11 FIRE PROTECTION

QUIZ 1 (20 POINTS TOTAL)

True/False (6 points)

- 1. It is possible to build a facility that is completely fire-resistive.
 - a. true
 - b. false
- 2. Fires first spread horizontally through a building, then vertically.
 - a. true
 - b. false
- 3. A building's occupancy will influence the degree of fire hazard.
 - a. true
 - b. false
- 4. The physical structure of a building is usually a more important factor in the start of a fire than the contents of a building.
 - a. true
 - b. false
- 5. It is estimated that more than half of all fire losses result from human mistakes.
 - a. true
 - b. false
- 6. Fabrics can be made noncombustible.
 - a. true
 - b. false

Multiple Choice (6 points)

- 7. Smoke and toxic gases are responsible for approximately _____ of deaths from fire in buildings.
 - a. 25%
 - b. 52%
 - c. 66%
 - d. 78%
- 8. If a plant does not have its own fire protection expert, who should conduct the fire equipment inspection?
 - a. management
 - b. each department supervisor
 - c. local fire chief
 - d. safety and health professional

- 9. A portable fire extinguisher is not intended for _____.
 - a. fast moving fires
 - b. low level fires
 - c. large fires
 - d. all of the above
 - e. a and c only

10. _____ are often called "glow or "deep-embered seated" fires.

- a. flame fires
- b. premixed fires
- c. diffusion fires
- d. surface fires
- 11. What is the concentration level of oxygen necessary to support combustion?
 - a. 10-12%
 - b. 15-16%
 - c. 17-18%
 - d. 19-20%
- 12. Which type of extinguisher removes free radicals in a branched chain reaction from their normal function as a chain carrier?
 - a. dry chemical
 - b. water
 - c. CO₂
 - d. wet blanket

Short Answer (7 points)

13. Name four ways that heat energy is transmitted.

14. Why is an automatic sprinkler system the best tool to reduce loss of life from fire?

15. Achieving the most efficient fire protection system requires the involvement of several key specialists. Who do you think should be involved in the planning of a fire protection system?

16. What items should a fire equipment inspection cover?

17. Define flammable, inflammable, and flame proof.

18. If a fire breaks out in a building, how to you protect the adjacent buildings from damage?

19. What conditions should be apparent before an employee chooses to stay and fight a fire with a fire extinguisher?

Short Essay (1 point)

20. During a recent fire drill at your company, 75% of the employees ignored the initial alarm because they knew it was not the "real thing." As a safety professional, this has you deeply concerned, and the time has come to develop a comprehensive fire drill program. Explain the procedures you'd like to develop for a fire drill.

QUIZ 2 (20 POINTS TOTAL)

True/False (6 points)

- 1. Water is the most common and practical extinguishing agent.
 - a. true
 - b. false
- 2. Nationwide, sprinkler systems have an efficiency rating of over 95%.
 - a. true
 - b. false
- 3. More than one-third of sprinkler system failures can be attributed to closed water supply valves.
 - a. true
 - b. false
- 4. A CO_2 extinguisher puts out fires by displacing the available oxygen.
 - a. true
 - b. false
- 5. A Class C extinguisher is suitable for use in office buildings and schools.
 - a. true
 - b. false
- 6. Thousands of square feet of building space can be protected by placing smoke detectors in the airhandling system.
 - a. true
 - b. false

Multiple Choice (6 points)

- 7. What do fire-fighters use to extinguish fires from aircraft crashes?
 - a. water
 - b. light water
 - c. potassium bicarbonate dry chemicals
 - d. light water and potassium bicarbonate dry chemicals

8. _____ fires occur in wood, paper, excelsior rags, and rubbish.

- a. Class A
- b. Class B
- c. Class C
- d. Class D

9. _____ fires occur in or near energized electrical equipment where non-conducting extinguishing agents must be used.

- a. Class A
- b. Class B
- c. Class C
- d. Class D

10. _____ are those that, in the pure state or as commercially produced, will vigorously polymerize, decompose, or condense, or become self-reactive.

- a. reactive materials
- b. unstable materials
- c. stable materials
- d. susceptible materials
- 11. In the National Fire Protection Association hazard identification system, the color _____ is used to identify health hazards.
 - a. blue
 - b. red
 - c. yellow
 - d. green

12. A/an _____ has a fixed spray pattern and is usually attached to a shut off valve.

- a. open nozzle
- b. adjustable nozzle
- c. combination nozzle
- d. monitor nozzle

Short Answer (7 points)

13. Briefly describe the process of combustion.

14. Name four ways fires can be controlled.

15. Name and describe two types of foam systems.

16. How should you maintain and test a fire hose for indoor use?

17. Sprinkler systems need a reliable water supply of ample capacity and pressure for efficient fire extinguishment. How might this water be supplied?

18. Every fire alarm system, whether newly installed or currently in place, should meet certain criteria. What are these criteria?

19. Name and describe two types of fire detection systems.

Short Essay (1 point)

20. Write an outline for a fire hazard analysis. Be sure to include all the key points to consider and mention specifically what to check.