Practice quiz: NICET Fire Alarm Systems Level I

10 questions. The answer key is on page 2.

Name _____ Date _____

1. **A new horn-strobe circuit shows a trouble as soon as it is connected, before any alarm. The wiring is continuous and the end-of-line resistor is the right value. One horn-strobe was replaced that morning. What is the most likely cause?**
   A. The replacement appliance is landed with its polarity reversed
   B. The end-of-line resistor is at the last appliance
   C. The circuit is wired Class B
   D. The replacement appliance is set to a higher candela

2. **A helper suggests adding two smoke detectors by teeing off the middle of a conventional Class B initiating circuit instead of extending it past the last detector. Why is this not acceptable?**
   A. The branch would draw too much standby current
   B. A break on the branch would go unseen, since the branch has no end-of-line device
   C. Teeing off reverses the circuit polarity
   D. The panel would treat the two-detector branch as a separate zone with its own trouble signal

3. **The drawings call for a 2-hour survivability level on the voice evacuation speaker circuits. Which installation meets that requirement?**
   A. Standard FPLP cable in EMT
   B. FPLR cable run in a riser shaft
   C. Any fire alarm cable in any raceway, as long as the building is fully sprinklered throughout
   D. Circuit integrity (CI) cable rated for 2 hours, installed as its listing requires

4. **On a Class A initiating circuit, why should the outgoing and return conductors not run together in the same cable for the whole route?**
   A. It reduces voltage drop on the return path
   B. It lets the panel use a smaller end-of-line resistor at the far end of the circuit route
   C. One event that damages both runs would defeat the circuit's redundant path
   D. It keeps the circuit power-limited

5. **A technician falls from a ladder on a job and is admitted to the hospital as an in-patient. Within how long must the employer report this to OSHA?**
   A. 8 hours
   B. 24 hours
   C. 7 days
   D. 30 days

6. **During an annual test, a technician measures 27.2 V across a 24 V battery set with the panel on AC power and records the batteries as passing. What is wrong with this test?**
   A. With the charger connected the meter reads float voltage, which says nothing about the batteries under load
   B. Nothing; 27.2 V is a normal battery voltage
   C. The reading should have been taken across one battery only
   D. The test should have been done with the batteries removed from the panel and measured on a bench with no load connected

7. **During an alarm test in an open office, the technician can see four strobes from one desk and they are flashing at different moments. What should the technician do?**
   A. Nothing; strobes only need to flash
   B. Turn the candela setting down on two of them
   C. Record a deficiency: more than two strobes in one view must flash in sync
   D. Disconnect two of the strobes so that only two are visible from that desk position

8. **A contractor drives a screw through a notification appliance circuit cable, shorting the two conductors. The building is not in alarm. What will the panel most likely show?**
   A. An alarm on that circuit
   B. A supervisory signal
   C. Nothing until the next alarm
   D. A trouble on that circuit

9. **A panel has shown a ground fault trouble for weeks, and the system still operates normally. Why does it still need to be found and fixed?**
   A. A second ground fault on another conductor can act like a short or create false signals
   B. A ground fault drains the batteries in a few hours
   C. A ground fault stops all notification appliances
   D. The panel will clear the trouble by itself after 30 days, once the ground fault timer expires

10. **In a submittal's sequence of operations matrix, the row 'Waterflow switch, riser 2' has a mark in the column 'Notify supervising station'. What does that mark mean?**
    A. The waterflow switch must be tested by the supervising station
    B. The supervising station can shut off riser 2
    C. Operating that waterflow switch sends a signal to the supervising station
    D. The waterflow switch is monitored only, with no outputs

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Answer key

NICET Fire Alarm Systems Level I. One line of why for each answer.

1. **A** In standby the panel supervises the circuit with reversed polarity, and a diode in each appliance blocks current in that direction.
2. **B** Supervision works by passing current through the circuit to the end-of-line device.
3. **D** A 2-hour survivability level calls for a 2-hour rated method, such as listed CI cable, a 2-hour rated cable system or a 2-hour rated enclosure, installed as its listing requires.
4. **C** The point of Class A is that the panel can reach every device from either end.
5. **B** Under 29 CFR 1904.39, a work-related in-patient hospitalization, amputation or loss of an eye is reported to OSHA within 24 hours.
6. **A** With the charger connected, the meter reads the charger holding the batteries at float voltage.
7. **C** When more than two strobes can be seen together from one place, they must flash in synchronization, because out-of-step flashing raises the combined flash rate and can trigger seizures.
8. **D** In standby the panel supervises the notification circuit through the end-of-line resistor, and a short changes that current, so it reports a trouble.
9. **A** One ground fault usually leaves the circuits working, which is why it is easy to ignore.
10. **C** In an input and output matrix, each row is an input and each column an output.

Full explanations

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