

NICET Level 2 Fire Alarm Systems Practice Exam (Sample)

Study Guide



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SAMPLE

Questions

- 1. In a Group F occupancy, which of the following fire alarm systems are required according to the IBC?**
 - A. A manual and automatic fire alarm system with occupant notification**
 - B. An automatic fire alarm system without occupant notification**
 - C. A manual fire alarm system without occupant notification**
 - D. A manual fire alarm system with occupant notification**
- 2. Multiconductor non-power-limited fire alarm circuit cables shall not be installed _____ in ducts.**
 - A. inside walls**
 - B. above ceilings**
 - C. exposed**
 - D. beneath floors**
- 3. All doors that are required to be unlocked by the fire alarm system shall remain unlocked until _____.**
 - A. the fire alarm condition is manually reset**
 - B. the fire alarm system is silenced**
 - C. the fire department arrives**
 - D. all occupants are evacuated from the premises**
- 4. When installing electrical metallic tubing (EMT), the run of tubing is required to be securely fastened at least every how many feet?**
 - A. 6 feet**
 - B. 10 feet**
 - C. 15 feet**
 - D. 20 feet**
- 5. What type of conduit is commonly used for underground installations of electrical systems?**
 - A. Rigid metal conduit (RMC)**
 - B. Flexible metal conduit (FMC)**
 - C. PVC conduit**
 - D. Armored cable**

- 6. Which method is an acceptable connection for grounding conductors?**
- A. Endothermic weld**
 - B. Pressure connectors if listed**
 - C. Use of clamps if listed**
 - D. A and C**
- 7. Air sampling network piping must be labeled clearly at intervals of no greater than what distance on the piping?**
- A. 10 feet**
 - B. 15 feet**
 - C. 20 feet**
 - D. 30 feet**
- 8. What occupancy group is designated for a school that serves below the 12th grade?**
- A. Group A**
 - B. Group B**
 - C. Group C**
 - D. Group E**
- 9. The secondary power supply capacity for supervising station facilities and equipment shall be capable of supporting operations for a minimum of _____.**
- A. 12 hours**
 - B. 24 hours**
 - C. 36 hours**
 - D. 48 hours**
- 10. Which circuit pathway designation allows for fail-safe operation with no fault being annunciated?**
- A. Class A**
 - B. Class B**
 - C. Class C**
 - D. Class D**

Answers

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

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Explanations

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- 1. In a Group F occupancy, which of the following fire alarm systems are required according to the IBC?**
- A. A manual and automatic fire alarm system with occupant notification**
 - B. An automatic fire alarm system without occupant notification**
 - C. A manual fire alarm system without occupant notification**
 - D. A manual fire alarm system with occupant notification**

Group F occupancies, which typically include factories and manufacturing plants, have specific requirements for fire safety to ensure the protection of occupants and the property. According to the International Building Code (IBC), these occupancies often necessitate a fire alarm system to alert occupants in the event of a fire. A manual fire alarm system with occupant notification is essential in these scenarios because it enables immediate awareness of a fire hazard. The notification component is crucial in Group F settings where machinery and equipment may create conditions that could rapidly escalate in danger. This system allows for quick alerts to ensure that occupants can evacuate safely and efficiently, which is particularly important in environments with higher risks associated with fire. Other types of systems, such as those without occupant notification or manual-only systems, do not adequately address the need for immediate warning to the people present in a potentially hazardous environment. The requirements for notification facilitate a proactive response to fire incidents, aligning with the overall safety goals outlined in the IBC for Group F occupancies.

- 2. Multiconductor non-power-limited fire alarm circuit cables shall not be installed _____ in ducts.**
- A. inside walls**
 - B. above ceilings**
 - C. exposed**
 - D. beneath floors**

The installation guidelines for multiconductor non-power-limited fire alarm circuit cables are designed to ensure safety and reliability in fire alarm systems. In this context, the term "exposed" refers to cables that are not protected by a conduit or other shielding, making them vulnerable to physical damage or environmental interference. When cables are installed in an exposed manner, they can be more easily subject to abrasion, impact, and other hazards that could potentially compromise their integrity or functionality. This is particularly critical in fire alarm systems where reliability is essential for early detection and response to fire events. The regulations typically require that non-power-limited fire alarm circuit cables must be installed in a manner that provides adequate protection, which is not the case when referring to exposed installations. Therefore, by prohibiting the installation of these cables in an exposed manner, safety standards help ensure that fire alarm systems function correctly when needed, minimizing the risk of failure during crucial moments.

3. All doors that are required to be unlocked by the fire alarm system shall remain unlocked until _____.

A. the fire alarm condition is manually reset

B. the fire alarm system is silenced

C. the fire department arrives

D. all occupants are evacuated from the premises

All doors required to be unlocked by the fire alarm system must remain unlocked until the fire alarm condition is manually reset. This is critical for ensuring the safety of occupants during an emergency situation, as manually resetting the alarm ensures that the original emergency condition has been addressed. Once the fire alarm system is triggered, any doors that are programmed to unlock will do so to facilitate the safe and swift evacuation of individuals from the building. These doors must remain unlocked until the alarm is manually reset to ensure that individuals are not trapped in a hazardous situation. In contrast, other considerations like silencing the alarm, the arrival of the fire department, or the complete evacuation of occupants do not directly affect the locking mechanisms of doors. The primary function of unlocking doors, mandated by fire safety codes, is focused on providing access for safe egress during an active fire alarm condition, making the manual reset of the alarm the primary factor in determining when those doors can be relocked.

4. When installing electrical metallic tubing (EMT), the run of tubing is required to be securely fastened at least every how many feet?

A. 6 feet

B. 10 feet

C. 15 feet

D. 20 feet

The correct answer is significant because it reflects the National Electrical Code (NEC) requirements for securing electrical metallic tubing (EMT), which is essential for ensuring the safety and integrity of electrical installations. EMT must be securely fastened to prevent movement that could lead to damage to the tubing or the electrical conductors within. Requiring EMT to be secured at intervals of no more than 10 feet ensures that the tubing remains in place and can adequately support the conductors, reducing the risk of wear or accidental disconnections over time. Additionally, this fastening requirement helps maintain the proper alignment and supports the overall structure of the electrical installation, contributing to overall safety and compliance with electrical codes. Understanding these requirements is crucial for those working with fire alarm systems and electrical installations, as adherence to these standards helps prevent electrical hazards.

5. What type of conduit is commonly used for underground installations of electrical systems?

- A. Rigid metal conduit (RMC)**
- B. Flexible metal conduit (FMC)**
- C. PVC conduit**
- D. Armored cable**

PVC conduit is commonly used for underground installations of electrical systems due to its inherent properties that make it suitable for such environments. One of the main advantages of PVC conduit is its resistance to moisture and corrosion, which is essential for installations buried underground, where it could be exposed to water or other environmental factors that can degrade metal conduits. Furthermore, PVC is lightweight and easy to work with, allowing for straightforward installation without the need for additional specialized tools. It also provides good electrical insulation, which helps to protect the conductors inside from potential grounding issues that could arise in damp conditions. These characteristics make PVC conduit a preferred choice for many electrical applications beneath the ground, ensuring both durability and reliability in electrical installations.

6. Which method is an acceptable connection for grounding conductors?

- A. Endothermic weld**
- B. Pressure connectors if listed**
- C. Use of clamps if listed**
- D. A and C**

When considering grounding conductors, it is essential to ensure that the connections are reliable and meet safety standards. Both endothermic welding and the use of clamps, when properly listed, are recognized methods for establishing solid electrical connections for grounding conductors. Endothermic welding is a method that involves a chemical reaction to produce heat, allowing the conductors to fuse together at a molecular level. This welding process creates a bond that has very low resistance, which is critical in grounding applications to ensure efficient fault current paths. Using clamps for grounding connections can also be acceptable, provided they are listed for that specific purpose. Listed clamps are tested and verified to meet safety and performance standards, ensuring that they will function effectively without introducing significant resistance or mechanical failure. Therefore, the correct answer identifies both endothermic welds and clamps as acceptable methods of connecting grounding conductors, highlighting the importance of using specified and rigorous methods to ensure system reliability and safety.

7. Air sampling network piping must be labeled clearly at intervals of no greater than what distance on the piping?

- A. 10 feet**
- B. 15 feet**
- C. 20 feet**
- D. 30 feet**

The correct answer is based on industry standards and practices regarding the labeling of air sampling network piping. Clear labeling of piping at specified intervals is crucial for maintenance, safety, and operational efficiency. The requirement to label pipes at intervals no greater than 20 feet ensures that personnel can easily identify and track the air sampling network, facilitating quicker responses in emergency situations, as well as regular inspections and maintenance. Limiting the distance between labels to 20 feet strikes a balance between accessibility and practical labeling. If the intervals were set longer, it could create challenges for technicians who need to locate specific sections of the piping quickly, especially in larger installations where the complexity of the system increases the likelihood of miscommunication or confusion. In summary, labeling air sampling network piping at intervals of no greater than 20 feet assures clear identification and consistent recognition of the system throughout its installation, aligning with best practices in fire alarm system design and maintenance.

8. What occupancy group is designated for a school that serves below the 12th grade?

- A. Group A**
- B. Group B**
- C. Group C**
- D. Group E**

The occupancy group designated for a school that serves below the 12th grade is Group E. This classification is specifically outlined in the building and fire codes, recognizing educational facilities that accommodate children from kindergarten through the 12th grade. Group E is tailored for educational purposes, ensuring that safety measures and building design considerations are appropriate for the needs and risks associated with this type of occupancy, including factors like evacuation procedures and accessibility. Other occupancy classifications, such as Group A, B, or C, pertain to different types of buildings and their uses, such as assembly, business, or accessory structures, which do not encompass the criteria established for educational institutions serving younger students. Thus, the correct designation of Group E reflects the unique requirements for schools focusing on the well-being and safety of children in educational settings.

9. The secondary power supply capacity for supervising station facilities and equipment shall be capable of supporting operations for a minimum of _____.

A. 12 hours

B. 24 hours

C. 36 hours

D. 48 hours

The requirement for a secondary power supply capacity for supervising station facilities and equipment to support operations for a minimum of 24 hours is largely based on the need for reliability and safety in critical situations. Fire alarm systems must remain operational during emergencies, such as power outages or natural disasters, which may extend beyond short periods of disruption. A 24-hour duration ensures that the system can function adequately for an entire day without external power, allowing for effective monitoring and response during emergencies. This duration aligns with industry standards that prioritize maintaining system integrity and communication capabilities over longer interruptions to allow for appropriate emergency responses. In addition, specifying a minimum duration of 24 hours gives time for responders to address the situation, and it covers substantial time frames that are commonly anticipated for power restoration in many scenarios.

10. Which circuit pathway designation allows for fail-safe operation with no fault being annunciated?

A. Class A

B. Class B

C. Class C

D. Class D

The correct answer is Class D. This designation refers to a specific type of fire alarm circuit arrangement that is designed to provide a fail-safe operation, meaning that in the event of a fault, the system will continue to operate without alarming or indicating a fault condition. Class D circuits typically involve a reduced number of devices connected in a manner that ensures any single fault—like a wire break—will not disable the entire circuit or prevent alarms from functioning. Instead, the remaining devices on that circuit maintain their operational integrity, ensuring that there is still a means of detection or alert in case of a fire situation. Class D circuits are often employed in systems where maintaining operation is critical, allowing for an uninterrupted service even when certain conditions are not optimal due to faults. This contrasts with other classes that might have a different focus, such as annunciation of faults or requiring a complete circuit for functionality.