HT A School Collection, Holding, and Transfer (CHT) Practice Test (Sample)

Study Guide

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Questions

1. What happens to the duty pump at 10% tank level?

A. It Turns On

B. It Turns Off

C. It Runs Continuously

D. It Activates the Alarm

2. How can the practice of providing reassurance impact the overall healthcare experience?

A. It can lead to shorter patient visits.

B. It can contribute to a more positive and cooperative environment.

C. It reduces the need for any information sharing.

D. It is not relevant to patient care.

3. Zero discharge refers to what practice?

A. Discharging waste into freshwater bodies

B. Not discharging waste overboard

C. Reusing all wastewater in treatment plants

D. Eliminating all solid waste from sewage

4. What type of valve is utilized to direct sewage flow to either the tank or overboard?

A. Three-way ball valve

B. Check valve

C. Gate valve

D. Pressure relief valve

5. Why is a slight downward slope important in sewage piping?

A. To facilitate gravity flow

B. To accommodate maintenance checks

C. To distribute pressure evenly

D. To prevent leaks

6. What is the primary role of a phlebotomist in blood collection?

A. To diagnose medical conditions

B. To collect blood samples safely and effectively

C. To provide patient education

D. To perform lab tests

7. In what year did the CNO mandate the use of CHT systems on ships?

A. 1965

B. 1972

C. 1980

D. 1990

8. What is the capacity of the VCHT sewage tank?

A. 250 gallons

B. 490 gallons

C. 1000 gallons

D. 1500 gallons

9. What impact does temperature have on blood sample integrity?

A. It remains constant during transport

B. Extreme temperatures can cause degradation

C. Higher temperatures improve sample integrity

D. Temperature has no effect on blood samples

10. What is the importance of minimizing elbows in a piping system?

A. To enhance aesthetic design

B. To improve the flow efficiency

C. To reduce costs

D. To simplify cleaning processes

Answers

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

Explanations

1. What happens to the duty pump at 10% tank level?

A. It Turns On

B. It Turns Off

C. It Runs Continuously

D. It Activates the Alarm

When the tank level reaches 10%, the duty pump is designed to turn off. This level indicates that the tank is getting too low, and the pump is usually programmed to shut down to prevent running dry, which could lead to pump damage or failure. The operational design typically includes safeguards against draining the tank completely to protect the equipment and maintain system integrity. In contrast, at levels above the threshold, the pump would operate to maintain the necessary fluid level in the system. Option choices involving activation or continuous operation at such a low level would not align with standard operational protocols meant to preserve the equipment and ensure safety in the system.

2. How can the practice of providing reassurance impact the overall healthcare experience?

A. It can lead to shorter patient visits.

B. It can contribute to a more positive and cooperative environment.

C. It reduces the need for any information sharing.

D. It is not relevant to patient care.

Providing reassurance in healthcare settings can significantly enhance the overall patient experience. This is primarily because reassurance fosters a sense of trust and comfort, allowing patients to feel more at ease during their visits. When healthcare providers take the time to reassure patients, it can lead to improved communication and cooperation, which are essential for effective diagnosis and treatment. A positive and cooperative environment encourages patients to express their concerns and ask questions, ultimately leading to better engagement in their own care. This open line of communication can result in improved patient satisfaction, adherence to treatment plans, and overall health outcomes. In contrast, options that suggest shorter visits or reduced information sharing do not align with the goal of reassurance, which is to promote understanding and comfort rather than to rush interactions or minimize communication. Additionally, suggesting that reassurance is irrelevant to patient care overlooks its critical role in building a supportive atmosphere that is conducive to healing.

3. Zero discharge refers to what practice?

A. Discharging waste into freshwater bodies

B. Not discharging waste overboard

C. Reusing all wastewater in treatment plants

D. Eliminating all solid waste from sewage

Zero discharge refers to the practice of not discharging waste overboard, specifically in the context of minimizing or completely eliminating the discharge of pollutants into the environment. This is particularly important in industries and operations where the goal is to prevent contamination of water bodies and safeguard ecosystems. The term encompasses strategies and systems aimed at keeping waste contained and ensuring that no harmful substances are released into the surrounding environment. In the context of sustainable practices, zero discharge often involves the treatment and reuse of wastewater, which can contribute to water conservation and environmental protection. By avoiding the discharge of waste, organizations can align with regulations and standards designed to protect aquatic environments and human health. Other options do not reflect the core principle of zero discharge. Discharging waste into freshwater bodies directly contradicts the intent of zero discharge, while reusing wastewater relates more to water reuse practices than the broader concept of not discharging at all. Likewise, eliminating all solid waste from sewage, while important for waste management, does not capture the essence of the zero discharge philosophy, which focuses on the overall prevention of any waste discharge into the environment.

4. What type of valve is utilized to direct sewage flow to either the tank or overboard?

A. Three-way ball valve

B. Check valve

C. Gate valve

D. Pressure relief valve

A three-way ball valve is specifically designed to control the direction of flow in a system, making it ideal for directing sewage to either a holding tank or overboard discharge. This type of valve allows for efficient routing of fluids through multiple paths with minimal resistance, providing the necessary versatility to manage sewage flow effectively. In applications involving sewage management, the ability to choose between directing waste to a holding tank for treatment or directly overboard for disposal is crucial. The three-way ball valve achieves this by allowing the operator to switch between the two paths swiftly, which is essential in maintaining operational efficiency and compliance with environmental regulations. Other types of valves, such as check valves, gate valves, and pressure relief valves, serve different purposes. A check valve typically prevents backflow, a gate valve is used for fully opening or closing a line without regulating flow, and a pressure relief valve is designed to release pressure from a system to prevent over-pressurization. Therefore, they do not fulfill the requirement for directing sewage flow in the manner accomplished by a three-way ball valve.

5. Why is a slight downward slope important in sewage piping?

A. To facilitate gravity flow

B. To accommodate maintenance checks

C. To distribute pressure evenly

D. To prevent leaks

A slight downward slope in sewage piping is crucial primarily because it facilitates gravity flow. This is essential for effective wastewater management, as gravity helps transport sewage from one point to another without the need for additional pumping mechanisms. When the piping system is properly sloped, the gravitational force helps keep the flow moving steadily, reducing the chances of stagnation and buildup of solids within the pipes. In systems where the slope is insufficient or level, it can lead to problems such as blockages, backflow, or increased risk of overflow. Therefore, the design of sewage systems incorporates this slight slope fundamentally to ensure the smooth, continuous movement of sewage toward treatment facilities, capitalizing on gravity's natural ability to move fluids downhill. This principle is integral to the engineering of sewage infrastructure and overall sanitation effectiveness.

6. What is the primary role of a phlebotomist in blood collection?

A. To diagnose medical conditions

B. To collect blood samples safely and effectively

C. To provide patient education

D. To perform lab tests

The primary role of a phlebotomist in blood collection is to collect blood samples safely and effectively. This responsibility encompasses not only the technical skills required for drawing blood but also understanding the best practices to ensure patient safety and minimize discomfort. Phlebotomists are trained to handle various techniques and equipment to obtain samples from veins, often adapting their approach based on the patient's specific needs. Safety is paramount, and a phlebotomist must follow strict hygiene protocols to prevent infection and ensure that blood specimens are suitable for analysis. This role is focused squarely on the collection process rather than diagnosing conditions, conducting lab tests, or providing extensive patient education, which fall under the purview of other healthcare professionals. By concentrating on the efficient and accurate collection of blood, phlebotomists play a critical role in the healthcare system, supporting the broader medical team with reliable sample preparation for further analysis and diagnosis.

7. In what year did the CNO mandate the use of CHT systems on ships?

A. 1965

B. 1972

C. 1980

D. 1990

The correct answer is 1972, as this year marks the point when the Chief of Naval Operations (CNO) established the requirement for ships to implement Collection, Holding, and Transfer (CHT) systems. This mandate was part of a broader initiative to enhance environmental protection and manage wastewater disposal effectively from naval vessels. Implementing CHT systems allowed ships to store sewage safely and discharge it in compliance with environmental regulations while at sea, thereby minimizing pollution and protecting marine ecosystems. Understanding this historical context is crucial as it underscores the importance of such systems in promoting sanitation and environmental standards within naval operations.

8. What is the capacity of the VCHT sewage tank?

A. 250 gallons

B. 490 gallons

C. 1000 gallons

D. 1500 gallons

The capacity of the VCHT (Vacuum Collection, Holding, and Transfer) sewage tank is 490 gallons. This specification is crucial for understanding the practical limits of waste collection systems in marine environments, particularly for complying with environmental regulations and ensuring the effective management of sewage. The tank's size allows it to hold sewage generated on board for a significant duration before needing to be pumped out, which is particularly important for vessels that may be at sea for extended periods. This size reflects a balance between providing adequate storage while still being manageable in terms of weight and space on a vessel. It is vital for operational safety and regulatory compliance to know the exact volume of these tanks, as it directly affects how frequently sewage can be transferred or treated and ensures that the systems can operate without risking overflow or environmental contamination.

9. What impact does temperature have on blood sample integrity?

A. It remains constant during transport

B. Extreme temperatures can cause degradation

C. Higher temperatures improve sample integrity

D. Temperature has no effect on blood samples

Extreme temperatures can cause degradation of blood samples due to several biological and chemical processes that occur at different temperature ranges. When blood samples are exposed to high temperatures, it can result in the denaturation of proteins, destruction of cellular components, and degradation of nucleic acids. These alterations can compromise the accuracy of laboratory tests, as they may affect the viability of certain cells and the stability of analytes of interest. Conversely, very low temperatures can lead to hemolysis and other forms of damage, making it challenging to interpret the results accurately. Therefore, maintaining appropriate temperature control during the collection, transportation, and storage of blood samples is crucial to ensure their integrity and the validity of subsequent analysis. This understanding is essential for laboratory professionals and those involved in blood sample handling to ensure proper practices are followed.

10. What is the importance of minimizing elbows in a piping system?

A. To enhance aesthetic design

B. To improve the flow efficiency

C. To reduce costs

D. To simplify cleaning processes

Minimizing elbows in a piping system is crucial because it significantly improves flow efficiency. Elbows and bends in piping create turbulence, which can impede the smooth flow of fluids. This turbulence leads to increased friction losses, which can raise the pressure requirements for pumps and reduce overall system performance. By reducing the number of elbows, the fluid can travel more directly and with less resistance, enhancing the overall efficiency of the system. In addition to improving flow efficiency, minimizing elbows can also contribute to lower energy consumption, as it requires less power to move fluids through a more streamlined pathway. This reduction in energy demand can lead to cost savings over time, but the primary focus on flow efficiency helps ensure that the system operates at optimal performance levels.