BOMA General Maintenance Practice Test (Sample)

Study Guide

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Questions

1. How is tubing sized?

A. By measuring the thickness of the material

B. By measuring the outer diameter

C. By measuring the inner diameter

D. By measuring the length

2. What is the most critical factor regarding the suction lift of a pump handling water?

A. Distance

B. Pipe diameter

C. Pump age

D. Water viscosity

3. Which of the following best describes a common type of personal protective equipment (PPE)?

A. Cleaning agents

B. Gloves and masks

C. Office attire

D. Safety signage

4. In what scenario would a gate valve be most appropriately used?

A. To prevent backflow in a pipe

B. To control the flow of a fluid

C. To regulate temperature in a system

D. To filter impurities from fluids

5. What limits the volume of waste entering a grease trap?

A. A valve

B. A baffle

C. A flow control fitting

D. A pump

6. What is the purpose of using proper personal protective equipment (PPE) in maintenance tasks?

- **A. To enhance work efficiency**
- **B. To reduce injury risks**
- **C. To improve job aesthetics**
- **D. To comply with building codes**

7. Which of the following is a common cause of tripping hazards in buildings?

- **A. Freshly painted walls.**
- **B. Uneven flooring or loose carpets.**
- **C. Properly secured handrails.**
- **D. Installed fire alarms.**

8. What is the standard grade, pitch, fall, or slope of a horizontal drainage system that should not exceed?

- **A. 1/8" per foot**
- **B. 1/4" per foot**
- **C. 1/2" per foot**
- **D. 3/4" per foot**

9. What may excessive leaking from a pump indicate after the packing is replaced?

- **A. A fault in the system**
- **B. Normal operation**
- **C. Over-tightened packing**
- **D. Insufficient lubrication**

10. What is the main purpose of inspecting hoses on torches?

- **A. To ensure they are visually appealing**
- **B. To prevent potential leaks**
- **C. To verify they are the correct length**
- **D. To check for proper insulation**

Answers

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

Explanations

1. How is tubing sized?

A. By measuring the thickness of the material

B. By measuring the outer diameter

C. By measuring the inner diameter

D. By measuring the length

Tubing is sized by measuring the outer diameter because the outer diameter determines how the tubing will fit into fittings, brackets, and other components of a system. This measurement is essential for ensuring compatibility with other parts in piping systems, such as connectors and valves. Measuring the outer diameter is particularly important because it influences the structural integrity of the tubing as well as its flow characteristics. Different applications require specific outer diameters to accommodate factors like pressure ratings and thermal expansion. While the inner diameter is relevant for determining flow capacity, and material thickness can impact strength, the outer diameter is the primary measurement that standard sizing charts and fittings are based on in most applications. Length is also a necessary measurement but does not pertain to the tubing sizing itself; it is simply a measure of how much tubing is available for use.

2. What is the most critical factor regarding the suction lift of a pump handling water?

A. Distance

B. Pipe diameter

C. Pump age

D. Water viscosity

The most critical factor regarding the suction lift of a pump handling water is distance. Suction lift refers to the vertical distance that a pump must lift water from the source to the pump. The longer the distance, the greater the potential for issues such as pressure loss, turbulence, and vaporization of the liquid, which can lead to cavitation. Pumps are designed to perform optimally within specific parameters, and as the distance increases, the amount of energy required to lift the water effectively also increases. This may cause the pump to work harder, potentially leading to reduced efficiency and increased wear over time. Understanding this relationship is essential for selecting the right pump and configuring it for optimal performance. While pipe diameter, pump age, and water viscosity can influence the overall efficiency and performance of a pumping system, they do not have the same direct impact on the basic ability of a pump to lift water over a distance as the length of that lift does. Adjusting the pipe diameter or accounting for the condition of the pump can help in mitigating issues caused by suction lift but will not change the fundamental challenges posed by increased distance.

3. Which of the following best describes a common type of personal protective equipment (PPE)?

A. Cleaning agents

B. Gloves and masks

C. Office attire

D. Safety signage

Personal protective equipment (PPE) is designed to protect workers from potential hazards in their environment. The correct choice highlights that gloves and masks are essential components of PPE. Gloves serve as a barrier to protect the skin from various substances, including chemicals, pathogens, and physical hazards, depending on the task at hand. Masks are crucial for respiratory protection, shielding workers from airborne contaminants, dust, and other harmful particles that could pose health risks. In contrast, cleaning agents, while important for maintaining a safe and hygienic work environment, do not qualify as protective equipment themselves. Office attire, although necessary for professionalism, does not provide specific protections against hazards. Safety signage plays an important role in hazard communication but does not offer physical protection to individuals. Therefore, gloves and masks embody the key characteristics of PPE by directly preventing physical harm or exposure to harmful substances.

4. In what scenario would a gate valve be most appropriately used?

A. To prevent backflow in a pipe

B. To control the flow of a fluid

C. To regulate temperature in a system

D. To filter impurities from fluids

A gate valve is most appropriately used in scenarios where the control of fluid flow is the primary concern. These valves are designed to either completely open or completely close the flow. When in the fully open position, a gate valve offers minimal resistance to the flow of fluid, making it highly effective for applications where you want to quickly start or stop the flow without significant pressure drop. Unlike other types of valves, such as globe valves or ball valves, which are more suitable for throttling (or modulating) the flow, gate valves are not ideal for applications where flow regulation is needed. Their design allows for very little control over the flow during partial opening and mainly serves the purpose of isolation. In contrast, other options focus on different functionalities that are not aligned with the primary use of a gate valve. For example, preventing backflow typically requires check valves, regulating temperature may involve thermostatic valves, and filtering impurities is a role served by strainers or filters, none of which fulfill the function of a gate valve. Thus, using a gate valve to control the flow of a fluid is the scenario that best fits its designed purpose.

5. What limits the volume of waste entering a grease trap?

A. A valve

B. A baffle

C. A flow control fitting

D. A pump

The correct answer is a flow control fitting. This fitting is specifically designed to regulate the amount of water and waste that enters the grease trap. It ensures that the flow rate does not exceed the trap's capacity, which is essential in maintaining the effectiveness of the device in separating grease and solid waste from the wastewater. By controlling the flow, it helps prevent overloading the trap, which can lead to inefficiencies and potential backups in the plumbing system. While a valve can control flow in general, it does not specifically regulate the volume entering the grease trap like a flow control fitting does. A baffle is usually used within the grease trap to direct the flow and enhance separation of grease from the waste, but it does not limit the volume of waste entering. A pump is used to remove waste from the trap but is not involved in initially controlling how much waste enters it. Thus, the flow control fitting is the key component that effectively limits and manages the volume of waste entering a grease trap.

6. What is the purpose of using proper personal protective equipment (PPE) in maintenance tasks?

A. To enhance work efficiency

B. To reduce injury risks

C. To improve job aesthetics

D. To comply with building codes

Using proper personal protective equipment (PPE) in maintenance tasks is primarily aimed at reducing injury risks. PPE serves as a critical barrier between the individual performing the task and potential hazards they may encounter, such as chemicals, falling debris, electrical shocks, or harmful noise levels. For instance, gloves protect hands from sharp objects and chemicals, helmets guard against head injuries, and eye protection prevents damage from flying particles. By wearing the correct PPE, workers can significantly minimize their exposure to dangers that could lead to serious injuries or long-term health issues. While enhancing work efficiency, improving job aesthetics, and complying with building codes are also important considerations in maintenance, they do not directly relate to the primary function of PPE, which is to safeguard the health and safety of individuals engaged in potentially hazardous work situations. The foremost principle of utilizing PPE is ensuring that workers are adequately protected, which ultimately promotes a safer work environment.

7. Which of the following is a common cause of tripping hazards in buildings?

A. Freshly painted walls.

B. Uneven flooring or loose carpets.

C. Properly secured handrails.

D. Installed fire alarms.

Uneven flooring or loose carpets are significant tripping hazards in buildings due to their propensity to create abrupt changes in walking surfaces. These irregularities can cause individuals to stumble or trip, resulting in falls that may lead to injuries. Proper maintenance and inspection of flooring surfaces, as well as securing carpets, are crucial in preventing these hazards. In contrast, freshly painted walls do not impact the floor surface and therefore do not contribute to tripping. Properly secured handrails are actually essential for safety and help prevent falls, thus reducing the risk of tripping hazards. Installed fire alarms pertain to safety in emergencies and do not influence tripping risks in any way.

8. What is the standard grade, pitch, fall, or slope of a horizontal drainage system that should not exceed?

A. 1/8" per foot

B. 1/4" per foot

C. 1/2" per foot

D. 3/4" per foot

The appropriate standard grade, pitch, fall, or slope for a horizontal drainage system is typically established to ensure effective drainage and prevent issues such as blockages or insufficient flow. A slope of 1/4 inch per foot is generally favored in plumbing codes and practices, as it allows for optimal drainage while minimizing the risk of trapping solids that could lead to clogs. This standard ensures that wastewater flows smoothly without stagnant areas, promoting proper function of the drainage system. A slope that is too shallow, such as 1/8 inch per foot, may not provide sufficient gravity to move water effectively. Conversely, while a slope of 1/2 inch per foot or steeper like 3/4 inch per foot could enhance flow, it risks causing excessive speed, potentially leading to scouring of the pipes or increased wear over time. Thus, 1/4 inch per foot strikes a balance between effective drainage and system durability.

9. What may excessive leaking from a pump indicate after the packing is replaced?

A. A fault in the system

B. Normal operation

C. Over-tightened packing

D. Insufficient lubrication

Excessive leaking from a pump after the packing has been replaced often indicates a fault in the system. When packing is properly installed, it should create a seal that minimizes leakage. If there is an excessive amount of leakage, it may reflect an underlying issue, such as misalignment of the pump components, damage to the shaft, or incorrect installation of the packing itself. This leakage can suggest that the pump is not operating as designed, which can lead to premature wear and failure of the equipment if not addressed. In contrast, options discussing normal operation or other potential issues, like over-tightened packing and insufficient lubrication, may not directly relate to the immediate consequences of excessive leaking. Normal operation would typically result in minimal leakage, so excessive leaking is clearly at odds with this expectation. Over-tightened packing can actually lead to failure by causing increased friction and wear rather than improving the seal. Similarly, insufficient lubrication might lead to other issues but would not directly contribute to excessive leakage after packing replacement. Thus, identifying a fault in the system is the most appropriate conclusion when faced with unusual leakage following maintenance.

10. What is the main purpose of inspecting hoses on torches?

A. To ensure they are visually appealing

B. To prevent potential leaks

C. To verify they are the correct length

D. To check for proper insulation

The primary purpose of inspecting hoses on torches is to prevent potential leaks. This is crucial because hoses convey gases or liquids that may be flammable, toxic, or hazardous. Any leaks can pose significant safety risks, including the potential for fire hazards or exposure to dangerous materials. Regular inspections help identify wear, cracks, or other damage that could lead to leaks, ensuring the equipment operates safely and efficiently. In contrast, while visual appeal, hose length, and proper insulation might be aspects to consider in equipment maintenance, they do not directly address the critical issue of safety related to gas or liquid containment. Therefore, ensuring that hoses are leak-free takes precedence in the inspection process.