

Nursing Entrance Exam (NEX) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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Questions

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- 1. What is the significance of patient education in nursing?**
 - A. It is a requirement for nursing graduation**
 - B. To ensure all patients understand their medications**
 - C. To empower patients to make informed health decisions and promote adherence to treatment plans**
 - D. It enhances nursing job satisfaction**
- 2. Which group of land plants is distinguished by the absence of seed production?**
 - A. Perennial flowering plants**
 - B. Deciduous trees**
 - C. Evergreen trees**
 - D. Moist plants**
- 3. In the context of a hydra reacting to a stimulus, what role does dilute nitric acid play?**
 - A. A stimulus**
 - B. A response**
 - C. An impulse**
 - D. A hormone**
- 4. When water passes from a region of greater concentration to a region of lesser concentration through a selectively permeable membrane, the process is known as what?**
 - A. Evaporation**
 - B. Distillation**
 - C. Osmosis**
 - D. Sublimation**
- 5. What property of water makes it an effective solvent for many substances critical for biological functions?**
 - A. It is a polar molecule.**
 - B. It has a high specific heat.**
 - C. It can ionize.**
 - D. It forms covalent bonds.**

- 6. Which skills are essential for critical thinking in nursing?**
- A. Teamwork and leadership**
 - B. Analysis, evaluation, and inference**
 - C. Technical skills and hands-on experience**
 - D. Data entry and administrative skills**
- 7. Enzymes that are involved in biochemical reactions are organic what?**
- A. Constants**
 - B. Catalysts**
 - C. Colloids**
 - D. Cathodes**
- 8. Which organism has the most complex digestive system?**
- A. Earthworm**
 - B. Planaria**
 - C. Amoeba**
 - D. Hydra**
- 9. According to the Ideal Gas Equation, what happens to volume as pressure increases while temperature remains constant?**
- A. The volume equalizes despite pressure changes**
 - B. As the pressure increases, the volume decreases**
 - C. The volume and pressure are unrelated**
 - D. As the pressure increases, the volume increases**
- 10. How can a nurse effectively communicate with patients?**
- A. By using complex medical terminology**
 - B. By being condescending when answering questions**
 - C. By actively listening and providing clear information**
 - D. By limiting interaction to essential questions**

Answers

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

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Explanations

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1. What is the significance of patient education in nursing?

- A. It is a requirement for nursing graduation**
- B. To ensure all patients understand their medications**
- C. To empower patients to make informed health decisions and promote adherence to treatment plans**
- D. It enhances nursing job satisfaction**

The significance of patient education in nursing primarily lies in its ability to empower patients to make informed health decisions and promote adherence to treatment plans. This approach recognizes that when patients understand their conditions, treatment options, and the importance of following medical instructions, they can take an active role in managing their health. Educating patients helps to enhance their knowledge about medications, potential side effects, and self-care measures, which can lead to better health outcomes. When patients are well-informed, they are more likely to comply with prescribed therapies, adopt healthy lifestyle changes, and engage proactively in their care. Enhanced adherence can reduce hospital readmissions and improve overall patient satisfaction, which is beneficial not only for the patient but also for the healthcare system as a whole. While other options mention important aspects of nursing, such as requirements for graduation or job satisfaction, they do not capture the transformative potential that effective patient education holds for both patients and the healthcare process.

2. Which group of land plants is distinguished by the absence of seed production?

- A. Perennial flowering plants**
- B. Deciduous trees**
- C. Evergreen trees**
- D. Moist plants**

The group of land plants distinguished by the absence of seed production is the group commonly referred to as "moist plants." This classification primarily encompasses non-seed producing plants, such as mosses and ferns, which reproduce via spores instead of seeds. In contrast to flowering plants, deciduous trees, and evergreen trees, which all are seed-producing and can produce seeds as part of their reproductive cycle, moist plants rely on environmental factors like water and humidity for reproduction and dispersal. Their life cycle typically involves a dominant gametophyte generation that produces spores, which develop into new plants, thus bypassing seed production entirely. Understanding this distinction is essential for recognizing how different plant groups adapt to their environments and their reproductive strategies.

3. In the context of a hydra reacting to a stimulus, what role does dilute nitric acid play?

- A. A stimulus**
- B. A response**
- C. An impulse**
- D. A hormone**

In the context of a hydra reacting to a stimulus, dilute nitric acid serves as a stimulus because it initiates a response from the hydra. When the dilute nitric acid comes into contact with the hydra's body, it elicits a reaction, typically resulting in behaviors such as contraction or retraction. This is similar to how organisms respond to various environmental changes or substances. In this scenario, the hydra detects the presence of the acid, and the reaction that follows is part of its adaptive mechanism to perceive and respond to external factors. It is important to differentiate this from other options; a response is the action or change that occurs as a result of the stimulus, an impulse refers to the electrical signal that travels in the nervous system, and a hormone is a chemical messenger that travels through the bloodstream to exert effects on different parts of the body. Therefore, while all these elements are related to how an organism interacts with its environment, the key role of dilute nitric acid in this situation is as the initial stimulus triggering the hydra's reactive behavior.

4. When water passes from a region of greater concentration to a region of lesser concentration through a selectively permeable membrane, the process is known as what?

- A. Evaporation**
- B. Distillation**
- C. Osmosis**
- D. Sublimation**

The process described, where water moves from an area of higher concentration to an area of lower concentration through a selectively permeable membrane, is known as osmosis. Osmosis is a specific type of passive transport that involves the movement of water molecules rather than solute particles, and it is crucial for maintaining cell homeostasis. In biological systems, selectively permeable membranes allow certain molecules, particularly water, to pass while restricting others. This movement of water continues until there is an equal concentration of solute on both sides of the membrane, reflecting the principles of equilibrium. Osmosis plays a vital role in various physiological processes, such as the regulation of hydration in cells and the balance of fluids in the body. Understanding osmosis is especially important in nursing practice, where fluid management and hydration status are critical aspects of patient care.

5. What property of water makes it an effective solvent for many substances critical for biological functions?

- A. It is a polar molecule.**
- B. It has a high specific heat.**
- C. It can ionize.**
- D. It forms covalent bonds.**

The property of water that makes it an effective solvent for many substances critical for biological functions is its polarity. Water is a polar molecule, which means it has a slight positive charge on one end (the hydrogen atoms) and a slight negative charge on the other end (the oxygen atom). This polarity allows water molecules to interact with and surround various solutes, effectively facilitating their dissolution. When ionic compounds or polar molecules are introduced to water, the positive and negative ends of the water molecules attract the oppositely charged ions or regions of the polar molecules. This interaction helps to separate and disperse these substances throughout the solution, making water an excellent medium for chemical reactions and transport within biological systems. The high specific heat of water is significant for temperature regulation but does not directly contribute to its solvent properties. The ability to ionize relates to specific chemical reactions and processes but does not encompass the overall solvent capabilities of water. Additionally, while water can form covalent bonds, it primarily participates in hydrogen bonding, which is crucial for its unique solvent characteristics. Thus, the polarity of water is the key property that underlies its function as an effective solvent in biological contexts.

6. Which skills are essential for critical thinking in nursing?

- A. Teamwork and leadership**
- B. Analysis, evaluation, and inference**
- C. Technical skills and hands-on experience**
- D. Data entry and administrative skills**

The essential skills for critical thinking in nursing include analysis, evaluation, and inference. These skills enable nurses to assess complex clinical situations, interpret data from assessments accurately, and make informed decisions regarding patient care. Analysis involves breaking down information and examining it critically to determine the significance of facts and evidence in a clinical context. Evaluation is about assessing the credibility and relevance of the information available, including diagnostic results, research findings, and patient histories. Inference allows nurses to draw logical conclusions based on the evidence at hand, thus facilitating appropriate patient care plans and interventions. While teamwork and leadership, technical skills, and data entry may be valuable in nursing practice, they do not directly contribute to the process of critical thinking as defined in the context of clinical decision-making. Critical thinking is foundational in ensuring patient safety and effective care, as it empowers nurses to navigate complex healthcare environments and respond appropriately to rapidly changing patient needs.

7. Enzymes that are involved in biochemical reactions are organic what?

A. Constants

B. Catalysts

C. Colloids

D. Cathodes

Enzymes are biological catalysts that accelerate biochemical reactions without being consumed in the process. They work by lowering the activation energy required for a reaction to occur, thus increasing the reaction rate. This catalytic action is fundamental to numerous biological processes, including metabolism, digestion, and DNA replication. While constants, colloids, and cathodes have specific meanings in scientific contexts, they do not relate to the function of enzymes. Constants refer to values that do not change, colloids are mixtures where small particles are dispersed in another substance, and cathodes pertain to electrical components where reduction reactions occur. Therefore, the characterization of enzymes as catalysts is essential as it highlights their role in facilitating biochemical reactions in living organisms.

8. Which organism has the most complex digestive system?

A. Earthworm

B. Planaria

C. Amoeba

D. Hydra

The earthworm has the most complex digestive system among the organisms listed. Its digestive system is a complete one, meaning it has two separate openings for the intake of food and the expulsion of waste. This system is divided into specific regions, each specialized for different functions in the digestive process. It starts with the mouth, where food is ingested, and progresses through the pharynx, esophagus, gizzard, and intestine, finally leading to the anus. The gizzard is particularly noteworthy, as it grinds up the food to aid digestion, and the intestine is typically where nutrients are absorbed. This organization allows for a more efficient digestion process compared to other organisms that have less specialized or incomplete digestive systems. In contrast, planaria possess a gastrovascular cavity, which serves both digestive and circulatory functions, but lacks the complexity of a complete digestive tract. Similarly, amoeba utilizes phagocytosis to ingest food, which is digested intracellularly, and hydra has a simple gastrovascular cavity without the specialization seen in earthworms. Thus, the earthworm's sophisticated structure and function of its digestive system make it the most complicated among the options provided.

9. According to the Ideal Gas Equation, what happens to volume as pressure increases while temperature remains constant?

- A. The volume equalizes despite pressure changes**
- B. As the pressure increases, the volume decreases**
- C. The volume and pressure are unrelated**
- D. As the pressure increases, the volume increases**

The correct answer is based on the principles of Boyle's Law, which is a key concept derived from the Ideal Gas Equation. Boyle's Law states that for a given amount of gas at a constant temperature, the volume of the gas is inversely proportional to the pressure. This means that if the pressure increases, the volume must decrease in order to maintain the equation's balance. When temperature is held constant, the molecules of gas collide with the walls of the container with increasing frequency and force as pressure rises. If the volume were to remain constant during this increase in pressure, it would result in a rise in temperature, since the gas would be compressed. However, since temperature is constant in this scenario, the gas must occupy a smaller volume to counterbalance the increase in pressure. This relationship is fundamental in understanding gas behavior under changing pressures and temperatures and is common in various applications, such as breathing mechanics in the respiratory system and in engineering applications involving gases.

10. How can a nurse effectively communicate with patients?

- A. By using complex medical terminology**
- B. By being condescending when answering questions**
- C. By actively listening and providing clear information**
- D. By limiting interaction to essential questions**

Effective communication with patients is essential for providing quality care and ensuring that patients feel understood and valued. Actively listening and providing clear information facilitates a better understanding of the patient's concerns and needs. This approach fosters a supportive environment, allowing patients to express their feelings, ask questions, and participate in their care plans. Actively listening means paying close attention to what the patient is saying, both verbally and non-verbal cues, and responding appropriately. Providing clear information involves breaking down complex medical concepts into simpler terms that patients can easily grasp. This promotes better patient education, enhances trust, and can lead to improved health outcomes, as patients are more likely to adhere to recommended treatments when they fully understand their conditions. Engaging patients in dialogue, rather than limiting interaction or using terminology they may not understand, empowers them during their healthcare experience, encouraging open communication and improving overall satisfaction with care.