National League for Nursing (NLN PAX) Practice Exam (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. Which type of transport does NOT require energy to move substances across the cell membrane?

A. Facilitated diffusion

B. Active transport

C. Endocytosis

D. Exocytosis

2. What is the total resistance when three resistors of 10.0 ohms each are connected in series?

A. 10.0 ohms

B. 20.0 ohms

C. 30.0 ohms

D. 40.0 ohms

3. What condition is most likely to result from anaerobic respiration in muscle tissue?

A. Cramps.

B. Necrosis.

C. Bleeding.

D. Swelling.

4. When two atoms share a pair of electrons, what type of bond is formed?

A. Electrovalent

B. Covalent

C. Ionic

D. Metallic

5. Which of these processes is responsible for the recorded production of CO_2 by yeast cells from sugar solution?

A. Aerobic respiration

B. Fermentation

C. Anaerobic respiration

D. Photosynthesis

6. What is a lens called that focuses distant light to a single point?

A. converging lens

B. diverging lens

C. concave lens

D. prismatic lens

7. Which process is fundamental to the reproduction of plant cells?

A. Mitosis

B. Meiosis

C. Binary fission

D. Cell fusion

8. Which organ is responsible for filtering metabolic waste from the blood?

A. Small intestine

B. Liver

C. Kidney

D. Stomach

9. Which unit is used to measure electrical potential difference?

A. Joule

B. Volt

C. Watt

D. Ohm

10. What is the name of the part of a neuron that carries impulses away from the cell body?

A. Dendrite

B. Soma

C. Axon

D. Synapse

Answers

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

Explanations

1. Which type of transport does NOT require energy to move substances across the cell membrane?

A. Facilitated diffusion

B. Active transport

C. Endocytosis

D. Exocytosis

Facilitated diffusion is indeed the correct answer. This process is a form of passive transport, meaning it does not require any energy from the cell to move substances across the cell membrane. Instead, facilitated diffusion relies on the concentration gradient, allowing molecules to move from an area of higher concentration to an area of lower concentration. Transport proteins in the membrane assist in this process, allowing certain substances—such as glucose or ions—that cannot pass freely through the lipid bilayer to enter or exit the cell more easily. This mechanism is crucial for maintaining the cell's internal environment and ensuring that it can efficiently take in nutrients and remove waste without expending energy. In contrast, active transport involves moving substances against their concentration gradient, which does require energy, typically in the form of ATP. Both endocytosis and exocytosis are processes that transport large materials into and out of the cell, respectively, and they also require energy to facilitate the formation of vesicles that engulf or release materials. Thus, facilitated diffusion remains the only option among the choices listed that functions without the need for energy.

2. What is the total resistance when three resistors of 10.0 ohms each are connected in series?

A. 10.0 ohms

B. 20.0 ohms

C. 30.0 ohms

D. 40.0 ohms

When resistors are connected in series, the total resistance is simply the sum of the individual resistances. In this case, you have three resistors, each with a resistance of 10.0 ohms. To find the total resistance, you add the resistance values together: 10.0 ohms + 10.0 ohms + 10.0 ohms = 30.0 ohms. Thus, the total resistance for the three resistors connected in series is 30.0 ohms, making it the correct choice. Understanding this concept is crucial for calculating total resistance in series circuits, as it allows for straightforward calculations based on the given values of individual resistors.

3. What condition is most likely to result from anaerobic respiration in muscle tissue?

A. Cramps.

B. Necrosis.

C. Bleeding.

D. Swelling.

Anaerobic respiration occurs in muscle tissue when oxygen levels are low, typically during intense exercise, leading to the production of energy without the need for oxygen. This process results in the formation of lactic acid as a byproduct. The accumulation of lactic acid in muscle tissue can lower the pH, which contributes to muscle fatigue and discomfort. As muscles become fatigued, individuals may experience cramps, characterized by involuntary and prolonged contractions of muscle fibers. This is particularly common in situations of intense physical exertion where the muscles are using anaerobic respiration to meet energy demands. While other conditions such as necrosis, bleeding, and swelling can occur due to various causes, they are not direct outcomes of anaerobic respiration. Necrosis is a pathologic process due to prolonged ischemia or injury, rather than a direct result of anaerobic metabolism. Bleeding is related to vascular damage, and swelling is often associated with inflammation or injury rather than the metabolic processes of the muscles during anaerobic conditions. Thus, cramps distinctly link to the byproducts of anaerobic respiration, making it the most likely condition arising from this process in muscle tissue.

4. When two atoms share a pair of electrons, what type of bond is formed?

A. Electrovalent

B. Covalent

C. Ionic

D. Metallic

When two atoms share a pair of electrons, a covalent bond is formed. This type of bond occurs when atoms have similar electronegativities, which means they have a comparable tendency to attract electrons. By sharing electrons, each atom effectively fills its outermost electron shell, leading to greater stability and forming a strong connection between the atoms. Covalent bonds can vary in strength and character based on how many pairs of electrons are shared; for example, a single bond involves one shared pair, while double bonds involve two shared pairs. In molecular compounds, covalent bonding plays a crucial role in determining the properties and behavior of substances. Other types of bonds exist, such as ionic bonds, where electrons are transferred from one atom to another, leading to the formation of charged ions. Metallic bonds involve a 'sea of electrons' shared among a lattice of metal atoms, contributing to properties such as conductivity and malleability. Electrovalent, a term often used interchangeably with ionic bonds, specifically refers to this transfer of electrons rather than the sharing that defines covalent bonding. Thus, the key aspect here is the sharing of electrons, which is characteristic of covalent bonds.

5. Which of these processes is responsible for the recorded production of CO2 by yeast cells from sugar solution?

A. Aerobic respiration

B. Fermentation

C. Anaerobic respiration

D. Photosynthesis

The accurate choice for this question is fermentation. Fermentation is a metabolic process that occurs in the absence of oxygen, where yeast cells convert sugar into energy. During this process, yeast not only produces energy for their survival but also generates byproducts such as carbon dioxide (CO2) and alcohol. In the context of yeast and sugar solutions, when yeast undergoes fermentation, glucose is broken down through glycolysis into pyruvate, which then continues through the fermentation pathway to produce ethanol and CO2. This release of CO2 is a key characteristic of fermentation and is responsible for the bubbles often seen in alcoholic beverages and bread making. Unlike aerobic respiration, which uses oxygen and yields more energy but produces minimal CO2, fermentation primarily focuses on energy production in anaerobic conditions, highlighting its role in producing gas from sugars in a sugar solution. Other options like aerobic respiration and photosynthesis do not apply in this context. Aerobic respiration requires oxygen and involves different pathways that do not primarily focus on the production of CO2 from sugars in yeast. Meanwhile, photosynthesis occurs in plants to convert light energy, water, and carbon dioxide into glucose and oxygen, which is unrelated to the yeast processes in question.

6. What is a lens called that focuses distant light to a single point?

A. converging lens

B. diverging lens

C. concave lens

D. prismatic lens

A lens that focuses distant light to a single point is referred to as a converging lens. This type of lens is shaped in a way that allows it to bend incoming parallel rays of light toward a focal point. The specific curvature of a converging lens causes light rays that enter the lens parallel to its principal axis to refract and converge on the opposite side of the lens. This property makes converging lenses essential in various optical devices, such as cameras, telescopes, and glasses for correcting hyperopia (farsightedness). In contrast, a diverging lens, which includes concave lenses, spreads light rays apart rather than bringing them together. This results in the light appearing to originate from a point on the same side as the incoming light, effectively making it useful for correcting myopia (nearsightedness). Prismatic lenses serve a different function, primarily involving the separation of light into its component colors or bending light paths but do not focus light to a point in the same manner as converging lenses. Understanding these distinctions highlights the specific function of a converging lens in focusing distant light effectively.

7. Which process is fundamental to the reproduction of plant cells?

A. Mitosis

B. Meiosis

C. Binary fission

D. Cell fusion

The fundamental process for the reproduction of plant cells is mitosis. Mitosis is a type of cell division that results in two daughter cells, each genetically identical to the parent cell. This process is essential for growth, development, and repair of tissues in plants. During mitosis, the chromosomes are duplicated and then evenly divided between two new nuclei, ensuring that each new cell has a complete set of genetic information. This process supports asexual reproduction in plants, allowing for the maintenance of genetic stability and facilitating vegetative propagation. In contrast, meiosis is primarily involved in the production of gametes (sex cells) for sexual reproduction and results in four genetically diverse daughter cells with half the chromosome number of the parent cell. Binary fission is a method of asexual reproduction typically seen in prokaryotic organisms, rather than eukaryotic plant cells. Cell fusion involves the merging of two cells into one, which does not relate to the typical process of cell reproduction in plants. Mitosis is therefore the correct answer as it directly pertains to how plant cells reproduce and maintain their populations.

8. Which organ is responsible for filtering metabolic waste from the blood?

A. Small intestine

B. Liver

C. Kidney

D. Stomach

The kidney is the organ primarily responsible for filtering metabolic waste from the blood. It performs crucial functions in maintaining homeostasis, including regulating electrolyte levels, blood pressure, and the balance of fluids. The kidney filters out waste products from the blood, such as urea and creatinine, which are byproducts of protein metabolism. Once filtered, these wastes are excreted from the body in urine. While the liver also plays a role in metabolic processes and detoxifying certain substances, its main function is to process nutrients and break down toxins rather than filter waste directly from the blood for excretion. The small intestine and stomach are involved in digestion and absorption of nutrients but do not participate in filtering metabolic waste. Therefore, the kidney is the essential organ for this vital function.

9. Which unit is used to measure electrical potential difference?

A. Joule

B. Volt

C. Watt

D. Ohm

The unit used to measure electrical potential difference is the volt. This measurement quantifies the amount of electrical energy per unit charge that is available to drive electric current through a circuit. A volt is defined as one joule per coulomb, succinctly connecting energy (joules) and electric charge (coulombs) in understanding how much work can be done by electric charge when influenced by a potential difference. In contrast, other units listed serve different purposes within the realm of electricity. The joule measures energy, indicating the amount of work done when an electric current flows. The watt measures power, reflecting the rate at which energy is transferred or converted. Lastly, the ohm is the unit used to represent electrical resistance, indicating how much the flow of current is hindered within a circuit. Therefore, the volt is specifically designed to measure the potential difference, making it the correct choice for the question posed.

10. What is the name of the part of a neuron that carries impulses away from the cell body?

A. Dendrite

B. Soma

C. Axon

D. Synapse

The part of a neuron that carries impulses away from the cell body is called the axon. The axon functions as the transmitting extension of the neuron, projecting away from the soma (the cell body) to send signals to other neurons, muscles, or glands. The structure of the axon is designed to facilitate the rapid transmission of electrical impulses, known as action potentials, through a myelinated sheath that increases conduction speed. This crucial role of the axon in signal propagation is fundamental to neuronal communication and the overall functioning of the nervous system. Dendrites, while also part of neurons, primarily serve to receive signals from other nerve cells and transmit them toward the soma. The soma is the main body of the neuron, housing the nucleus and organelles, but does not have a role in impulse propagation away from itself. A synapse is a junction between two neurons, allowing for the transfer of signals, but it is not a part of the neuron that carries impulses. Understanding these distinctions helps clarify the specific function of each component in neuron signaling.

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://nln-pax.examzify.com

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