



## U.S. Fire Administration / National Fire Academy

# Coffee Break's Over!

## Self-Evaluation

(Answers are on last page. Reference numbers in parentheses pertain to the Coffee Break Training bulletin of the same number.)

Student Name \_\_\_\_\_

Student ID # \_\_\_\_\_

Date \_\_\_\_\_

1. A standpipe system connected to a permanent water supply capable of providing adequate flow and pressure, but needing a manual releasing valve to fill the pipe is called (Reference 2006-42)
  - a. an automatic dry standpipe.
  - b. a semi-automatic standpipe system.
  - c. a dry standpipe system.
  - d. a manual dry standpipe system.
  - e. a design error. This configuration is not permitted.
  
2. Extended coverage and ESFR (Early Suppression Fast Response) are the preferred types of sprinklers to be installed under combustible obstructed construction because of their unique response characteristics. (Reference 2006-46)
 

T or F
  
3. In areas where metallic sprinkler pipe is subject to earthquake damage, the size of the clear space around 3-inch (76.2 mm) sprinkler pipe passing through a rigid construction element should be not less than (Reference 2006-49)
  - a. 1 inch (25.4 mm).
  - b. 2 inches (51 mm).
  - c. 3 inches (76.2 mm).
  - d. 4 inches (102 mm).
  - e. None of the above; no clearance is required.
  
4. Hose assemblies on carbon dioxide portable fire extinguishers should be tested for electrical continuity (Reference 2006-40)
  - a. every 6 months.
  - b. annually.
  - c. every other year.
  - d. every 6 years.
  
5. A standpipe that is not connected to a water supply and that requires the fire department to supply it is called (Reference 2006-42)
  - a. an automatic dry standpipe.
  - b. a semi-automatic standpipe system.
  - c. a dry standpipe system.
  - d. a manual dry standpipe system.
  
6. An automatic sprinkler system designer has determined that the required volume to operate the sprinkler system in a light hazard occupancy is 276.3 gallons per minute (gpm) (1050 lpm). The system design calls for a single, small-hose station installed next to the sprinkler system riser. According to NFPA 13, what is the total water supply requirement for this project?
  - a. 8,289 gallons (31,375 l).
  - b. 9,789 gallons (37,052 l).
  - c. 11,280 gallons (42,695 l).
  - d. 25,578 gallons (96,812 l).
  
7. Class II standpipe systems are intended primarily for occupant use. (Reference 2006-41)
 

T or F
  
8. As a result of the Iroquois Theater fire of 1903, a major safety code change required (Reference 2006-47)
  - a. outward door swing in places of assembly.
  - b. fire-retardant (asbestos) curtains separating the stage from the seating area.
  - c. automatic sprinklers in the tie and fly gallery above the stage.
  - d. automatic smoke detector-operated smoke vents above the stage.
  - e. All of the above.

9. What is the water-carrying capacity in gallons (liters) of a sprinkler branch line that consists of 8 feet of Schedule 40 2-inch (51 mm) pipe, 8 feet of Schedule 40 1-1/2-inch (38.1 mm) pipe and 10 feet of Schedule 10 1-inch (25.4 mm) pipe?
- 1.96 gallons (7.419 liters).
  - 2.73 gallons (10.33 liters).
  - 7.419 gallons (19.60 liters).
  - 9.43 gallons (35.696 liters).
10. In areas where attic temperatures may fall below 0 °F (-18 °C), how many additional layers of batt insulation should be installed to protect non-metallic sprinkler pipe? (Reference 2006-51)
- No additional layers required, a single layer is adequate.
  - Two.
  - Three.
  - Two, plus 6 inches of blown-in, fire-retardant-treated cellulose.
  - None of the above; follow the insulation manufacturer's recommendation.
11. An outdoor pile of 4,400 gallons (16,655 l) of Class I-C flammable liquids must be located at least \_\_\_\_\_ feet (m) from a property line that is or can be built upon. (Reference 2006-44)
- 5 (1.5).
  - 10 (3.04).
  - 25 (7.62).
  - 50 (15.2).
12. Two operating "modes" of automatic sprinklers are (Reference 2006-48)
- residential and suppression.
  - control and large drop.
  - wet and dry.
  - suppression and control.
13. In areas where metallic sprinkler pipe is subject to earthquake damage, a clear space around 4-inch (102 mm) sprinkler pipe passing through a rigid construction element is not required when (Reference 2006-49)
- the pipe passes through gypsum wallboard or similar construction materials that will fail before the pipe.
  - flexible couplings are located within 12 inches (300 mm) of each side of the structural element.
  - horizontal pipe runs perpendicular through successive joists or studs that form a wall or floor/ceiling assembly.
  - All of the above.
14. Under current standards, Class I standpipe systems are designed to deliver 500 gpm (1,900 lpm) for the first standpipe riser, \_\_\_\_\_ gpm for each additional riser, and the flow has to be provided at \_\_\_\_\_ psi (bar) at the highest hose station outlet. (Reference 2006-41)
- 500, 200 (1,900, 14)
  - 250, 200 (950, 14)
  - 250, 100 (950, 6.9)
  - 250, 65 (950, 4.5)
15. Centrifugal fire pump assemblies are susceptible to cavitation: a condition where, due to high speed and \_\_\_\_\_, water vapor forms inside the pump impeller. (Reference 2006-43)
- low pressure
  - excess entrained air
  - entrained carbon dioxide
  - contaminants such as sand or grit
16. In order to qualify as "outdoor storage," the structural supports and walls of a weather protecting structure must not obstruct more than one side or more than \_\_\_\_\_ percent of the perimeter of the storage area. (Reference 2006-45)
- 10
  - 25
  - 33
  - 50

17. Listed residential sprinklers are classed as suppression-mode sprinklers. (Reference 2006-48)

T or F

18. Standard pendent and upright spray sprinkler deflectors may be installed 1 to 6 inches below the bottom of composite wood joists as long as the distance between the sprinkler and ceiling does not exceed 22 inches (560 mm), and where the joist channels are firestopped into individual areas not exceeding \_\_\_\_\_ square feet ( $m^2$ ) (Reference 2006-46)

- a. 100 (9.3)
- b. 250 (23.2)
- c. 300 (29.7)
- d. 440 (41)

19. Type IC rated electrical fixtures are listed for \_\_\_\_\_ inches (mm) of clearance from combustible materials. (Reference 2006-51)

- a. 0 (0)
- b. 1-1/2 (38)
- c. 3 (76.2)
- d. 18 (457)

20. An automatic sprinkler system protecting an ordinary hazard occupancy is outfitted with four small hose stations for incipient fire control. How many gpm (lpm) does the designer need to include in the calculations for inside hose streams? (Reference 2006-50)

- a. 0 (0).
- b. 50 (195).
- c. 100 (390).
- d. 250 (950).
- e. 500 (1900).

Answers: 1. b; 2. F; 3. b; 4. b; 5. d; 6. b;  
7. T; 8. a; 9. b; 10. e; 11. d; 12. d; 13. d;  
14. c; 15. a; 16. b; 17. F; 18. c; 19. a; 20. c