Practice quiz: NICET Fire Alarm Systems Level II

10 questions. The answer key is on page 2.

Name _____ Date _____

1. **A system draws 0.30 A in standby and 3.2 A in alarm. It needs 24 hours of standby followed by 5 minutes of alarm, and the design adds a 20% margin to the total calculated capacity. What is the minimum battery capacity?**
   A. 8.91 Ah
   B. 8.96 Ah
   C. 27.84 Ah
   D. 7.47 Ah

2. **A notification circuit carries 1.2 A, treated as a lumped load at the far end. It is wired in 12 AWG solid copper (1.93 ohms per 1,000 ft) and the last appliance is 400 ft from the power supply. The supply's end-of-battery output is 20.4 V. What voltage reaches the last appliance?**
   A. 16.00 V
   B. 19.47 V
   C. 22.15 V
   D. 18.55 V

3. **A NAC rated 2.0 A already carries 1.45 A. You want to add strobes that draw 0.095 A each at the chosen setting. How many can you add without exceeding the circuit rating?**
   A. 5
   B. 15
   C. 21
   D. 6

4. **Power-limited fire alarm cable will be run exposed, not in raceway, through a ceiling space used for environmental air (a plenum). Which cable type is suitable?**
   A. FPL
   B. FPLR
   C. FPLP
   D. CM

5. **A wall-mounted strobe is being installed in a corridor with a 10 ft ceiling. Where should its height be checked?**
   A. At the same height as the nearest manual pull station
   B. As close to the ceiling as possible, so it is above furniture
   C. So the whole lens is inside the required height range above the floor
   D. At any height, as long as the strobe is visible from the corridor entrance

6. **During acceptance testing you find several smoke detectors still wearing the dust covers fitted during construction. What should you do?**
   A. Remove the covers, test those detectors and note it on the test record
   B. Skip those detectors and mark them as tested
   C. Test the detectors with the covers on, since smoke reaches them eventually
   D. Leave the covers on until the building is occupied

7. **Besides an alarm test, what does a periodic test of a duct smoke detector with sampling tubes need to confirm?**
   A. That the duct's fan has been shut off before testing
   B. That the detector's sensitivity matches a nearby spot smoke detector in the same return air path
   C. That the detector sounds a local horn
   D. That airflow through the sampling tubes is within the manufacturer's listed range

8. **A ground fault trouble appears on one circuit only after heavy rain and clears a day later. Where is the most likely cause?**
   A. A failing standby battery
   B. Water getting into a device box, junction box or conductor run on an exterior wall or underground section of that circuit
   C. An incorrect end-of-line resistor value
   D. A detector set to the wrong sensitivity

9. **After an annual inspection and test, how long must the records be kept?**
   A. Until the next test, and for one year after that
   B. For the life of the building
   C. For 30 days
   D. Only until the AHJ has reviewed and accepted them at the next site visit

10. **The AHJ acceptance test is booked for Friday, but the elevator contractor cannot attend, so the recall functions cannot be confirmed at the elevators. What is the best action?**
    A. Disconnect the elevator recall relays until the elevator contractor is free
    B. Run the test anyway and report recall as passed because the panel showed the relay operated
    C. Tell the general contractor and the AHJ now, and reschedule the elevator part of the test for when the elevator technician can attend
    D. Ask the sprinkler contractor to watch the elevators instead

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Answer key

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

1. **B** Standby is 0.30 A x 24 h = 7.20 Ah.
2. **D** Loop length is 2 x 400 = 800 ft, so resistance is 1.93 x 0.8 = 1.544 ohms.
3. **A** Spare capacity is 2.0 - 1.45 = 0.55 A, and 0.55 / 0.095 = 5.8, so 5 strobes fit.
4. **C** FPLP is the plenum-rated power-limited fire alarm cable.
5. **C** Wall-mounted visible appliances have a required height range measured from the finished floor, and the whole lens has to fall within it (look up the range in NFPA 72 ch.18).
6. **A** Dust covers stop smoke entering the chamber, so a covered detector cannot work.
7. **D** A duct detector only works if enough duct air passes through its housing, so the pressure differential or airflow is checked against the manufacturer's range.
8. **B** A fault that follows the weather points to moisture creating a path to ground, usually where the circuit runs outdoors, underground or through an exterior wall.
9. **A** Inspection, testing and maintenance records are kept until the next test and for one year after it, so there is always a full test cycle on file.
10. **C** Recall is only proven when the elevator responds, which needs the elevator technician, so the right move is to tell the parties early and reschedule that part.

Full explanations

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