Practice quiz: NICET Fire Alarm Systems Level IV

10 questions. The answer key is on page 2.

Name _____ Date _____

1. **A change needs 24 labor hours at $82 per hour and $1,950 of material. The contract allows a 15 percent markup on changes. Inputs are exercise data. What is the change order price?**
   A. $4,506
   B. $3,918
   C. $4,213
   D. $4,702

2. **During an integrated test of an atrium smoke control system, who proves that fans and dampers produce the designed airflow and pressure?**
   A. The fire alarm contractor, since the fire alarm system starts the sequence
   B. The smoke control system's designer and its controls contractor
   C. The AHJ, by measuring the airflow during the witness test
   D. The elevator installer, since elevators are part of the smoke control zone

3. **At close-out, the panel describes a detector as L3 D47 Rm 314, while the record drawing labels the same detector 3-047 Corridor 312. What should happen before turnover?**
   A. Leave both as they are, since the address number matches
   B. Field-check the location, then make the panel and drawing agree
   C. Change the drawing to match the panel text without checking the field
   D. Remove the room numbers from both so they cannot disagree

4. **The sales team booked record revenue this year, but several of its jobs lost money. Which measure should the manager use to judge sales from now on?**
   A. Total revenue booked during the year
   B. The number of bids submitted each month
   C. Margin earned per job
   D. How many new customers each salesperson met during the quarter

5. **A node's control unit draws 0.150 A standby, its devices 0.040 A, a network card 0.035 A and an annunciator 0.025 A. Alarm current is 2.20 A. The basis is 24 hours standby, 5 minutes alarm, 20 percent margin. Inputs are exercise data. What capacity is required?**
   A. 5.7 Ah
   B. 7.4 Ah
   C. 6.2 Ah
   D. 8.5 Ah

6. **A circuit has 12 appliances at 0.150 A each, 320 ft one way, wire at 3.07 ohms per 1,000 ft per conductor, a 20.4 V start and a 16.0 V appliance minimum. Inputs are exercise data. Using the lumped method, what is the result?**
   A. About 18.6 V; passes
   B. About 20.5 V; passes
   C. About 15.4 V; fails
   D. About 16.9 V; passes

7. **A horn produces 91 dB at 5 ft in an open space. Using the 6 dB per doubling of distance rule, about what level reaches 20 ft? Levels are exercise data.**
   A. 85 dB
   B. 73 dB
   C. 87 dB
   D. 79 dB

8. **A campus network of control units is wired as a fiber ring in a Class X arrangement. What should happen when one fiber segment is cut?**
   A. Every node beyond the cut stops working until the fiber is repaired
   B. The network keeps working but gives no indication of the cut
   C. The network keeps communicating and reports the fault
   D. All nodes transfer to their batteries until the fiber is repaired

9. **An insurer asks for cross-zoned detection on a clean agent system in a server room. The designer worries it will delay release. How should the decision be made?**
   A. Weigh fire growth in the hazard against the cost of a false discharge, and record the choice in the sequence
   B. Always cross-zone, since false discharges cost more than any fire
   C. Never cross-zone, since speed of release is all that matters
   D. Let the installer choose during programming

10. **An owner asks for a memo on whether the code requires a feature. Which approach makes the memo hold up?**
    A. Cite the governing chapter and edition, explain the reasoning, and separate requirements from recommendations
    B. Paste the code text in full so there is no doubt
    C. State the strongest reading that supports your company's position
    D. Give a yes or no answer without reasons to keep it short

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Answer key

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

1. **A** Labor 24 x 82 = $1,968; plus material $1,950 = $3,918; x 1.15 = $4,505.70, or $4,506. $3,918 omits the markup. $4,213 marks up labor only. $4,702 applies 20 percent.
2. **B** The fire alarm side proves that the correct zone signal reached the smoke control system; airflow and pressure performance belong to that system's designer and contractor.
3. **B** Two different locations for one device means at least one is wrong, so the field decides and both records are corrected.
4. **C** Margin earned shows whether sales priced work the company can deliver profitably.
5. **B** Standby 0.250 x 24 = 6.00 Ah; alarm 2.20 x (5/60) = 0.18 Ah; total 6.18 Ah; x 1.20 = 7.4 Ah.
6. **D** Current 1.8 A; loop 640 ft, so 0.640 x 3.07 = 1.96 ohms; drop 1.8 x 1.96 = 3.54 V; 20.4 - 3.54 = 16.9 V, above 16.0 V.
7. **D** 5 ft to 20 ft is two doublings: 91 - 12 = 79 dB.
8. **C** A Class X ring is chosen so communication continues past a single break while the fault is reported.
9. **A** Cross-zoning trades a lower chance of false release for a slower release, so it is decided for the specific hazard and documented.
10. **A** A sound memo cites by chapter and edition, explains the reasoning and keeps code and preference apart.

Full explanations

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