

ELANCO ADVANCED ANIMAL SCIENCE PRACTICE EXAM (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. Which parameter is commonly used to monitor udder health in dairy cows?**
 - A. Milk calcium level
 - B. Somatic cell count
 - C. Blood urea nitrogen
 - D. Blood potassium

- 2. Which components are included in net energy (NE)?**
 - A. NEm and NEp
 - B. Gross energy and digestible energy
 - C. Metabolizable energy and net energy
 - D. NE includes only NEp

- 3. Which diet type tends to favor acetate production in the rumen?**
 - A. Starch-rich diet
 - B. Forage-rich diet
 - C. High-protein diet
 - D. Low-fiber diet

- 4. What is roughage?**
 - A. High Protein Plants
 - B. High Fiber Plants
 - C. High Energy Concentrates
 - D. Vitamins and Minerals

- 5. Which term best completes: Vaccines work by stimulating what within the animal?**
 - A. Bacterial infections
 - B. Antibiotic response
 - C. Immunity
 - D. Nutrient absorption

- 6. Which management action supports passive immunity in newborn ruminants?**
- A. Vaccination after birth
 - B. High-energy diet in first week
 - C. Isolating newborns
 - D. Timely colostrum intake
- 7. Grass tetany is caused by a deficiency of which mineral?**
- A. Calcium
 - B. Magnesium
 - C. Phosphorus
 - D. Potassium
- 8. Erysipelas is a bacterial infection in pigs that is sometimes referred to as which skin condition?**
- A. Diamond skin disease
 - B. Blue eye disease
 - C. Red skin syndrome
 - D. Green skin disease
- 9. What is a typical piglet survival rate under good management?**
- A. Approximately 85–95%
 - B. Approximately 60–70%
 - C. Approximately 40–50%
 - D. Approximately 99–100%
- 10. Which pair of energy components make up net energy (NE) in animal feeds?**
- A. NEm and NEp
 - B. Digestible energy and metabolizable energy
 - C. Gross energy and net energy
 - D. NEp and Gross energy

Answers

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

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Explanations

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1. Which parameter is commonly used to monitor udder health in dairy cows?

- A. Milk calcium level
- B. Somatic cell count**
- C. Blood urea nitrogen
- D. Blood potassium

Monitoring udder health in dairy cows is most effectively done by measuring the somatic cell count in milk. Somatic cells are mainly white blood cells and some shed epithelial cells. In a healthy udder, their number is low, but when mastitis or udder infection occurs, the immune system sends more cells into the milk, causing the count to rise. This makes somatic cell count a direct and sensitive indicator of udder inflammation, capable of detecting even subclinical infections that don't show obvious symptoms. In practice, this measurement can be taken for individual cows or assessed in bulk milk from the herd. Keeping effective SCC levels helps manage mastitis risk and milk quality. The other options—milk calcium level, blood urea nitrogen, and blood potassium—do not specifically reflect udder infection or inflammation and are used for broader metabolic or nutritional status rather than focusing on udder health.

2. Which components are included in net energy (NE)?

- A. NEm and NEp**
- B. Gross energy and digestible energy
- C. Metabolizable energy and net energy
- D. NE includes only NEp

Net energy is the portion of dietary energy that remains after losses such as heat production, urine, and gases, and it's the energy available for maintenance and production. It's split into energy required for maintenance (NEm) and energy available for production (NEp). Therefore, NE is composed of NEm and NEp, which is why this option best fits. Think of it as the energy left after the body wastes some heat and other losses, with part of that energy supporting keeping the body running (maintenance) and part available to fuel growth, lactation, or work (production). The other ideas don't line up because gross energy and digestible energy are earlier steps in energy flow, NE isn't a mix of ME and NE, and NE isn't limited to NEp alone.

3. Which diet type tends to favor acetate production in the rumen?

- A. Starch-rich diet
- B. Forage-rich diet**
- C. High-protein diet
- D. Low-fiber diet

In the rumen, the type of substrate determines which volatile fatty acids (VFAs) the microbes mainly produce. Forage is rich in structural carbohydrates (fiber) that require fibrolytic bacteria to break down. These microbes predominantly generate acetate as their main end product. So, a forage-rich diet shifts fermentation toward acetate. In contrast, starch-rich diets feed amylolytic bacteria that ferments more quickly and tends to produce more propionate (and sometimes lactate) and lower rumen pH, which shifts the VFA mix away from acetate. High-protein or low-fiber diets can alter nitrogen balance and overall fermentation, but they don't favor acetate production as strongly as fiber does. Thus, forage-rich diets tend to favor acetate production in the rumen.

4. What is roughage?

- A. High Protein Plants
- B. High Fiber Plants**
- C. High Energy Concentrates
- D. Vitamins and Minerals

Roughage is feed that is high in fiber and provides bulk for the digestive system. It's made from plant materials with a lot of structural carbohydrates like cellulose, which require chewing and stimulate saliva, helping keep the gut functioning, especially in ruminants. Because of the high fiber, roughage is usually less energy-dense than concentrates, but it supports digestion, rumination, and steady gut motility. Common examples are hay, silage, pasture, and straw. While some roughages can be fairly high in protein (like alfalfa), the defining trait is the high fiber content and the resulting bulk, not protein or calories. And concentrates are designed to supply energy, while vitamins and minerals are micronutrients, not bulk feed.

5. Which term best completes: Vaccines work by stimulating what within the animal?

- A. Bacterial infections
- B. Antibiotic response
- C. Immunity**
- D. Nutrient absorption

Vaccines work by stimulating immunity within the animal. They introduce harmless pieces or inactivated forms of a pathogen so the immune system can learn to recognize it. This trains specialized immune cells to respond quickly and produce specific antibodies, creating memory that protects against future infections. When the real pathogen is encountered later, the immune system can mount a rapid and effective defense, reducing disease risk. The other ideas don't fit because vaccines don't cause bacterial infections themselves, they don't create an antibiotic response (antibiotics are medicines used to treat infections, not part of how vaccines work), and they don't influence nutrient absorption. The goal of vaccination is to build immunity.

6. Which management action supports passive immunity in newborn ruminants?

- A. Vaccination after birth
- B. High-energy diet in first week
- C. Isolating newborns
- D. Timely colostrum intake**

Newborn ruminants rely on passive transfer of immunity because their placentas don't deliver antibodies before birth. The first milk, colostrum, is rich in immunoglobulins that the newborn can absorb through the gut during the initial hours of life. This early absorption provides immediate protection while the animal's own immune system is still developing. Timely colostrum intake is essential because gut absorption declines rapidly after birth, and without it, the animal can suffer from failure of passive transfer and increased vulnerability to infections. Vaccinating after birth won't supply immediate maternal antibodies and mainly aims to prime the newborn's own immune response. A high-energy diet supports growth, not antibody transfer. Isolating newborns doesn't provide antibodies and can interfere with normal colostrum feeding.

7. Grass tetany is caused by a deficiency of which mineral?

- A. Calcium
- B. Magnesium**
- C. Phosphorus
- D. Potassium

Grass tetany happens when grazing ruminants don't have enough magnesium in their bodies. Magnesium is essential for nerve and muscle function, helping muscles relax after contraction. When magnesium is deficient, nerves become overly excitable and muscles contract uncontrollably, leading to signs like twitching, tremors, staggering, and in severe cases, seizures or sudden death. This condition is especially common on lush, lush spring pastures that are high in potassium and low in magnesium, which also reduces magnesium absorption in the rumen. Because the problem is a lack of magnesium, this mineral deficiency best explains grass tetany. Management focuses on increasing magnesium intake through mineral supplements or magnesium-rich feeds and addressing pasture mineral balance.

8. Erysipelas is a bacterial infection in pigs that is sometimes referred to as which skin condition?

- A. Diamond skin disease**
- B. Blue eye disease
- C. Red skin syndrome
- D. Green skin disease

*Diamond skin disease describes erysipelas in pigs because the infection creates distinctive diamond-shaped reddened patches on the skin, usually along the back and flanks. These diamond patterns arise from vascular damage and small clots caused by the bacteria *Erysipelothrix rhusiopathiae*. Besides the skin lesions, the disease can bring fever, lameness, and in chronic cases arthritis or vegetative endocarditis; the acute form can even cause sudden death. The nickname directly reflects the most recognizable sign, making it the best choice. Other labels don't capture the characteristic diamond-shaped skin pattern. Vaccination and good management help prevent outbreaks.*

9. What is a typical piglet survival rate under good management?

- A. Approximately 85–95%**
- B. Approximately 60–70%
- C. Approximately 40–50%
- D. Approximately 99–100%

The key idea is what portion of piglets survive from birth to weaning when management is good. With effective farrowing care—keeping piglets warm, ensuring they receive enough colostrum, good sow nutrition, clean housing, disease prevention, and protection from crushing—losses are minimized. In well-managed herds, preweaning mortality is typically in the low to mid teens, so the survival rate falls around 85–95%. That's why the 85–95% range is the best fit. The 99–100% option isn't realistic because some piglets will still be lost to stillbirths or neonatal issues, and the lower ranges (60–70%, 40–50%) reflect substantial problems not expected under good management.

10. Which pair of energy components make up net energy (NE) in animal feeds?

A. NEm and NEp

B. Digestible energy and metabolizable energy

C. Gross energy and net energy

D. NEp and Gross energy

Net energy is the portion of feed energy available to an animal after all losses, and it is split into two parts: energy needed for maintenance and energy available for production. The maintenance portion covers basic body functions and daily upkeep, while the production portion supports growth, milk production, or other productive activities. Adding these two parts gives the total energy the animal can use, so the correct pairing is maintenance energy and production energy. Digestible energy and metabolizable energy are earlier stages in the energy flow and do not directly sum to net energy. Gross energy is the total energy in the feed, not the usable portion after losses, and pairing it with net energy also doesn't reflect how NE is partitioned.

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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://elancoadvancedanimalsci.examzify.com>

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

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