1. The chemical reaction between two or more materials that changes the materials and produces heat, flames, and toxic smoke is:

A. endothermic heat reaction.
B. exothermic heat reaction.
C. pyrolysis.
D. chemical free radicals.

Answer: B

2. Which of the following **is true** concerning conduction of heat?

A. Steel is 20 times as thermally conductive as concrete.
B. Steel will conduct heat seven times more readily than copper.
C. Heat is transferred faster through a steel-frame building than a wood-frame building.
D. Wood is the substance that heats more readily than any other substance.

Answer: C

3. The temperature at which a liquid fuel produces sufficient vapors to support combustion once the fuel is ignited is the:

A. fire point.
B. flash point.
C. ignition point.
D. vapor density.

Answer: A

4. **Directions:** Read the following statements and choose the correct answer from choices A-D below.

Statement 1: Solids react the same when exposed to heat.

Statement 2: As solid fuels are heated, they begin to decompose and combustible vapors are given off.

Statement 3: All solids will start to melt when heated.

A. Statement 1 is true; statements 2 and 3 are false.
B. Statements 1 and 3 are false; statement 2 is true.
C. Statements 1 and 2 are true; statement 3 is false.
D. All three statements are true.

Answer: B

5. Class C fires involve:

A. combustible materials.
B. flammable liquids.
C. energized electrical equipment.
D. metals.

Answer: C

6. Class K fires involve:

A. combustible materials.
B. flammable liquids.
C. energized electrical equipment.
D. oils and greases found in commercial kitchens.

Answer: A

7. The stage phases of fire development are:

A. initial, growth, developed, decline.
B. incipient/ignition, growth, fully developed, decay.
C. origin, intermediate, growth, decline.
D. spontaneous, incipient, growth, decay.

Answer: B

8. Hypoxia is:

A. low blood sugar.
B. low blood pressure.
C. a deficiency of oxygen.
D. a lowering of the body's core temperature.

Answer: C

9. Inhaled toxic gases can directly cause:

A. disease of the lung tissue.
B. muscle cramps in the lower extremities.
C. blurred vision, leading to blindness.
D. amnesia.

Answer: A

10. Toxic substances found in smoke include:

A. hydrogen cyanide.
B. carbon dioxide.
C. tar/carbon particles.
D. All of the above
E.
F.

Answer: D

11. What is the method of fire suppression **most** widely used on Class A combustibles?

A. Cooling
B. Removal of fuel

C. Smothering D. Inhibition of chain reaction

Answer: A

12. When performing search and rescue, the firefighter should remember:

A. when the fire has progressed to the point where viable patients are questionable, firefighter entry is always necessary.
B. if backdraft conditions are apparent, attempt entry only after ventilation is accomplished.
C. freelancing on the incident scene is required when patient lives are at stake.
D. firefighters should maintain radio contact as part of the voice, vision, or touch.

Answer: B

13. When exposed to products of combustion, the _____ are more vulnerable to injury than any other body area.

A. lungs and respiratory tract B. heart and respiratory tract
C. lungs and eyes D. brain and spinal cord

Answer: A

14. What does the E stand for in Lower _____ Limit(LEL)?

A. Endothermic B. Energetic C. Explosive D. Evolution

Answer: C

15. Convection is:

A. transfer of heat through space by infrared rays.
B. transfer of heat through a solid medium.
C. not considered a method of heat transfer.
D. transfer of heat through liquids or gases by circulating currents.

Answer: D

16. The phase of fire characterized by temperature decline and diminishing fire is called:

A. ignition. B. growth. C. fully developed. D. decay.

Answer: D

17. The transfer of heat by the movement of gases or liquid is known as:

A. conduction. B. radiation.

C. convection. D. direct-flame contact.

Answer: C

18. Heat transfer that takes place in the form of electromagnetic waves is known as:

A. convection. B. radiation. C. conduction. D. flame contact.

Answer: B

19. Heat can travel throughout a burning building by one or more of the following methods:

A. conduction, radiation, and convection.
B. extension, conduction, and exposure.
C. convection, extension, and expansion.
D. conduction, radiation, and expansion.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 97-99.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 93.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 132.

20. When the concentration of a gas is within the range where it can ignite, it is said to:

A. be at its ignition temperature. B. have reached its boiling point.
C. be within its flammable/explosive range. D. be at its flash point.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 94 and 911.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 105.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 142.

21. Which stage of fire releases the maximum amount of heat for the available fuel and produces large volumes of fire gases?

A. Ignition B. Fully developed C. Growth D. Rapid oxidation

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 101.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 116.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 136-137.

22. The principle which **most closely** describes how water extinguishes fire is:

A. removal of fuel.
B. reduction of temperature.
C. exclusion of oxygen.
D. inhibition of chain reaction.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 89.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 130.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 133.

23. Combustion is the result of a _____ reaction.

A. mechanical
B. chemical
C. dielectrical
D. replenishment

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 87.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 87.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 129.

24. A fire in the presence of a higher-than-normal concentration of oxygen will:

A. burn slower than normal.
B. burn faster than normal.
C. not be effected by the oxygen.
D. not burn if oxygen is too rich.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 95-96.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 104.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 138.

25. The three physical states of fuel are:

A. smoke, heat, and light.
B. solid, liquid, and gas.
C. conduction, convection, and radiation.
D. atom, molecule, and compound.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 93.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 97 and 99
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 129.

26. The chemical decomposition of a substance through the action of heat **best** defines:

A. oxidation.
B. pyrolysis.
C. boiling point.
D. heat of decompression.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 93.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 90.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 131.

27. Which of the following **are not** products of combustion.

A. convection, conduction, radiation, and direct contact.
B. fire gases, heat, smoke, and light.
C. fire gases, water vapor, and carbon particles.
D. carbon monoxide, carbon dioxide, sulphur dioxide, and hydrogen cyanide.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 96-99 and 103.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 107-109.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 131.

28. _____ is the transition between the growth and fully developed stages of fire.

A. Flashover
B. Backdraft
C. Flash point
D. Ignition temperature

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 102 and 107.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 137.

29. Fire can be extinguished by:

A. reducing heat, removing oxygen, removing fuel, or stopping the chemical chain reaction.
B. reducing radiation, conduction, or convection.
C. reducing heat, increasing oxygen, or removing fuel.
D. increasing the flammable limits of the material on fire.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.8, 5.3.8(A), 5.3.10 and 5.3.10(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 89.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 130.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 133.

30. Which of the following is the first stage/phase of fire?

A. Incipient/ignition B. Fully developed C. Growth D. Decay

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 100.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 114.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 135.

31. The term vapor density refers to the weight of a gas as compared to the weight of:

A. water. B. air. C. carbon. D. nitrogen.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 95.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 97
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 141.

32. A product of combustion that contains a mixture of oxygen, hydrogen cyanide, CO_2, CO, and finely divided carbon particles is:

A. heat. B. flame. C. smoke. D. vapor.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 163-164.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 108.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 131.

33. A condition that could be a factor leading to a backdraft situation is:

A. natural ventilation.
B. lack of fire stops.
C. confined concentration of products of incomplete combustion.
D. rapid extinguishment of products of combustion.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 107 and 637.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 122.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 140.

34. The heat from the sun reaches earth by means of:

A. conduction. B. convection. C. radiation. D. transference.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 99.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 95-96.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 132-133.

35. The movement of heat through a steel beam to an unexposed part of a building where it starts another fire is an example of:

A. conduction.
B. radiation.
C. convection.
D. direct-flame contact.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 99.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 94.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 132.

36. Compartment fires in the _____ stage are generally fuel/oxygen controlled.

A. ignition
B. growth
C. fully-developed
D. flashover

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 101.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 118.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 137.

37. During _____, conditions in the compartment change very rapidly.

A. rollover
B. growth
C. flashover
D. fully-developed

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 99, 636-637.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 118.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 137.

38. Just prior to flashover, what are the conditions within the burning compartment?

A. Temperatures are rapidly increasing
B. Additional fuel packages are becoming involved
C. Fuel packages in the compartment are giving off combustible gases
D. All the above are occurring.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 107.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 119.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 137-138.

39. The _____ stage occurs when all combustible materials in the compartment are involved in the fire.

A. ignition B. growth C. flashover D. fully-developed

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 102.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 121.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 136.

40. Besides the growth stage, in what other stage is the fire fuel controlled?

A. rollover B. ignition C. flashover D. decay

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 102.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 121.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 136.

41. Combustion is:

A. the point at which the need for outside heat application ceases and a material sustains combustion based on its own generation of heat.
B. a chemical reaction that liberates heat.
C. the chemical action producing heat and light in which the heat maintains the chemical chain reaction continuing the process.
D. the concentration level of a substance at which it will burn.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 87.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 100.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 131.

42. The fire triangle is composed of:

A. heat, chemical reaction, fuel. B. heat, fuel, and oxygen.
C. oxygen, nitrogen, fuel. D. fuel, oxygen, LEL.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 88.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 87.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 130.

43. The fire tetrahedron includes all the elements of the fire triangle plus:

A. radiation energy.
B. chemical reaction.
C. carbon dioxide.
D. carbon monoxide.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 88.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 87-88.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 130.

44. Which of the following gases **is** **not** produced in fires?

A. Carbon monoxide
B. Hydrogen chloride
C. Carbon dioxide
D. Oxygen

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13 and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 631.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 108.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 131.

45. Rollover occurs when:

A. fire begins to ignite smoke overhead in "fingers of fire" that reach out and begin to consume fuel in the gaseous state.
B. everything in a confined area ignites at almost the same time.
C. unburned smoke is heated in the absence of oxygen and when oxygen is introduced, an explosive force is produced.
D. pressurized smoke rises to the ceiling and then begins to rapidly bank down, resulting in reduced visibility.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12 and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 107 and 639.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 118.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 140.

46. How are flammability limits and explosive limits related?

A. Flammability limits are used to calculate explosive limits.
B. Explosive limits are used to calculate flammability limits.
C. The two terms are neither mathematically nor conceptually related.
D. They are interchangeable terms meaning the same thing.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, page 94.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 105.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 142.

47. Backdraft is:

A. a boiling liquid/expanding vapor explosion.
B. a layer of air that has the same temperature.
C. the rapid ignition of smoke/unburned gases.
D. sudden ignition of all of the combustible objects within a room/compartment.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 107-108, 637.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 122.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 140.

48. A hydrocarbon is:

A. an ideal extinguishing agent.
B. the basic building block of all inorganic materials.
C. any organic compound that contains only carbon and hydrogen.
D. a catalyst in the breakdown of molecules.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 89.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 130.

49. What is one of the toxic gases often present in smoke?

A. Zinc oxide
B. Nitrogen sulfide
C. Hydrogen cyanide
D. Sodium hydroxide

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, page 164.

IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 183.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 131.

50. The normal concentration of oxygen in the earth's atmosphere is _____ percent.

A. 21 B. 16 C. 25 D. 78

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 95.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 103.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 129 and 48.

51. If a gas has a vapor density greater than one when it escapes from its container:

A. it will rise.
B. its movement will be dependent on wind direction and speed.
C. its movement will be dependent on temperature.
D. it will sink and collect at low points.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 95.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 97.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 141.

52. The acronym BLEVE stands for:

A. barometric level emergency valve enclosure.
B. bring local emergency vehicles early.
C. boiling liquid expanding vapor explosion.
D. boiling liquid emergency valve exit.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 105 and 112.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 774.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 142.

53. Ignition temperature is:

A. the term used to denote a place where heat is drained away from a source.
B. the temperature at which a material sustains combustion.
C. a catalyst in the breakdown of molecules.
D. a chemical reaction that absorbs heat.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 94 and 112.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 90.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 129.

54. Which of the following is one of the stages/phases of fire burn?

A. Rollover B. Backdraft C. Initial D. Fully developed

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 100-102.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 113.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 136-137.

55. Which of the following **is** **not** a mode of heat transfer?

A. Conduction B. Evaporation C. Convection D. Radiation

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 96-99.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 94-95.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 152.

56. The size of an outside fire in the fully developed stage is dependent on:

A. oxygen.
B. temperature.
C. available fuel.
D. barometric pressure.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.8, 5.3.8(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 102.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 802.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 136.

57. The size of an inside fire in the fully developed stage is dependent on:

A. fuel.
B. the supply of oxygen.
C. occupancy.
D. time of day.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 102.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 138.

58. Which of the following materials is a poor conductor of heat?

A. Wood B. Steel C. Aluminum D. Copper

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, 5.3.12(A), 5.3.13, and 5.3.13(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 97.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 94.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 132.

59. Thermal layering is:

A. a column of heat rising from a source.
B. a process in which the molecules of a liquid are liberated into the atmosphere at a rate greater than the rate at which the molecules return to a liquid.
C. the layered configuration of heat with higher temperatures at the upper levels and cooler temperatures at the lower levels.
D. decomposition or transformation of a compound caused by heat.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 101 and 112.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 117.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 140.

60. Which type of heat transfer is a major contributor to flashover?

A. Radiation B. Conduction C. Convection D. Nuclear

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.10, 5.3.10(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 107.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 118.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 138.

61. A Class A fire is fueled by:

A. electricity.
B. ordinary combustible materials.
C. liquids.
D. metals.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.11, 5.3.11(A), 5.3.12, and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 96 and 215.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 110.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 134.

62. The recommended method to prevent a backdraft explosion is _____

ventilation.

A. side B. lateral C. vertical D. passive

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)(B)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 546.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 140-141.

63. What is one warning signal of possible backdraft conditions?

A. Glass smoke-stained and blackened due to heavy carbon deposits from the smoke.
B. Smoke observed pouring out a burned-through opening in the roof
C. Front door unaccountably wide open
D. Upper windows observed to be open or shattered

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, page 637.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 124.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 140.

64. What danger is suggested by the observation of smoke puffing in and out of a structure?

A. Impending structural collapse
B. The presence of backdraft conditions
C. Weak structural roofing members
D. Untempered, unreinforced glazing in windows

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, pages 637 and 639.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 124.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 140.

65. While no exact temperature is associated with flashover, a range from approximately _____ degrees Fahrenheit is widely accepted.

A. 400-900 B. 900-1200 C. 1200-1500 D. 1500-1900

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 120.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 137 and 405.

66. What new class of fire involves combustible cooking media, such as oils and grease?

A. Class C. B. Class D. C. Class K. D. Class O.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 248.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 134.

67. Which of the following **is** **true** regarding fire walls?

A. They are used for structural support so they are load bearing.
B. Masonry is commonly used due to its noncombustible quality.
C. Fire walls do not provide any fire rating.
D. Stones are a good source of fire walls as they do not spall.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.8, and 5.3.8(A)(B)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 142.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 153.

68. In type I construction, the fire hazard is:

A. the occupants. B. the contents.
C. the building materials. D. exterior finishes.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.10 and 5.3.10(A)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 146.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 158.

69. With respect to firefighting, which of the following **is** **not** a strength of type I construction?

A. Difficult to ventilate B. Resists direct flame impingement
C. Impervious to water damage D. Confines fire well

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.10, 5.3.10(A), 5.3.12, and 5.3.12(A)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 146.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 158.

70. The main difference between types I and II construction is that:

A. the occupants in type I construction are the main hazard.
B. type I is more prone to building collapse.
C. roofs in type II construction are more stable.
D. structural components in type II construction lack insulation and protection.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.10, 5.3.10(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 395.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 147.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 157-158.

71. The type of construction where the exterior walls and structural members are made of noncombustible or limited combustible materials and the interior is completely or partially made of wood is:

A. type I construction.
B. type II construction.
C. type III construction.
D. type IV construction.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.10, 5.3.10(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 395-396.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 148.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 159.

72. The primary concern of ordinary construction is:

A. the exterior building materials.
B. fire and smoke spreading through concealed space.
C. early wall collapse.
D. combustible contents and building materials.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.10, 5.3.10(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 396-397.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 148.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 159.

73. The primary concern of type IV construction is:

A. the exterior building materials.
B. fire and smoke spreading through concealed space.
C. early wall collapse.
D. combustible contents and building materials.

Answer: D

Approved by Committee - 12-08-07

Reference: NFPA 1001, 5.3.10, 5.3.10(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 398.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 148.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 160.

74. The type of construction that presents the most hazard for fire extension within the building of origin and nearby structures is:

A. type II construction.
B. type III construction.
C. type IV construction.
D. type V construction.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.10, 5.3.10(A)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 149.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 160.

75. What is the term for those plastics that will melt under fire conditions?

A. Thermodynamic
B. Thermosupple
C. Thermoplastic
D. Isothermal

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, and 5.3.10(A)(B)
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 157.

76. Wood can be impregnated with _____ to make it **more difficult** to ignite and slower burning.

A. aluminum oxide
B. mineral salts
C. mineral spirits
D. nothing

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 156.

77. One application that uses laminated wood instead of solid lumber is:

A. short, straight beams.
B. manufactured curved beams.
C. stair tread risers.
D. stair treads.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 155.

78. _____ construction is often is often used in mill construction.

A. Frame
B. Ordinary
C. Heavy timber
D. Noncombustible

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 397.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 148.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 160.

79. The **most common** type of construction material in North America is:

A. corregated metal. B. steel. C. masonary. D. wood.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A)(B), 5.3.11 and 5.3.11(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 390 and 398.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 141.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 160.

80. What will happen to gypsum board that is exposed to fire for a prolonged time?

A. It will fail.
B. It will spall.
C. It will discolor, only.
D. Nothing whatsoever.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, and 5.3.10(A)(B)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 145.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 155.

81. Another term for gypsum board/plaster board is:

A. plywood. B. paneling. C. cement board. D. sheetrock.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 736.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 155.

82. A type of wood framing that has vertical channels going from floor to floor, allowing a fire to travel uninterrupted is a _____ frame.

A. platform B. open C. balloon D. box

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, 5.3.10(A), 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 398.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 553-554, Figure 11.18.

Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 162.

83. The weight of the building materials and any part of the building permanently attached or
built in is the definition of a(n) _____ load.

A. impact B. fire C. design D. dead

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 385 and 410.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 175.

84. At _____°F, the length of a steel structural member will begin to elongate.

A. 800 B. 1100 C. 1400 D. 1000

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, 5.3.10(A), 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 390-391.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 143.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 154 and 169.

85. Steel performs well under:

A. direct flame impingement. B. corrosive conditions.
C. compression. D. exposure to high heat.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 390.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 154.

86. Concrete has excellent _____ strength when it cures.

A. shear B. compressive C. torsional D. tensile

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 391.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 144.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 154.

87. The **most** **common** type of building material in use today is:

A. steel. B. wood. C. concrete. D. plastics.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.11 and 5.3.11(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 390.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 141.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 155.

88. Under what conditions will gypsum burn?

A. It will burn under the same conditions as wood.
B. It will burn only if fanned with room air.
C. Only in an atmosphere of pure oxygen
D. It will not burn under any conditions.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, and 5.3.10(A)(B)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 145.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 155.

89. **Modern** wood-frame construction uses a technique that builds one floor at a time and inserts a plate between each floor that acts as a fire stop. This technique is called:

A. flitch-plate. B. platform-frame. C. balustrade. D. awning.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, page 398.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 140.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 162.

90. The term that refers to how a building is used is:

A. ownership. B. occupancy. C. design type. D. residence.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)
Delmar, Firefighter's Handbook, 3rd Edition, page 401.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 175.

91. Type V construction is:

A. fire resistive.
B. wood frame.
C. all masonry.
D. masonry and synthetics.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12 and 5.3.12(A)

Delmar, Firefighter's Handbook, 3rd Edition, page 398.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 149.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 160.

92. When trapped moisture in concrete is heated to steam and expands, causing parts of the concrete to break away, this is known as:

A. delamination. B. depolymerizing. C. spalling. D. spation.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, and 5.3.10(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 391.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 140.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 154.

93. What does the observation of a steel beam bending under fire suggest?

A. Nothing, this is normal and it will bend back when it cools.
B. Imminent failure
C. Imminent ignition
D. Underway release of toxic ferrous oxalate.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, and 5.3.10(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 390-391.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 143.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 154.

94. The observation of glass blocks in a wall tell the fire fighters that:

A. there is an automatic sprinkler system in that room.
B. there is a skylight in that room.
C. the wall has not been subjected to fire.
D. the wall is not load-bearing.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.12, 5.3.12(A), 5.3.10, and 5.3.10(A)(B)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 145.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 155.

95. A phenomenon that occurs when mixtures of alkaline-based chemicals and certain cooking oils come into contact resulting in the formation of a soapy film is called:

A. saponification. B. pyrolysis.
C. heat of compression. D. emulsion.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.1.1
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 112.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

96. AFFF extinguishing agents are applicable to _____ fires.

A. Class C
B. Class D
C. both Class A and B
D. Class A, B, and C

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 217-218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 239.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

97. All portable extinguishers are classified according to their:

A. size.
B. freeze potential.
C. intended use.
D. conductivity.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 215.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 246.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 183-84.

98. A dry chemical extinguisher rated 60-B is capable of extinguishing a _____ flammable liquid pan fire.

A. 40 ft^2
B. 60 ft^2
C. 120 ft^2
D. 150 ft^2

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 223-224.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 247.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

99. CO_2 and dry chemical extinguishers will extinguish both Class B and C fires. What advantage does CO_2 have over a dry chemical extinguisher?

A. CO_2 is not a hazard in an enclosed area.
B. CO_2 does not leave a residue or corrode electrical contacts.
C. CO_2 will prevent reignition longer than dry chemical extinguisher.
D. CO_2 is effective at a greater distance.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 249-250.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 188-189.

100. Extinguishing agents safe for use on fires in or near energized electrical equipment include:

A. dry powder, carbon dioxide, and AFFF.
B. carbon dioxide and dry chemical.
C. dry chemical, pressurized foam, and carbon dioxide.
D. AFFF, carbon dioxide, and dry chemical.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 249-250.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 188.

101. A blue circle with a letter designation in the center would indicate an extinguisher is rated for use on _____ fires.

A. Class A B. Class B C. Class C D. Class D

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 218-219.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

102. Class B fires involve fuels such as:

A. flammable liquids.
B. energized electrical equipment.
C. combustible metals.
D. ordinary combustibles.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 215.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 110 and 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 182.

103. A green triangle containing a letter would indicate an extinguisher to be used on _____ fires.

A. Class A B. Class B C. Class C D. Class D

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 189.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 219.

104. Energized electrical equipment and the surrounding area have to be protected with extinguishers that have a _____ rating.

A. Class A B. Class B C. Class C D. Class D

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 188-189.

105. Extinguishers suitable for Class A fires can be identified by a _____ containing the letter "A." If colored, it should be _____.

A. circle, blue B. star, yellow
C. triangle, green D. square, red

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 219.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

106. A stored-pressure water extinguisher should be chosen to attack a _____ fire.

A. Class A B. Class B C. Class C D. Class D

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 217-218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 237.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 188.

107. The **preferred** method of applying dry chemical agents to flammable liquid spill fires is to:

A. direct the stream into the flame and allow it to settle.
B. deflect the stream a minimum of 5 feet in front of the spill to prevent agitation.

C. direct the stream up-wind and allow it to be blown onto the fire.
D. direct the stream at the base of the fire using a sweeping motion.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 225.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 257.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 204.

108. Carbon dioxide extinguishers are generally rated for _____ fires.

A. Class A and B
B. Class B and C
C. Class C and D
D. Class B and D

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 241.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 189.

109. An electric motor fire is best extinguished by using CO_2 because it:

A. is a nonconductor of electricity.
B. leaves no residue.
C. will not further damage the motor.
D. All of the above.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, pages 247 and 250.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 189.

110. Extinguishers suitable for Class B fires can be identified by a _____ containing the letter B.

A. blue circle
B. green triangle
C. red square
D. yellow star

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 219.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

111. The proper type of extinguisher for a fire involving magnesium, titanium, or sodium

is:

A. dry chemical. B. CO_2. C. dry powder. D. water.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 237.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 191.

112. A Class D fire involves:

A. combustible metals.
B. flammable liquids.
C. electrical equipment.
D. ordinary combustibles.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 237.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 183.

113. Fires involving flammable liquids, greases, and gases where the smothering or blanketing effect is needed are _____ fires.

A. Class A B. Class B C. Class C D. Class D

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 215.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 110.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 182 and 187.

114. Fires involving combustible metals such as magnesium, titanium, zirconium, sodium, and potassium, are _____ fires.

A. Class A B. Class B C. Class C D. Class D

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 111.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 183.

115. A pump tank extinguisher rated as 4-A can be expected to extinguish approximately _____ as much fire as one rated 2-A.

A. twice B. three times C. four times D. eight times

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 223.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 247.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

116. A dry chemical fire extinguisher rated as 10-B should be capable of extinguishing _____ times as much fire as a unit rated as 1B.

A. 5 B. 10 C. 20 D. 100

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 224.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 247.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

117. Dry powder extinguishers are rated for use on _____ fires.

A. Class A B. Class B C. Class C D. Class D

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 237.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 191.

118. Halon fire extinguishers are primarily designed for use on _____ fires.

A. Class A, B, and C & O B. Class B and C
C. Class A and B D. Class C only

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 254.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

119. A fire extinguisher bearing the symbols shown below would be suitable for extinguishing _____ fires.

A. Class A, B, and C
B. Class B and C
C. Class A and B
D. Class A and C

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 219.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 185.

120. The manufacture of all _____ extinguishers has been discontinued.

A. CO_2
B. dry chemical
C. inverting
D. pressurized-water

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 221.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 253.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 193.

121. Aqueous film-forming foam extinguishers are suitable for use on _____ fires.

A. Class B and C
B. Class A and B
C. Class D
D. Class A, B, and C

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 239.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

122. Prior to squeezing the handle of a fire extinguisher, the nozzle should be aimed:

A. at a point above the flames.
B. at the base of the fire.
C. at materials that are exposed but not burning.
D. to either the left or the right of the fire.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 225.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 251.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 198.

123. Fire extinguisher classification symbols are displayed by all of the following **except:**

A. color.
B. shape.
C. letter.
D. weight of container.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 219.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

124. What injury could occur by placing your hand on the horn of a CO_2 extinguisher while discharging it?

A. Cold can freeze the skin.
B. Heat from friction can cause burns.
C. Electrical shock could occur.
D. The horn could be distorted leading to poor application.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 225.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 241.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 198.

125. It is dangerous to apply a stream of water to energized electrical equipment because:

A. burning electricity intensifies when struck by water.
B. water can conduct electricity back to the extinguisher.
C. electricity extracts the oxygen from the water and uses it as more fuel.
D. cyanide gas is evolved when water hits electricity.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 237.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 188.

126. The skill of operating a fire extinguisher is fairly easy in _____ basic steps?

A. two
B. seven
C. four
D. twelve

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 225.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 251.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 198.

127. For purposes of fire extinguishers, there are _____ classes of fire.

A. five B. four C. seven D. three

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 215-216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 110.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 182-183.

128. _____ is a relatively new classification of fire.

A. Class E B. Class Z C. Class K D. Class P

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 248.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 183.

129. Class K fires involve:

A. atomic material.
B. computer network equipment.
C. hazardous waste.
D. high temperature cooking oils, such as vegetable or animal oils and fats.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 248.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 183.

130. What factors should be considered when selecting a fire extinguisher?

A. The location of the extinguisher B. The fuel
C. The weight of the extinguisher D. The response time of the fire department

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, pages 218-219.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 236.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 197 and 198.

131. Cold temperatures would have the **greatest** effect on _____ extinguishing agents stored in an extinguisher.

A. dry powder B. water-based C. dry chemical D. carbon dioxide

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 217.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 237.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 188.

132. Clean agents are:

A. materials specially formulated to clean fire extinguishers.
B. gases that do not conduct electricity or leave a residue and are nonvolatile.
C. agents that have been banned for causing ozone depletion.
D. materials used to clean grease and oil off the floor.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 781.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

133. Pump tank extinguishers are used to apply:

A. water. B. wet chemical. C. dry chemical. D. carbon dioxide.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 237.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 193.

134. Regular dry chemicals (sodium bicarbonate-based and potassium-based) work on _____ fires.

A. only Class D
B. Class A
C. only Class B
D. Classes B and C

Answer: D

Approved by Committee - 12-08-07

Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 243.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 188.

135. What extinguishing agents are being replaced because they have been banned for destroying the Earth's ozone layer?

A. Halons or halogenated hydrocarbons
B. Carbon dioxide
C. Aqueous Film Forming Foam (AFFF)
D. Dry chemicals

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 254.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

136. What residue does a CO_2 fire extinguisher leave when discharged?

A. Powdered carbon dioxide
B. It does not leave any residue
C. Selenium oxide
D. Simple salt

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 249.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 189.

137. The use of halon agents is strictly controlled because it:

A. is mutagenic.
B. is carcinogenic.
C. pollutes the water.
D. damages the ozone layer.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighters' Handbook, 2nd Edition, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 254.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

138. What is the relationship between dry powder and dry chemical extinguishing agents?

A. They are two different names for the same substance with the same application.
B. Dry chemical is one of the many types of dry powder.
C. Dry powder is one of the many types of dry chemical.
D. They are entirely different substances with entirely different applications.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, pages 215-216, 230.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, pages 237 and 243.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, pages 188-189.

139. The acronym for the four-step process for proper use of fire extinguishers is:

A. PASS. B. RACE. C. PACE. D. DUMP.

Answer: A

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 225.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 251.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 198.

140. The first step for using a fire extinguisher is to:

A. aim the nozzle.
B. squeeze the handle.
C. pull the pin.
D. sweep the base of the fire.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 225.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 251.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 198.

141. A loaded stream from an extinguisher:

A. is a water stream contaminated with foam residue.
B. is a dry powder stream contaminated with water.
C. prevents freezing by adding an anti-freezing agent.
D. is carbon dioxide with dry powder in the stream.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, 1st Printing, page 217.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 188.

142. Fire prevention programs encourage citizens to keep fire extinguishers in their homes, especially in the:

A. garage. B. bedrooms. C. kitchen. D. near the exits.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16, 5.3.16(A), 5.5.1, 5.5.1(A)(B), 5.5.2, and 5.5.2(A)(B)

Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 180.

143. What is the term for water-soluble flammable liquids such as alcohols, acetone, and others?

A. Volatile fuels
B. Polar solvents
C. Flammable surfactants
D. Three-dimensional liquids

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 341.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 98.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.

144. One advantage of portable fire extinguishers over hoselines is that fire extinguishers:

A. pack more suppression punch.
B. have controllable rates of flow.
C. don't run out as quickly.
D. are quicker to deploy and use.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 214.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 233.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 181.

145. What is the significance of the C in the fire extinguisher rating of 2-A:10-B:C

A. The agent contained therein is of the cyanoacrylate-base family.
B. This extinguisher can be used on energized electrical equipment.
C. The lack of a number following the C means it is not suitable for use on any electrical fire.
D. The agent contained therein is of the carbon-tetrachloride base family.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 224.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 247.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 184.

146. The reason a fire extinguisher class icon would have a slash through it is because:

A. using the extinguisher on that class of fire would be ineffective.
B. using the extinguisher on that class of fire would create additional risk.
C. the use of that type of extinguisher on that class has not been tested.
D. it is illegal to use that type of extinguisher on that class of fire for environmental reasons.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 219.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 247.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 185.

147. Dry chemical extinguishers can be used on Class C fires because dry chemicals:

A. are chemically similar to water.
B. do not conduct electricity.
C. never actually touch the fuel.
D. are themselves electrically static.

Answer: B

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)(B)
Delmar, Firefighter's Handbook, 3rd Edition, page 216.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 243.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 188.

148. For an area to qualify as a light hazard, the majority of materials must meet one of two requirements. One of those is that they must:

A. be necessary for the work of the area.
B. be UL listed.
C. have ignition temperatures in excess of 451ºF.
D. be noncombustible.

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 186.

149. What is one chemical used as a dry chemical extinguishing agent?

A. Ammonium nitrate
B. Tri-nitro toluene
C. Methyl isocyanate
D. Potassium bicarbonate

Answer: D

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16 and 5.3.16(A)
Delmar, Firefighter's Handbook, 3rd Edition, page 218.
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, page 243.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 189.

150. Halogenated agents extinguish a fire by:

A. smothering oxygen.
B. saponification.
C. interrupting chain reaction.
D. cooling the temperature.

Answer: C

Approved by Committee - 12-08-07
Reference: NFPA 1001, 5.3.16, and 5.3.16(A)(B)
IFSTA, Essentials of Fire Fighting and Fire Department Operations, 5th Edition, 1st Printing, page 254.
Jones and Bartlett, Fundamentals of Fire Fighter Skills, 2nd Edition, 1st Printing, page 190.