney disease and a urine protein:creatinine ratio (UPC) of 0.5, what is the recommended treatment?**
- A. Dexamethasone
 - B. Osmitol (mannitol)
 - C. ACE inhibitor - Enalapril or Benazepril
 - D. Antibiotics
- 9. What is indicated by an older dog exhibiting a high total T4 and high TSH level?**
- A. Primary hyperthyroidism
 - B. Idiopathic thyroiditis
 - C. Secondary hyperthyroidism
 - D. Thyroid neoplasia
- 10. What is the primary method used by CD8 T cells to induce apoptosis in target cells?**
- A. Extracellular signaling
 - B. Phagocytosis
 - C. Exocytosis of cytotoxic granules
 - D. Production of cytokines

Answers

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

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Explanations

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1. What is the recommended treatment for acetaminophen toxicity in animals?

- A. Activated charcoal only
- B. Supportive care and fluids
- C. N-acetylcysteine and liver protectants**
- D. Intravenous fluids alone

The recommended treatment for acetaminophen toxicity in animals prominently includes N-acetylcysteine, a critical antidote that works by replenishing glutathione levels in the liver and facilitating the detoxification of the harmful metabolites resulting from acetaminophen overdose. This treatment is effective in mitigating the damage to hepatocytes (liver cells) caused by the toxic metabolites of acetaminophen, thus preserving liver function and overall health. N-acetylcysteine is particularly valuable because it can prevent or reduce the severity of liver damage when administered early in the course of exposure to acetaminophen. In addition to this antidote, supportive care and potentially the use of liver protectants can be incorporated into the treatment protocol, aiming to stabilize the animal and monitor liver function closely. While activated charcoal can be used within a specific time frame post-ingestion to reduce absorption of acetaminophen, it is not sufficient on its own as a treatment for managing toxicity, particularly since the antidote N-acetylcysteine specifically addresses the underlying biochemical consequences of the overdose. Supportive care and intravenous fluids may also be beneficial for hydration and maintaining metabolic status, but without the targeted action of N-acetylcysteine, the outcome may not be

2. Which type of V/Q mismatch would not benefit from oxygen supplementation?

- A. Physiologic dead space
- B. Physiologic shunt
- C. Intrapulmonary shunting**
- D. Airway obstruction

Intrapulmonary shunting refers to a situation where blood passes from the right side of the heart to the left side without becoming oxygenated in the lungs due to conditions such as pneumonia, atelectasis, or lung consolidation. In this scenario, blood is effectively "shunted" past the areas of the lung that are functioning normally for gas exchange, meaning that the blood does not pick up adequate oxygen. When oxygen is administered to a patient with intrapulmonary shunting, the oxygen does not reach the areas of the lung where it can be effectively exchanged into the bloodstream because these areas are poorly ventilated or not ventilated at all. As a result, it does not improve the oxygenation of the blood, leading to hypoxemia. This is a critical distinction because supplemental oxygen is typically effective in cases where there is impaired ventilation in normally perfused areas (like in some types of V/Q mismatch). However, in the case of intrapulmonary shunting, despite the presence of supplemental oxygen, the underlying problem of inadequate ventilation persists, so it does not resolve the mismatch and can be considered ineffective. In summary, intrapulmonary shunting does not benefit from oxygen supplementation because the condition involves blood flow bypassing ventilated

3. What clinical sign might you expect in a dog with trigeminal neuritis affecting the mandibular branch?

- A. Seizures
- B. Dropped jaw**
- C. Facial droop
- D. Excessive salivation

In a dog with trigeminal neuritis affecting the mandibular branch, one would expect to see a dropped jaw as a clinical sign. The mandibular branch of the trigeminal nerve is responsible for motor function to the muscles of mastication (chewing). If this nerve is compromised, the muscles that support the jaw become weak or lose function, resulting in the jaw being unable to remain closed properly. This manifests as a dropped jaw, where the lower jaw hangs open, leading to drooling and difficulty in eating or drinking. Understanding this specific condition and its impact on muscle control helps establish why this sign is particularly indicative of trigeminal neuritis. Other clinical signs, such as seizures or facial droop, are not directly linked to the function of the mandibular nerve and are associated with other neurological conditions. Excessive salivation might occur as a secondary consequence of the inability to properly close the mouth, but it is not the primary clinical sign indicating involvement of the mandibular branch of the trigeminal nerve.

4. What is the mechanism of action of sulfonamides?

- A. Inhibit DNA replication
- B. Compete with PABA to inhibit folate synthesis**
- C. Inhibit protein synthesis
- D. Block cell wall synthesis

The mechanism of action of sulfonamides revolves around their ability to compete with para-aminobenzoic acid (PABA) in the bacterial folate synthesis pathway. Sulfonamides are structural analogs of PABA, which is a key substrate required for the synthesis of folate by many bacteria. By binding to the active site of the enzyme dihydropteroate synthase, sulfonamides effectively inhibit the conversion of PABA to dihydropteroic acid, a crucial step in folate biosynthesis. Folate is essential for bacterial growth and reproduction as it is required for DNA synthesis and repair. By disrupting this process, sulfonamides prevent the growth of bacteria, making them effective antimicrobial agents. In contrast, the other options describe mechanisms that are typical of different classes of antibiotics. Inhibition of DNA replication is associated with certain antibiotics like fluoroquinolones. Protein synthesis inhibitors include tetracyclines and aminoglycosides, while drugs that block cell wall synthesis include beta-lactams and vancomycin. Each of these mechanisms targets different pathways vital for bacterial survival, but sulfonamides specifically act through the competitive inhibition of folate synthesis via PABA.

5. What is a consequence of untreated heartworm disease in dogs?

A. Decreased exercise tolerance

B. Increased skin infections

C. Improved blood flow

D. Enhanced lung function

Untreated heartworm disease leads to several physiological changes in the body, primarily affecting the cardiovascular and pulmonary systems. One of the most common consequences is decreased exercise tolerance. As heartworms mature and infest the pulmonary arteries, they cause inflammation and obstruction of blood flow. This can result in pulmonary hypertension and right-sided heart failure, both of which hinder the heart's ability to pump effectively. Consequently, dogs affected by heartworm disease experience shortness of breath, fatigue, and an overall decrease in stamina during physical activity. This reduced capacity to exercise can manifest as difficulty in performing routines that the dog previously handled with ease. Conversely, options such as increased skin infections, improved blood flow, and enhanced lung function do not accurately reflect the effects of untreated heartworm disease. While an animal with a heartworm infestation may be susceptible to skin infections due to a compromised immune system or decreased health overall, this is not a direct consequence of heartworm disease itself. In addition, heartworm disease would not result in improved blood flow or enhanced lung function; rather, it does the opposite by creating blockages and impairments in the cardiac and respiratory systems.

6. In veterinary immunology, what function do perforin and granzyme play in the immune response?

A. Enhancing antibody production

B. Killing infected cells

C. Activating macrophages

D. Stimulating B cells

Perforin and granzyme play a critical role in the immune response, specifically in the mechanism of cytotoxic T cells and natural killer (NK) cells. When these immune cells recognize infected or cancerous cells, they utilize perforin to create pores in the target cell's membrane. This enables the entry of granzyme, a serine protease that triggers apoptosis, or programmed cell death, within the target cell. This mechanism is essential for effectively eliminating cells that are compromised, either due to viral infections or malignancies. The process exemplifies a direct and targeted approach to immune defense, allowing for the precise removal of harmful cells without causing widespread inflammation that could result from other immune actions. In contrast, the other options do not accurately describe the function of perforin and granzyme. For example, antibody production enhancement pertains to the role of B cells, while macrophage activation relates to other immune signaling pathways and not the direct killing action associated with perforin and granzyme. Thus, the function of perforin and granzyme clearly aligns with the killing of infected cells, making that the correct understanding of their role in the immune response.

7. What is the mechanism of action (MOA) of Diazoxide?

- A. Increases insulin secretion
- B. Inhibits ATP-sensitive K-channels
- C. Keeps ATP-dependent K-channel open, preventing insulin release**
- D. Stimulates insulin release

Diazoxide primarily acts as an antihypoglycemic agent through its mechanism of action of keeping ATP-dependent potassium (K⁺) channels open in the pancreatic beta cells. By doing so, Diazoxide prevents the closure of these channels, which in turn inhibits the depolarization of the beta cell membrane. Since depolarization is necessary for calcium influx and subsequent insulin release, maintaining these potassium channels in an open state effectively prevents the release of insulin from these cells. This action leads to a raise in blood glucose levels, making Diazoxide useful in conditions where hyperinsulinemia occurs, such as certain cases of insulinomas or other disorders causing hypoglycemia. The continuous opening of ATP-sensitive K⁺ channels inhibits the physiological pathway that normally leads to insulin secretion in response to increased blood glucose. In summary, Diazoxide's ability to keep ATP-dependent K-channels open is critical in its role as an antihypoglycemic agent, as it prevents insulin release rather than stimulating it.

8. When treating a cat with stage 3 chronic kidney disease and a urine protein:creatinine ratio (UPC) of 0.5, what is the recommended treatment?

- A. Dexamethasone
- B. Osmitol (mannitol)
- C. ACE inhibitor - Enalapril or Benazepril**
- D. Antibiotics

In managing a cat with stage 3 chronic kidney disease (CKD) and a urine protein:creatinine ratio (UPC) of 0.5, the use of an ACE inhibitor, such as Enalapril or Benazepril, is often recommended. ACE inhibitors are effective in reducing proteinuria, which is a critical consideration in CKD management. They help lower blood pressure and decrease the workload on the kidneys by enhancing renal blood flow, which can be beneficial in mitigating further kidney damage. In this specific context, the UPC ratio of 0.5 suggests that the level of protein in the urine is significant, and addressing proteinuria can help slow the progression of kidney disease. By using an ACE inhibitor, one can effectively control hypertension and protein excretion. This can also have favorable effects on overall kidney function and may improve quality of life for the cat. Other treatments, like dexamethasone, mannitol, or antibiotics, do not have a role in treating the underlying issue of proteinuria within the context of chronic kidney disease at this stage, or they do not relate specifically to minimizing progression or managing the condition effectively.

9. What is indicated by an older dog exhibiting a high total T4 and high TSH level?

- A. Primary hyperthyroidism
- B. Idiopathic thyroiditis**
- C. Secondary hyperthyroidism
- D. Thyroid neoplasia

In older dogs presenting with a high total T4 and a high TSH level, the findings are indicative of a thyroid condition known as idiopathic thyroiditis. In idiopathic thyroiditis, there is an immune-mediated destruction of the thyroid gland, which results in high levels of thyroid hormones (T4) being released into circulation. As the thyroid hormone levels rise, the pituitary gland senses this high thyroid hormone level and consequently increases the production of thyroid-stimulating hormone (TSH). This combination of high T4 and high TSH suggests that the feedback mechanism is functioning, but the underlying cause is the ongoing destruction of thyroid tissue, which is characteristic of idiopathic thyroiditis. In contrast, primary hyperthyroidism is less common in dogs compared to cats and usually presents with a different profile where TSH would be low due to negative feedback. Secondary hyperthyroidism usually involves a pituitary tumor causing increased TSH and subsequently increased T4, which would not typically present with both elevated T4 and TSH simultaneously. Thyroid neoplasia more commonly leads to elevated T4 levels, but not necessarily elevated TSH, as the tumor often autonomously produces T4 without the regulatory pituitary influence. Understanding these mechanisms is crucial for

10. What is the primary method used by CD8 T cells to induce apoptosis in target cells?

- A. Extracellular signaling
- B. Phagocytosis
- C. Exocytosis of cytotoxic granules**
- D. Production of cytokines

CD8 T cells, also known as cytotoxic T lymphocytes, primarily induce apoptosis in target cells through the exocytosis of cytotoxic granules. These granules contain potent proteins such as perforin and granzymes. When a CD8 T cell recognizes a target cell that displays foreign antigens (such as those found on virally infected or cancerous cells), it forms a tight junction with the target, allowing it to deliver these cytotoxic granules directly. Perforin forms pores in the target cell's membrane, creating openings that enable granzymes to enter the cytosol. Granzymes are serine proteases that activate apoptotic pathways within the target cell, leading to programmed cell death. This mechanism is highly effective and is a cornerstone of the immune response against intracellular pathogens. The direct delivery of cytotoxic agents ensures that the killing process is localized, minimizing damage to surrounding cells. In contrast, other methods listed, such as extracellular signaling and cytokine production, play roles in immune regulation and support but are not the primary means by which CD8 T cells induce cell death. Phagocytosis is more related to the action of professional phagocytes, like macrophages, rather than CD8 T cells.

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:

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

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