

NATIONAL CLINICAL ASSESSMENT (NCA) CELLULAR PRACTICE EXAM (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. After an adverse reaction, what should the nurse administer to a patient experiencing chills, fever, headache, and anxiety during a transfusion?**
 - A. "Draw blood for a new type and crossmatch."
 - B. "Give the prescribed PRN diphenhydramine."
 - C. "Send a urine specimen to the laboratory."
 - D. "Administer PRN acetaminophen (Tylenol)."
- 2. Why are telomeres important during cellular division?**
 - A. They prevent the attachment of chromosomes
 - B. They protect chromosome ends and regulate aging
 - C. They enhance genetic diversity
 - D. They facilitate the uncoiling of DNA
- 3. What defines a malignant tumor regarding its ability to invade other tissues?**
 - A. It is benign
 - B. It is capable of metastasis
 - C. It remains localized
 - D. It has a normal cellular structure
- 4. What process describes the change of a stem cell into a cell with a specific function based on the body's needs?**
 - A. Cell proliferation
 - B. Cell differentiation
 - C. Contact inhibition
 - D. Apoptosis
- 5. How do chloroplasts function in plant cells?**
 - A. Converting glucose into ATP
 - B. Capturing light energy for photosynthesis
 - C. Digesting organic material
 - D. Transporting water and nutrients

- 6. What happens to normal cells during radiation therapy?**
- A. They cannot repair DNA
 - B. They are selectively destroyed
 - C. They can repair their DNA, leading to less damage
 - D. They become resistant to damage
- 7. What is the primary role of the lipid bilayer in the plasma membrane?**
- A. Regulates cell growth and division
 - B. Acts as a barrier to substances
 - C. Stores genetic information
 - D. Facilitates energy production
- 8. When administering iron Dextran intramuscularly, what site should the nurse use?**
- A. "Ventroguteal."
 - B. "Dorsogluteal."
 - C. "Vastus lateralis."
 - D. "Deltoid."
- 9. What preventative measure is crucial for reducing the risk of various cancers?**
- A. Regular exercise
 - B. High sugar intake
 - C. Smoking
 - D. High-fat diet
- 10. Which statement regarding skin reactions from chemotherapy is true?**
- A. Avoid temperature extremes on affected skin
 - B. Apply perfumed lotions to soothe irritation
 - C. Skin reactions are unrelated to treatment dose
 - D. All skin reactions will resolve without intervention

Answers

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

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Explanations

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1. After an adverse reaction, what should the nurse administer to a patient experiencing chills, fever, headache, and anxiety during a transfusion?

- A. "Draw blood for a new type and crossmatch."
- B. "Give the prescribed PRN diphenhydramine."
- C. "Send a urine specimen to the laboratory."
- D. "Administer PRN acetaminophen (Tylenol)."**

In the context of managing an adverse reaction to a transfusion, the administration of acetaminophen (Tylenol) is appropriate, particularly for symptoms such as chills and fever. When a patient experiences fever and chills after a blood transfusion, it is often indicative of a febrile non-hemolytic reaction, which is a common response. Acetaminophen serves as an antipyretic, helping to reduce fever and alleviate discomfort caused by these symptoms. Administering acetaminophen also supports the patient's comfort and helps to stabilize their condition, potentially preventing further complications from the adverse reaction. The act of providing symptomatic relief is crucial during such events, and acetaminophen is typically considered safe and effective for managing mild to moderate fever. On the other hand, drawing blood for a new type and crossmatch is not an immediate response required in the scenario, particularly since this action is more relevant in cases where hemolytic reactions are suspected, especially after ruling out other immediate needs. Giving diphenhydramine may be suitable for allergic reactions but is not the first line for symptoms presented here, while sending a urine specimen may be necessary for certain hemolytic reactions but not urgently required based solely on chills, fever, headache

2. Why are telomeres important during cellular division?

- A. They prevent the attachment of chromosomes
- B. They protect chromosome ends and regulate aging**
- C. They enhance genetic diversity
- D. They facilitate the uncoiling of DNA

Telomeres are repetitive nucleotide sequences located at the ends of linear chromosomes. Their primary importance during cellular division stems from their protective function, which is crucial for maintaining genomic stability. As cells divide, the replication machinery cannot fully replicate the very ends of linear DNA molecules, which could lead to the loss of essential coding information if not for telomeres. By safeguarding the ends of chromosomes, telomeres prevent them from being recognized as damaged DNA, which could trigger repair mechanisms that might cause chromosomal fusion or instability. Additionally, the gradual shortening of telomeres with each cell division is thought to be a significant factor in cellular aging, often referred to as the "Hayflick limit." Eventually, when telomeres become critically short, cells enter a state called replicative senescence, meaning they can no longer divide. Telomeres, therefore, play a dual role: safeguarding chromosome integrity and acting as a biological clock that regulates cellular lifespan. Their importance in the aging process and potential implications in cancer and other age-related diseases make them a significant focus of research in cellular biology.

3. What defines a malignant tumor regarding its ability to invade other tissues?

- A. It is benign
- B. It is capable of metastasis**
- C. It remains localized
- D. It has a normal cellular structure

A malignant tumor is primarily characterized by its ability to invade surrounding tissues and metastasize, which refers to the cancer's capacity to spread to distant organs or parts of the body through the bloodstream or lymphatic system. This invasive nature is a key distinction between malignant tumors and benign tumors. In contrast to benign tumors, which are typically well-defined, localized, and grow slowly without invading nearby tissue, malignant tumors exhibit uncontrolled growth and can infiltrate adjacent tissues, disrupting normal cellular activity and function. The capability of metastasis is significant as it indicates the tumor's ability to establish secondary growths in different parts of the body, leading to more serious health implications. Other options point to characteristics that are not relevant to defining malignancy. For instance, benign tumors (first choice) do not invade; they remain circumscribed and usually do not metastasize. Localized growth (third choice) is intrinsic to benign tumors, meaning it does not apply to malignant tumors. Normal cellular structure (fourth choice) refers to the appearance of cells, which in malignant tumors typically show abnormal cellular features, further supporting their aggressive nature. Thus, the defining feature of malignant tumors is their potential for metastasis, which underscores their invasive behavior.

4. What process describes the change of a stem cell into a cell with a specific function based on the body's needs?

- A. Cell proliferation
- B. Cell differentiation**
- C. Contact inhibition
- D. Apoptosis

The process that describes the transformation of a stem cell into a specialized cell type with a defined function in response to the body's requirements is cell differentiation. During differentiation, stem cells, which are undifferentiated and have the potential to become many different cell types, undergo a series of changes that lead them to develop into specific cell types, such as muscle cells, nerve cells, or blood cells. This process is essential for growth, development, and tissue repair. Understanding that differentiation is driven by various factors, including signaling molecules and the microenvironment, helps to clarify the dynamic nature of cellular function. The body cues stem cells to differentiate when specific types of cells are needed—such as during healing after an injury, or for the generation of new tissues. Cell proliferation refers to the process by which cells divide and multiply, which is different from differentiation as it does not inherently involve a change in cell type or function. Contact inhibition is a regulatory mechanism that stops cells from dividing when they come into contact with one another, preventing overcrowding and maintaining proper tissue architecture. Apoptosis, or programmed cell death, is a process by which cells systematically die to eliminate damaged or unnecessary cells. Thus, cell differentiation is the most accurate term to describe the specialized adaptation

5. How do chloroplasts function in plant cells?

- A. Converting glucose into ATP
- B. Capturing light energy for photosynthesis**
- C. Digesting organic material
- D. Transporting water and nutrients

Chloroplasts are essential organelles in plant cells, primarily responsible for the process of photosynthesis. They capture light energy, usually from the sun, and convert it into chemical energy stored in glucose molecules. This process not only allows plants to produce their own food but also generates oxygen as a byproduct, which is crucial for the survival of many organisms on Earth. The structure of chloroplasts includes thylakoids, which contain chlorophyll and other pigments that absorb light. When light is absorbed by these pigments, it triggers a series of biochemical reactions that convert carbon dioxide and water into glucose and oxygen. This ability to capture light energy is fundamental to the role chloroplasts play, distinguishing them from other organelles that have entirely different functions. In contrast, converting glucose into ATP occurs primarily in the mitochondria, digesting organic material is a role played by lysosomes and other organelles, and the transportation of water and nutrients is mainly managed by the plant's vascular system, which includes xylem and phloem. Each of these processes involves distinct cellular structures and functions that do not overlap with the primary role of chloroplasts in photosynthesis.

6. What happens to normal cells during radiation therapy?

- A. They cannot repair DNA
- B. They are selectively destroyed
- C. They can repair their DNA, leading to less damage**
- D. They become resistant to damage

During radiation therapy, normal cells experience damage, but they have the capacity to repair their DNA. This capability is a crucial aspect of maintaining the health of normal tissues during treatment. Unlike cancerous cells, which often lack effective repair mechanisms and are more susceptible to the damaging effects of radiation, normal cells can utilize cellular processes to mend the damage caused by the radiation exposure. This ability to repair DNA means that while radiation therapy aims to eliminate cancer cells by targeting their genetic material, it allows normal cells to recover from damage, ultimately leading to less overall harm to healthy tissues. This is why the healing and recovery processes of normal cells are considered beneficial in the context of radiation therapy. They can often return to their normal functions after the treatment, contributing to the body's overall resilience and recovery. In contrast, other choices imply limitations or negative consequences for normal cells. Selecting this option emphasizes the therapeutic nuance in radiation therapy, highlighting that normal cells can withstand and recover from the treatment better than cancerous cells.

7. What is the primary role of the lipid bilayer in the plasma membrane?

- A. Regulates cell growth and division
- B. Acts as a barrier to substances**
- C. Stores genetic information
- D. Facilitates energy production

The primary role of the lipid bilayer in the plasma membrane is to act as a barrier to substances. This structure is composed of phospholipid molecules arranged in two layers, with hydrophilic (water-attracting) heads facing outward and hydrophobic (water-repelling) tails facing inward. This unique configuration creates a semi-permeable membrane that is crucial for maintaining the cell's internal environment. By forming a barrier, the lipid bilayer effectively regulates what enters and exits the cell, enabling it to maintain homeostasis. It selectively allows certain molecules to pass through while preventing others, thus protecting cellular components from potentially harmful substances and maintaining necessary conditions for cellular function. The fluid nature of the bilayer also enables the mobility of proteins and lipids within it, facilitating communication and transport across the membrane. The other options, while related to cellular functions, do not accurately describe the primary role of the lipid bilayer. The lipid bilayer does not directly regulate cell growth and division, store genetic information, or facilitate energy production as those functions involve different cellular structures and processes.

8. When administering iron Dextran intramuscularly, what site should the nurse use?

- A. "Ventrogluteal."**
- B. "Dorsogluteal."
- C. "Vastus lateralis."
- D. "Deltoid."

When administering iron dextran intramuscularly, the ventrogluteal site is recommended due to its anatomical advantages and safety profile. This site is located deep in the gluteal muscle, which minimizes the risk of injury to major nerves and blood vessels. Additionally, the ventrogluteal area has a large muscle mass, allowing for adequate absorption of the medication and reducing the likelihood of irritation at the injection site. Using this site helps ensure that the administration of iron dextran is performed safely and effectively, allowing the medication to be absorbed properly into the bloodstream. In contrast, while other sites such as the dorsogluteal and deltoid are also used for intramuscular injections, they carry a higher risk of complications. The dorsogluteal site is located in a region that is closer to the sciatic nerve, presenting a risk for nerve injury. The deltoid muscle, while accessible, has limited muscle mass, which may not absorb larger volumes of medication as effectively as the ventrogluteal site. The vastus lateralis, although it can be used for intramuscular injections, is typically preferred for pediatric patients or specific situations. The ventrogluteal site remains the best option for the administration

9. What preventative measure is crucial for reducing the risk of various cancers?

- A. Regular exercise**
- B. High sugar intake
- C. Smoking
- D. High-fat diet

Regular exercise is a vital preventative measure for reducing the risk of various cancers. Engaging in consistent physical activity helps to maintain healthy body weight, lowers inflammation, and improves hormonal balance, all of which are protective factors against the development of cancer. Exercise also enhances immune function and may reduce the risk of certain types of cancer by improving metabolic health and promoting better circulation, which can facilitate cellular repair mechanisms. In contrast, factors such as high sugar intake, smoking, and a high-fat diet have been associated with an increased risk of cancer. High sugar consumption can lead to obesity, metabolic syndrome, and inflammation, all of which are risk factors for certain cancers. Smoking is well documented as a leading cause of various cancers, particularly lung cancer, due to the harmful chemicals and carcinogens it introduces into the body. A high-fat diet, depending on the type of fat consumed, can also contribute to obesity and an increased risk of cancer, particularly if it includes unhealthy trans fats or saturated fats. Thus, regular exercise stands out as a positive lifestyle choice that actively works to deter cancer risk.

10. Which statement regarding skin reactions from chemotherapy is true?

- A. Avoid temperature extremes on affected skin**
- B. Apply perfumed lotions to soothe irritation
- C. Skin reactions are unrelated to treatment dose
- D. All skin reactions will resolve without intervention

The statement highlighting the importance of avoiding temperature extremes on affected skin is based on established practices in managing skin reactions induced by chemotherapy. Chemotherapy can lead to skin sensitivity and irritation. Exposure to extreme temperatures—either too hot or too cold—can exacerbate these conditions, causing additional discomfort or worsening the skin's reaction. Maintaining a stable, moderate temperature helps to protect the skin and promote recovery, making this approach a recommended practice for patients experiencing skin reactions while undergoing chemotherapy. The other options do not align with best practices or evidence-based guidelines for managing chemotherapy-induced skin reactions. For instance, applying perfumed lotions can potentially irritate sensitive skin, rather than soothe it, as fragrances can contain allergens or irritating substances. The claim that skin reactions are unrelated to the treatment dose is inaccurate; indeed, the severity and type of skin reactions can often correlate with the dosage and type of chemotherapy administered. Lastly, while some mild skin reactions may resolve independently, many require proactive intervention to prevent complications and promote healing, making it incorrect to assert that all reactions will resolve without any intervention.

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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