NCCER Pipefitter Certification Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

Questions

1. When can a lighted torch be unattended?

A. When it is hung

B. When properly secured

C. When adjusting regulator settings

D. Never

2. Which of the following materials is commonly used for piping systems?

A. Polyvinyl chloride (PVC)

B. Wood

C. Rubber bands

D. Glass

3. What is the most important hazardous condition in or around an excavation?

A. Falls

B. Water

C. Cave-In

D. Vibration

4. In which situation is it most crucial to open a valve completely before welding?

A. When installing ball valves

B. When using socket welded valves

C. When working with gate valves

D. When connecting pipe fittings

5. What pipe hanger is shown in the following figure?

A. Riser Clamp

B. Adjustable Clevis

C. Trapeze

D. Heavy Strap

6. Which type of level is typically used for precise horizontal alignment in construction?

A. Water

B. Torpedo

C. Framing

D. Spirit

7. Which tool is necessary for creating threaded connections on pipes?

A. Wrench

B. Threading machine

C. Cutting torch

D. Measuring tape

8. The illustrated piece of equipment is a?

A. Welding machine

B. Generator

C. Compressor

D. Centrifugal pump

9. What is the typical operating pressure range for a residential water supply system?

A. 20 to 30 psi

B. 30 to 40 psi

C. 40 to 60 psi

D. 70 to 80 psi

10. What equipment is commonly used for cutting pipes?

A. Pipe cutters, saws, and hacksaws

B. Wrenches and pliers

C. Drills and chisels

D. Grinders and sanders

Answers

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

Explanations

1. When can a lighted torch be unattended?

A. When it is hung

B. When properly secured

C. When adjusting regulator settings

D. Never

A lighted torch should never be left unattended because doing so poses significant safety risks. When a torch is lit, it generates a flame that can ignite nearby combustible materials, leading to fires or explosions if not monitored closely. Furthermore, an unattended torch might be subject to accidental knockovers, which can cause hazardous situations. Ensuring constant supervision of a lighted torch is critical in maintaining a safe work environment, as it allows the operator to promptly address any issues that may arise. Procedures and regulations related to the use of torches highlight the importance of vigilance when using open flames, further emphasizing that leaving a torch unattended is never acceptable practice in any situation.

2. Which of the following materials is commonly used for piping systems?

A. Polyvinyl chloride (PVC)

B. Wood

C. Rubber bands

D. Glass

Polyvinyl chloride (PVC) is commonly used for piping systems due to its lightweight, durable, and corrosion-resistant properties. It is particularly favored in plumbing, irrigation, and various industrial applications. PVC pipes are easy to install and can withstand a wide range of chemicals, which makes them versatile for both residential and commercial uses. The high resistance to environmental factors and a smooth internal surface that allows for effective fluid flow further enhance PVC's suitability as a piping material. In addition to its practical advantages, PVC is also cost-effective, which makes it a popular choice among contractors and builders. In contrast, wood is not suitable for standard piping systems due to its susceptibility to decay and water damage. Rubber bands lack the structural integrity needed for carrying fluids at various pressures, while glass, while it can be used in specific applications, is prone to breakage and is not as practical for general piping use as PVC.

3. What is the most important hazardous condition in or around an excavation?

A. Falls

B. Water

C. Cave-In

D. Vibration

Cave-ins are considered the most critical hazardous condition in or around an excavation due to the high likelihood of causing serious injury or death. When the walls of an excavation site collapse, workers can be buried under tons of soil, which can quickly lead to asphyxiation or trauma. The risk increases significantly if proper safety measures, such as shoring or sloping, are not implemented. Addressing this hazard is paramount for the safety of workers involved in excavation operations. While falls, water accumulation, and vibrations are also significant concerns and can contribute to hazardous situations, cave-ins stand out as the most immediate and lethal risk, warranting stringent safety protocols to prevent them.

4. In which situation is it most crucial to open a valve completely before welding?

A. When installing ball valves

B. When using socket welded valves

C. When working with gate valves

D. When connecting pipe fittings

Opening a valve completely before welding is particularly crucial when using socket welded valves, which is why this response is the most accurate. This procedure ensures that the valve is not damaged during the welding process and enables proper access to the internal structure of the valve. Socket welded valves often have a cylindrical socket where the pipe fits. If the valve is not fully opened during the welding process, excessive heat and shrinkage can occur, leading to warping or unwanted stresses in the valve. This can compromise the integrity of the valve seals and affect the overall functionality. Moreover, opening the valve completely allows for better heat dissipation during welding, reduces the likelihood of burns and internal distortion, and provides a clear passage for any contaminants that may be released from the system, facilitating a cleaner welding environment. In contrast, while it's important to consider valve operation in the other situations listed, the critical nature of fully opening a socket welded valve before welding focuses on structural integrity and performance, making it the most essential choice in this context.

5. What pipe hanger is shown in the following figure?

A. Riser Clamp

B. Adjustable Clevis

C. Trapeze

D. Heavy Strap

The adjustable clevis is a type of pipe hanger that provides flexibility and adaptability for securing pipes. This hanger is designed to accommodate changes in pipe diameter or offset within a piping system. The clevis consists of a U-shaped bracket that allows for vertical adjustment, making it ideal for installations where the pipe needs to be positioned at varying heights or angles. Adjustable clevis hangers can help ensure that pipes are properly aligned and securely held in place, which is crucial to maintaining the integrity of the piping system and preventing issues such as sagging or misalignment. The ability to adjust the height and support the pipe in various configurations makes this type of hanger a common choice for both horizontal and vertical applications in piping systems. In contrast, other hangers have specific functions that do not offer the same level of adjustability. Riser clamps typically hold vertical piping only, trapeze hangers support multiple pipes in a parallel arrangement, and heavy straps generally provide a simple, fixed support without the adaptability that an adjustable clevis offers.

6. Which type of level is typically used for precise horizontal alignment in construction?

A. Water

B. Torpedo

C. Framing

D. Spirit

The type of level typically used for precise horizontal alignment in construction is the water level. This tool utilizes the principle of hydrostatics, where water is contained in a flexible tube, allowing it to show the same level over a distance. Because water seeks its own level, it provides an extremely accurate reading for establishing a horizontal line over both short and long distances. This makes it especially useful in applications where precision is critical, such as when leveling foundations or aligning structural elements. While torpedo levels, framing levels, and spirit levels are also common tools in construction, they serve slightly different purposes or are less suitable for very precise measurements over long distances. Torpedo levels are compact and useful for smaller tasks or tight spaces. Framing levels tend to be larger and are designed for leveling walls and studs, usually offering good accuracy over shorter distances. Spirit levels, which contain a bubble in an enclosed liquid, are effective for quick checks of level and plumb, but they rely on eyesight for alignment. In contrast, the water level stands out for its reliability in providing precise horizontal alignment regardless of distance, making it a preferred choice for tasks where accuracy is essential.

7. Which tool is necessary for creating threaded connections on pipes?

A. Wrench

B. Threading machine

C. Cutting torch

D. Measuring tape

Creating threaded connections on pipes requires a threading machine. This tool is specifically designed to cut threads into the ends of pipes, allowing them to be connected securely using threaded fittings. The threading machine ensures that the threads are uniform and properly sized for the specific type of connection needed, which is crucial for maintaining the integrity and functionality of the pipe system. The other tools listed serve different purposes in pipefitting. A wrench is typically used for tightening or loosening fittings that are already threaded, rather than creating new threads. A cutting torch is employed for cutting pipes, especially those made of metal, but does not create threads. A measuring tape is essential for measuring lengths and ensuring precise cuts but does not play a role in the threading process itself. Therefore, the threading machine is the only tool among the choices that directly performs the function of creating threaded connections.

8. The illustrated piece of equipment is a?

A. Welding machine

B. Generator

C. Compressor

D. Centrifugal pump

The correct answer is a centrifugal pump because this type of equipment is specifically designed to move fluids through mechanical action. It uses a rotating impeller to increase the velocity of the fluid and then directs it towards a discharge outlet. In a centrifugal pump, the flow of the fluid is created through centrifugal force, resulting from the impeller's rotation. This distinguishes it from other equipment types listed in the choices. Welding machines are used for joining materials by melting them, typically metals, while generators convert mechanical energy into electrical energy. Compressors, on the other hand, increase the pressure of gases by reducing their volume. Each of these devices serves a different function and operates on distinct principles that do not align with the operation of a centrifugal pump. This clarity helps reinforce the specific characteristics that define a centrifugal pump and its use in various applications involving fluid movement.

9. What is the typical operating pressure range for a residential water supply system?

A. 20 to 30 psi

B. 30 to 40 psi

C. 40 to 60 psi

D. 70 to 80 psi

The typical operating pressure range for a residential water supply system falls between 40 to 60 psi (pounds per square inch). This range is considered optimal for ensuring adequate water flow for household fixtures and appliances, providing sufficient pressure without causing stress or damage to plumbing lines. Pressure below 40 psi can lead to weak flow rates, making it difficult for taps, showers, and appliances like dishwashers to function effectively. Meanwhile, pressures exceeding 60 psi can create problems such as increased wear and tear on fixtures and appliances, water hammer, leaks, and even potential pipe bursts. Maintaining water pressure within this range helps ensure reliable performance of plumbing systems and contributes to the longevity of fixtures, making it the most suitable choice for residential settings.

10. What equipment is commonly used for cutting pipes?

A. Pipe cutters, saws, and hacksaws

B. Wrenches and pliers

C. Drills and chisels

D. Grinders and sanders

The use of pipe cutters, saws, and hacksaws is a standard practice for cutting pipes effectively and efficiently. Pipe cutters are specifically designed for this purpose, allowing for clean, precise cuts without the risk of deformation. This is critical in plumbing and pipefitting, where joining pipes requires accurate dimensions to ensure proper fit and function. Saws, such as reciprocating saws or band saws, can also handle larger or thicker pipes and provide versatility in various cutting tasks. Hacksaws, though more manual and labor-intensive, are also suitable for cutting through various materials, offering control over the cutting process. The other tools listed serve different functions and are not suitable for cutting piping materials. Wrenches and pliers are primarily used for tightening and loosening fittings or holding pipes, while drills and chisels are utilized for creating holes or shaping materials rather than cutting through pipe. Grinders and sanders are more focused on surface finishing rather than the initial cutting procedure. Understanding the appropriate tools for specific tasks is essential in pipefitting to ensure efficiency and quality in the work performed.