

Technical Standards and Safety Authority (TSSA) G3 Practice Exam (Sample)

Study Guide



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Questions

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1. How frequently should gas appliances be serviced?
 - A. Every two years
 - B. Once a year or as per manufacturer recommendations
 - C. Every five years
 - D. Only when there is a noticeable issue
2. According to the workplace safety and insurance board act, which of the following statements is part of the workers obligation in all cases of injury and or disease?
 - A. Obtain first aid promptly
 - B. Notify the employer of any injury within eight hours
 - C. Notify the employer of the possible onset of a work related disease/condition within two working days
 - D. Find a doctor or qualified practitioner who will give a second opinion concerning the injury
3. Is there any means of appealing or changing an order issued by an inspector under the technical standards and safety act?
 - A. True
 - B. False
 - C. Only if submitted within 30 days
 - D. Depends on the director's decision
4. What is the minimum depth a gas line must be buried under a lawn?
 - A. 12 in. (300 mm)
 - B. 15 in. (380 mm)
 - C. 18 in. (460 mm)
 - D. 20 in. (500 mm)
5. How many conductors may be wrapped around a screw terminal?
 - A. 1
 - B. 2
 - C. 3
 - D. 4

6. What pressure should propane piping greater than 200 ft. (61m) be tested at?
- A. 3 psig (21 kPa) for 1 hour
 - B. 15 psig (100 kPa) for 30 minutes
 - C. 30 psig (210 kPa) for 15 minutes
 - D. 50 psig (340 kPa) for 60 minutes
7. How much is the kilowatt output of an electric heater with a 240 volt supply that draws 50 amps?
- A. 12
 - B. 120
 - C. 1,200
 - D. 12,000
8. What is the purpose of the technical standards and safety authority in the context of gas installations?
- A. To manage public safety
 - B. To regulate appliance clearances
 - C. To inspect and approve gas installations
 - D. To issue gas appliance certifications
9. What is a gas fitting system?
- A. A system of electrical wires
 - B. A system of pipes and fittings for gas conveyance
 - C. A method of gas metering
 - D. A type of plumbing installation
10. Atoms are said to be electrically neutral when they contain the same number of which two particles?
- A. Electrons and neutrons
 - B. Protons and neutrons
 - C. Protons and electrons
 - D. Electrons and ions

Answers

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

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Explanations

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1. How frequently should gas appliances be serviced?

- A. Every two years
- B. Once a year or as per manufacturer recommendations
- C. Every five years
- D. Only when there is a noticeable issue

Regular servicing of gas appliances is essential to ensure their safe and efficient operation. The correct answer emphasizes that gas appliances should be serviced once a year or according to the manufacturer's recommendations. This frequency is crucial for several reasons: 1. **Safety**: Yearly inspections help detect any potential hazards such as gas leaks, faulty connections, or inadequate ventilation. Regular servicing minimizes the risk of carbon monoxide poisoning and other safety hazards associated with gas appliances. 2. **Efficiency**: Over time, gas appliances can accumulate dust, debris, or carbon build-up, which can affect their efficiency. Annual servicing ensures that the appliance is operating at optimal levels, which can lead to better energy efficiency and lower utility bills. 3. **Manufacturer's Guidance**: Many manufacturers provide specific servicing recommendations based on the appliance type, age, and usage patterns. Adhering to these recommendations ensures compliance with warranty conditions and optimal performance of the appliance. While other suggested frequencies such as every two years or five years may seem practical, they do not align with the regular maintenance protocol advised for gas appliances in order to maintain their safety and performance. Addressing issues only when they are noticeable can lead to serious safety concerns and inefficient operation, which makes routine servicing far more beneficial overall.

2. According to the workplace safety and insurance board act, which of the following statements is part of the workers obligation in all cases of injury and or disease?

- A. Obtain first aid promptly
- B. Notify the employer of any injury within eight hours
- C. Notify the employer of the possible onset of a work related disease/condition within two working days
- D. Find a doctor or qualified practitioner who will give a second opinion concerning the injury

The correct choice emphasizes the importance of timely communication regarding injuries in the workplace. According to the Workplace Safety and Insurance Board Act, it is essential for workers to notify their employer of any injury within eight hours. This obligation is crucial, as it enables the employer to take immediate action, such as providing medical assistance or ensuring safety measures are implemented to prevent further incidents. Prompt reporting can also assist in the quicker management of claims and facilitate the necessary documentation and investigations into the injury or accident. The timing set by the Act underscores the need for urgency in handling workplace injuries, reflecting a wider goal of maintaining workplace safety and health. By ensuring that employers are informed promptly, the infrastructure of support and resources surrounding workplace injuries is activated much sooner, which can be beneficial for both workers and employers alike.

3. Is there any means of appealing or changing an order issued by an inspector under the technical standards and safety act?

A. True

B. False

C. Only if submitted within 30 days

D. Depends on the director's decision

The statement that there is no means of appealing or changing an order issued by an inspector under the Technical Standards and Safety Act is indeed accurate based on the context of the question. When an inspector issues an order, it is typically the result of them identifying a condition or situation that requires immediate attention for compliance with safety and technical standards. Thus, the expectation is that these orders must be adhered to for the safety of the public and the integrity of the operation. In many cases, the orders issued hold a strong legal standing, which means that appeals or changes to such orders are generally not available. The rationale behind this includes maintaining consistent safety standards and ensuring swift enforcement of regulations without delay that could arise from appeals. While there might be structured processes for addressing grievances or contesting decisions related to regulatory enforcement, the specific nature of orders directly issued by an inspector is such that they are enforceable and require compliance. Other options mentioned suggest scenarios or conditions under which appeals may occur, but these do not accurately reflect the general framework set out by the Technical Standards and Safety Act regarding inspector orders.

4. What is the minimum depth a gas line must be buried under a lawn?

A. 12 in. (300 mm)

B. 15 in. (380 mm)

C. 18 in. (460 mm)

D. 20 in. (500 mm)

The minimum depth that a gas line must be buried under a lawn is 15 inches (380 mm). This depth is specified to ensure the safety of underground gas pipelines and to reduce the risk of damage from surface activities, such as landscaping or foot traffic. Buried gas lines at this depth are less likely to be accidentally struck during routine yard maintenance and other activities, which helps prevent leaks and potential hazards associated with gas lines. In the context of safety regulations, which must be adhered to ensure the protection of both the public and the infrastructure, this standard is derived from industry practices and local codes. It aids in maintaining a safe environment while allowing for standard lawn care and use in residential areas.

5. How many conductors may be wrapped around a screw terminal?

- A. 1
- B. 2
- C. 3
- D. 4

The correct answer indicates that only one conductor is permitted to be wrapped around a screw terminal. This aligns with electrical safety standards, which advocate for a single conductor connection to ensure a secure and reliable electrical connection. When a screw terminal is designed for a single conductor, wrapping multiple conductors can lead to several issues, including poor conductivity, overheating, and potential failures in the electrical system. Additionally, using more than one conductor can compromise the integrity of the connection, creating a safety hazard due to loose or inadequate connections. Consequently, following this guideline ensures the effectiveness of the electrical installation while minimizing the risk of malfunctions.

6. What pressure should propane piping greater than 200 ft. (61m) be tested at?

- A. 3 psig (21 kPa) for 1 hour
- B. 15 psig (100 kPa) for 30 minutes
- C. 30 psig (210 kPa) for 15 minutes
- D. 50 psig (340 kPa) for 60 minutes

When testing propane piping that is greater than 200 feet (61 meters), it is essential to ensure the integrity of the system under pressure to prevent leaks and ensure safety. The standard testing pressure for propane piping of this length is set at 50 psig (340 kPa) for a duration of 60 minutes. This testing pressure helps to verify that the piping can withstand greater operational pressures without failing or developing leaks. The choice to set the test pressure at this level and duration is based on industry standards for ensuring thorough checks. A longer testing period at a higher pressure allows for a more comprehensive assessment of the piping system, identifying any potential issues that may not be evident under lower pressure tests or shorter durations. This practice is essential in maintaining safety and compliance with regulations governing propane installations, as proper testing reduces the risk of hazardous situations arising from undetected flaws in the piping system. The other options do not meet the necessary criteria established by the standards for safe and effective testing of long propane piping, thus presenting increased risk for undetected leaks or failures.

7. How much is the kilowatt output of an electric heater with a 240 volt supply that draws 50 amps?

- A. 12
- B. 120
- C. 1,200
- D. 12,000

To determine the kilowatt output of an electric heater, you can use the formula for electrical power: $\text{Power (in watts)} = \text{Voltage (in volts)} \times \text{Current (in amps)}$. For this scenario, the heater operates on a 240-volt supply and draws 50 amps. By plugging the values into the formula, you get: $\text{Power} = 240 \text{ volts} \times 50 \text{ amps} = 12,000 \text{ watts}$. Next, to convert watts to kilowatts, you divide the number of watts by 1,000: $12,000 \text{ watts} \div 1,000 = 12 \text{ kilowatts}$. This calculation shows that the electric heater indeed outputs 12 kilowatts. Therefore, the correct output for the heater is 12 kilowatts.

8. What is the purpose of the technical standards and safety authority in the context of gas installations?

- A. To manage public safety
- B. To regulate appliance clearances
- C. To inspect and approve gas installations
- D. To issue gas appliance certifications

The main purpose of the Technical Standards and Safety Authority (TSSA) in the context of gas installations revolves around ensuring that installations meet safety standards and regulations. While all options presented contribute to the overall safety and efficacy of gas systems, inspecting and approving gas installations plays a crucial role. This process involves rigorous checks to confirm that installations comply with established codes and standards, thus mitigating the risk of gas leaks, explosions, and other safety hazards. By focusing on the inspection and approval of gas installations, the TSSA ensures that only qualified and safe systems are operational. This responsibility encompasses evaluating both the workmanship and the materials used in gas installations, ensuring they are suitable for their intended use and consistent with safety guidelines. Other responsibilities, such as issuing gas appliance certifications and regulating appliance clearances, support this purpose, but the core function is centered on direct oversight and assurance of safety through inspection and approval processes.

9. What is a gas fitting system?

- A. A system of electrical wires
- B. A system of pipes and fittings for gas conveyance
- C. A method of gas metering
- D. A type of plumbing installation

A gas fitting system is specifically designed to transport gas from its source to various appliances within a building or facility. This system consists of a network of pipes and fittings that safely convey gases, such as natural gas or propane, to ensure proper delivery and functioning of gas-powered equipment. The construction and installation of these pipes must comply with local codes and standards to ensure safety and efficiency, as improper installation can lead to gas leaks or other hazards. In contrast, options that describe electrical wiring, methods of gas metering, or generic plumbing installations are not aligned with the specific purpose of a gas fitting system. A gas fitting system is focused solely on the conveyance of gas, which differentiates it from electrical systems or plumbing that deal primarily with water drainage or delivery. Therefore, understanding the distinct role of gas fitting in infrastructure is essential for recognizing its importance in safety and compliance within gas utilization.

10. Atoms are said to be electrically neutral when they contain the same number of which two particles?

- A. Electrons and neutrons
- B. Protons and neutrons
- C. Protons and electrons
- D. Electrons and ions

Atoms are considered electrically neutral when they have an equal number of protons and electrons. Protons carry a positive charge, while electrons carry a negative charge. When these two charges are balanced, their effects cancel each other out, resulting in a net charge of zero for the atom. Neutrons, on the other hand, are neutral particles found in the nucleus of an atom but do not affect the electrical charge. While protons and neutrons are both located in the nucleus and contribute to the mass of the atom, only protons and electrons determine the atom's overall charge. Therefore, for an atom to remain neutral, the number of positively charged protons must exactly equal the number of negatively charged electrons. This fundamental concept is essential in understanding atomic structure and the behavior of elements in chemical reactions.