



UTAH STATE FIRE MARSHAL

**FIRE ALARM CERTIFICATION
INSPECTION AND TESTING EXAMINATION**



3 YEAR RENEWAL TEST

Master Fire Alarm Technician

For Office Use Only
Score _____

This is an OPEN BOOK exam. The questions were extrapolated from NFPA 72, National Fire Alarm and Signaling Code, 2010 Edition. Please read each question very carefully for detail and correctness. Each question is either True or False or Multiple Choice. Please circle the answer that you believe to be most correct. A score of 70% or higher is required to pass the test.

You may use:

***NFPA 72 – 2010 Edition
R710-4 and R710-11***

*(R710 rules are available at our website:
firemarshal.utah.gov)*

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1. Emergency Communication system speakers are permitted to be used for ancillary functions provided that the fire command center is constantly attended by trained personnel, and selective paging is permitted by the AHJ, the equipment is installed or located with safeguards to resist tampering, and the monitoring requirements of Section 10.17 continue to be met while the system is used for non-emergency purposes.

☒ A. True

B. False

2. If a defect or malfunction is not corrected at the conclusion of system inspection, testing or maintenance, the system owner or the owner's designated representative shall be informed of the impairment in writing within:

A. 12 hours

☒ B. 24 hours

C. 36 hours

D. 48 hours

3. Fire alarm systems used for fire suppression-releasing service shall be provided with a disconnect switch to allow the system to be tested without actuating the fire suppression systems. Operation of the disconnect switch or a disable function shall cause:

A. A trouble signal at the fire alarm control unit.

☒ B. A supervisory signal at the fire alarm control unit.

C. An alarm signal at the fire alarm control unit.

D. None of the above.

4. You are performing a fire alarm inspection on a system using voice alarm communications. You check the standby current draw of the system control panel by shutting off the AC power. The meter you are using for your measurement indicates a current draw of .325A. You then initiate a fire alarm and it reads 3.13 A. What is the total current draw for 24 hours plus 15 minutes in alarm (before the addition of a safety factor)? (Round up answer)

☒ A. 8.6 Ah

B. 9.0 Ah

C. 9.6 Ah

5. Beyond functional alarm system actuation (including fan control) and supervision testing of the detector installed as a duct detector, what other function is required to be verified?
- A. The device will indicate the direction of air flow.
 - ☒ B. The device will sample the air stream.
 - C. The device will sample the air temperature.
 - D. All of the above
6. Where one or more elevators are specifically designated and marked for use by occupants for evacuation during fires, a status indicator shall display an illuminated green light and the message "Elevators available for occupant evacuation" shall indicate the safe use of the elevator
- ☒ A. Prior to Phase I Emergency Recall Operation
 - B. After Phase I but prior to Phase II Emergency Recall Operation
 - C. Elevators are never designated for use by occupants during a fire condition
 - D. None of the above.
7. Actuation of alarm notification appliances or emergency voice communications, fire safety functions, and annunciation at the protected premises shall occur within _____ seconds after the actuation of an initiating device.
- A. 20
 - B. 15
 - ☒ C. 10
 - D. None of the Above
8. If the operation of a device, circuit, fire alarm control unit function, or special hazard system interface is simulated, it shall be noted on the inspection/test form that the operation was simulated.
- ☒ A. True
 - B. False
9. If a building owner opts to install an emergency communications systems in his building that is not required by code, the system is not required to comply with the requirements of NFPA 72, National Fire Alarm and Signaling Code.
- A. True
 - ☒ B. False

10. Testing of the Digital Alarm Communicator Transmitter (DACT) shall consist of:

- A. Line seizure capability by initiating a signal while using the primary line.
- B. Disconnecting the primary line and verifying the transmission of a trouble signal to the protected premises within 4 minutes of the fault.
- C. Disconnecting the secondary line and verifying the transmission of a trouble signal to the protected premises within 4 minutes of the fault.
- ☒ D. All of the above.

11. You are performing the metallic conductor loop resistance test as outlined in NFPA 72, chapter 14. You note that the installed conductors are 14 AWG solid, coated, copper. When connected to the circuit, your OHM meter indicates 4.25 ohms resistance. Referring to the Conductor Properties table which shows the resistance of the conductor to be 3.19 per 1000 feet, what is the actual length of the circuit?

- A. 497 feet
- B. 542 feet
- ☒ C. 666 feet
- D. 793 feet

12. An approved key plan drawing and operating instructions shall be posted at the main fire alarm panel which displays the location of all alarm zones and if applicable, device addresses. This requirement is found in:

- A. The International Fire Code
- B. NFPA 72, National Fire Alarm and Signaling Code
- ☒ C. Utah State Fire Marshals Administrative Code
- D. All of the above

13. To test the supervision of conductors, NFPA 72 requires the introduction of a fault in any circuit monitored for integrity which shall result in a trouble indication at the fire alarm control unit. One connection shall be opened at not less than:

- A. 5 percent of the initiating devices, notification appliances and controlled devices on every circuit.
- ☒ B. 10 percent of the initiating devices, notification appliances and controlled devices on every circuit.
- C. 50 percent of the initiating devices, notification appliances and controlled devices on every circuit.
- D. 75 percent of the initiating devices, notification appliances, and controlled devices on every circuit.

14. If, in the opinion of the technician inspecting and testing a fire alarm system, a system fails to ensure a reasonable degree of protection for life and property from fire
- A. The technician shall provide the building owner or his representative and the Authority Having Jurisdiction a written copy of the noted deficiencies
 - ☒ B. A red tag shall be placed on the system, the AHJ shall be notified and provided with a written copy of the noted deficiencies.
 - C. The building owner or his representative shall be required to evacuate the building occupants.
 - D. None of the above
15. Any device or system intended to electrically lock a required means of egress door in the direction of egress shall:
- A. Be connected to the fire alarm system serving the protected premises.
 - B. Unlock in the direction of egress.
 - ☒ C. Remain unlocked until the fire alarm condition is manually reset.
 - D. All of the above.
16. Unless otherwise required by the authority having jurisdiction, only the elevator lobby, elevator hoistway, and the elevator machine room smoke detectors, or other automatic detection permitted to be used in lieu of, shall be used to recall elevators for fire fighters' service.
- ☒ A. True
 - B. False
17. Where the detection of smoke in the supply air duct system is required, a listed duct detector shall be:
- A. Located upstream of the fan and filters
 - B. Located downstream of the fan
 - ☒ C. Located downstream of the fan and filters
 - D. All of the above
18. When testing smoke detectors with control output functions, it shall be verified that the control capability shall remain operable even if all of the initiating devices connected to the same initiating device circuit or signaling line circuit are in an alarm state.
- ☒ A. True
 - B. False

19. A fire alarm inspector or tester is required to complete a Fire Alarm and Emergency Communication System Inspection and Testing Form for each system inspected and and/or tested. The required information includes but is not limited to:
- A. Functional test of required sequence of operations
 - B. Tests of intelligibility of mass notification system speakers
 - C. Other tests as required by the authority having jurisdiction
 - ☒ D. All of the above
20. You are performing a fire alarm inspection on a system using conventional notification appliances. You check the standby current draw of the system control panel by shutting off the AC power, the meter you are using for your measurement indicates a current draw of .413A. You then initiate a fire alarm and check your meter again and it reads 2.67A. What is the total current draw for 24 hours plus 5 minutes of alarm (before the addition of a safety factor)? (Round up answer)
- A. .221 Ah
 - ☒ B. 9.912 Ah
 - C. 10.134 Ah
21. Where multiple fire alarm control units are installed in a building each inter-connected fire alarm control unit shall be separately monitored for:
- A. Alarm conditions
 - B. Supervisory conditions
 - C. Trouble conditions
 - ☒ D. All of the above
22. Emergency communications systems shall be capable of the reproduction of prerecorded, synthesized, or live messages with _____ in accordance with chapter 18.
- A. A decibel level of 110.
 - ☒ B. Voice intelligibility
 - C. Visible Characteristics
 - D. All of the above
23. Where smoke detectors are installed in concealed locations more than 10 feet above the finished floor or in arrangements where the detector's alarm or supervisory indicator is not visible to responding personnel, the detectors shall be provided with remote alarm or supervisory indication in a location acceptable to the Authority Having Jurisdiction
- ☒ A. True
 - B. False

24. When an initiating device, notification appliance, or control relay is deleted

- A. 10 percent of the devices or appliances on the same circuit shall be tested.
- B. 100 percent of the devices or appliances on the same circuit shall be tested.
- ☒ C. One other device or appliance on the same circuit shall be tested.
- D. None of the above

25. A service tag shall be attached at the fire alarm control panel for each system inspected to show system compliance and shall be placed in such a position as to be conveniently inspected by the AHJ. The service technician is required to:

- A. Provide his/her name and certificate of registration number on the tag.
- B. Provide information pertaining to the date and type of service on the tag.
- C. Write legibly on the tag
- ☒ D. All of the above