

Level I & II Sample Test

31001 Basics of Fire Alarm Systems

1. Secondary power for remote supervising station systems shall be capable of normal operation for _____ hours and then operate the system in alarm for _____ minutes?
 - a. 24 / 5
 - b. 24 / 15
 - c. 60 / 5
 - d. 60 / 15

2. A fire alarm system which serves contiguous or noncontiguous properties under 1 ownership is considered?
 - a. Auxiliary system
 - b. Proprietary system
 - c. Central station system
 - d. Remote station system

3. An initiating device which is destroyed as a result of operation is what type?
 - a. Nonrestorable
 - b. Spot type
 - c. Line type
 - d. Heat detector

4. The delay from the operation of an initiating device to the automatic activation of a fire safety function shall not exceed?
 - a. 60 seconds
 - b. 30 seconds
 - c. 20 seconds
 - d. 10 seconds

5. What documentation shall be delivered upon final acceptance of the system?
 - a. Owners manual
 - b. Installation instructions covering all system equipment
 - c. Record drawings
 - d. All of the above

31002 NFPA Standards

6. What does an asterisk (*) designate in NFPA 72?
 - a. Explanatory information follows in the appendix
 - b. An exception to the requirement follows
 - c. A change in information from the last edition of the code
 - d. See UL standards for detailed explanations

7. What NFPA standard covers a smoke detector requirements for HVAC units?
 - a. NFPA 101
 - b. NFPA 70
 - c. NFPA 13
 - d. NFPA 90A

8. Equipment constructed and installed in conformity with NFPA 72 shall be?
 - a. Approved
 - b. Tested
 - c. Listed
 - d. Inspected

9. Examples of who may serve as an AHJ include which of the following?
 - a. Fire Marshal
 - b. Insurance Inspector
 - c. Building Owner
 - d. All of the above

10. When NFPA 72 uses the word “Shall”, what does this indicate?
 - a. A mandatory requirement
 - b. A recommendation
 - c. Required if dictated by the AHJ
 - d. Common industry practice

31003 Basic Wiring

11. Fire power limited cabling used for runs between floors shall be of what type?
 - a. FPL
 - b. FPLR
 - c. FPLP
 - d. Both b and c

12. For fire power limited cable what is the smallest multiconductor size and smallest single conductor size?

- a. 18 AWG multiconductor, 16 AWG single conductor
- b. 20 AWG multiconductor, 18 AWG single conductor
- c. 22 AWG multiconductor, 18 AWG single conductor
- d. 26 AWG multiconductor, 18 AWG single conductor

13. The disconnecting means for the fire alarm circuits shall be?

- a. Identified in red
- b. Accessible only to the AHJ
- c. Marked with Fire Alarm Circuit Control
- d. Both a and c

14. What is the maximum # of 18 AWG conductors which can be enclosed in a 4" by 4" by 1 1/4" square metal junction box?

- a. 10
- b. 12
- c. 14
- d. 16

15. What is the maximum # of 14 AWG THHN conductors which can be installed in 1/2" EMT?

- a. 8
- b. 9
- c. 10
- d. 12

31004 Devices and Components

16. Wall mounted visible appliances shall be installed such that the entire lens is _____ inches AFF and not more than _____ inches AFF?

- a. 80 / 92
- b. 80 / 96
- c. 90 / 96
- d. 90 / 6 inches below ceiling

17. Audible appliances for New 1 & 2 family dwelling units (including self contained) shall produce the audible signal described by?

- a. ANSI / UL S3.41
- b. UL 864
- c. UL 1971
- d. NFPA 70

18. When installing detectors on peaked ceilings, a row of detectors shall be located?

- a. Within 3 feet of the low side
- b. On the side wall of the low side
- c. Within $\frac{1}{2}$ the listed spacing of the peak
- d. Within 3 feet of the peak

19. Public mode audible appliances shall have a maximum sound level of _____ db at minimum hearing distance?

- a. 105
- b. 110
- c. 115
- d. 120

20. Manual fire alarm boxes shall be located within _____ feet of the doorway?

- a. 5
- b. 5 feet on the knob side of the door
- c. 10
- d. 10 feet on the knob side of the door

31005 Periodic Tests

21. Maintenance, testing and inspection records shall be maintained for how long?

- a. Life of the system
- b. Until the next test and 5 years thereafter
- c. Until the next test and 3 years thereafter
- d. Until the next test and 1 year thereafter

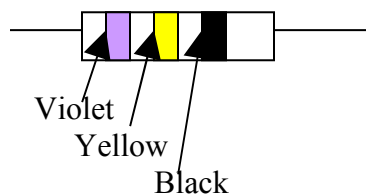
22. Radiant energy detectors shall be tested how frequently?

- a. Monthly
- b. Quarterly
- c. Semi annually
- d. Annually

23. How shall non restorable line type heat detectors be tested?
- Functional heat response test per manufacturer
 - Functional test both electrically and mechanically
 - Functional test with a calibrated pressure pump
 - Functional test with a variable temperature heat lamp
24. What is the alarm capability of a Style B circuit with a single open?
- All remaining detectors would have alarm capability
 - All detectors from the control to the open would have alarm capability
 - All detectors from the open to the EOL device would be alarm capable
 - The entire circuit would be disabled
25. What is the required testing frequency for a waterflow device?
- Monthly
 - Quarterly
 - Semi annually
 - Annually

31006 Basic Electricity

26. Consider a simple series circuit with a 24VDC power supply and a single 240 ohm resistor. What is the current for this circuit?
- .10 amps
 - 1.0 amps
 - 10.0 amps
 - 100 amps
27. What is the value of the below diagramed resistor?

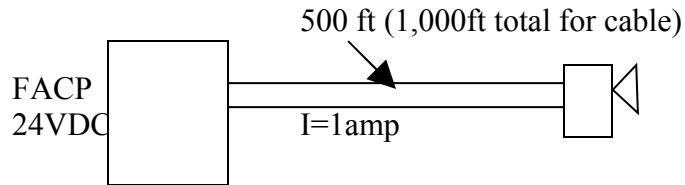


- 7.4 ohms
- 74 ohms
- 740 ohms
- 7400 ohms

28. What is the resistance of 1,000 feet of 16 AWG uncoated copper conductor at 75C?

- a. 4.89 ohms
- b. 16.0 ohms
- c. 26.4 ohms
- d. Wire resistance is negligible

29. Consider the circuit below. The circuit wiring is 1,000 feet (total) of coated 18 AWG FPL. At 75C what voltage is present at the device?



- a. 22.4 Volts
- b. 19.6 Volts
- c. 15.9 Volts
- d. Not enough information given

30. How would 500 milliamps be expressed in amps?

- a. .05 amps
- b. .5 amps
- c. 5 amps
- d. 50 amps

31008 Basic Mathematics

31. What is the sum of $5 \frac{3}{8}$ and .75?

- a. $5 \frac{3}{4}$
- b. 6
- c. $6 \frac{1}{8}$
- d. $6 \frac{3}{8}$

32. What is the value of "X" in this equation? $X = \frac{1}{2} \times \frac{2}{3}$

- a. $\frac{2}{3}$
- b. $\frac{1}{2}$
- c. $\frac{1}{3}$
- d. $\frac{1}{8}$

33. What is 55% of 2,500?
- a. 13.75
 - b. 137.5
 - c. 1,375
 - d. 13,750
34. What is 9.5 feet divided by $3 \frac{1}{3}$ inches?
- a. 2.85 inches
 - b. 28.5 feet
 - c. 3.42 feet
 - d. 34.2 inches
35. If you are $\frac{2}{3}$ done what percentage is this?
- a. .333
 - b. 33.3
 - c. .666
 - d. 66.6

31009 Installation Practices

36. Why is it important to cut installation conductors at the device and use separate incoming and outgoing conductors?
- a. Circuit supervision
 - b. Save wire and reduce cost
 - c. So voltage can be deposited into the device
 - d. There is no reason to do this
37. For high rack storage, where shall detectors be installed?
- a. Above each aisle
 - b. Intermediate levels in the racks
 - c. Above the racks
 - d. Both a and b
38. Air sampling network piping shall be conspicuously identified at?
- a. Changes in direction
 - b. Each side of penetrations
 - c. Intervals not to exceed 20 ft
 - d. All of the above

39. Protective devices / guards for fire alarm devices shall be?
- Approved by the device manufacturer
 - Approved by your state's Secretary of State
 - Clear in color and equipped with a sounder
 - Listed for use with the device
40. When shall smoke detectors be installed in elevator hoistways?
- All elevator hoistways require smoke detectors
 - Elevators hoistways which do not have automatic sprinklers
 - When elevator recall is required
 - Smoke detectors shall not be installed in elevator hoistways

31011 Basic Metric Conversions

41. To convert from ohms to kilo ohms, what should you do?
- Multiply ohms by 1,000
 - Multiply ohms by 100
 - Multiply ohms by .01
 - Multiply ohms by .001
42. The door of a FACP measures 22 inches by 32 inches. How many square centimeters is this?
- 1,788.16
 - 2,314.58
 - 3,679.82
 - 4,541.92
43. How many liters are in 34.5 gallons?
- 69
 - 104.9
 - 130.76
 - 200.6
44. What is the volume of 10 x 8 x 12 feet in cubic meters?
- 24
 - 28
 - 32
 - 36

45. A 40 pound bag of concrete mix requires you to mix 1 liter of water for every 5 pounds of mix. How many gallons of water are needed to mix the whole bag?

- a. 2.11
- b. 3.52
- c. 5.94
- d. 7.04

32005 Basic Individual Safety

46. Scaffolding and components shall be capable of supporting a weight of?

- a. 2 times the max intended load
- b. 4 times the max intended load
- c. Max intended load plus 1000 pounds
- d. Max intended load plus 1500 pounds

47. How far above the point of support is a ladder required to extend when used to access the roof?

- a. 1 ft
- b. 2 ft
- c. 3 ft
- d. 4 ft

48. When are hard hats required on job sites?

- a. When OSHA standards are enforced
- b. For government jobs
- c. All construction sites
- d. When there is a potential for injury from falling objects

49. What should you do when a powder actuated tool misfires?

- a. Hold in operating position for 30 seconds then refire
- b. Hold in operating position for 60 seconds then refire
- c. Hold in operating position for 90 seconds then refire
- d. Tools which misfire may not be refired

50. When using a grounded power tool you find an available extension cord (2 wire). What should you do?

- a. Notify the AHJ
- b. Cut off the grounding probe thus making the tool 2 wire
- c. Use a 3 wire to 2 wire adapter plug
- d. You may not use an ungrounded 2 wire extension cord

32006 Basic First Aid

51. Which is not a symptom of a heart attack victim?
- a. Chest pain
 - b. Difficulty breathing
 - c. Pain in the left arm
 - d. Numbness in the left arm
52. When may dehydration occur?
- a. During any season
 - b. During the heat of the summer
 - c. In years with below normal precipitation
 - d. During the heat of the day
53. How do you treat someone who has fainted
- a. Sit them in a chair
 - b. Help them walk around
 - c. Give them water
 - d. Elevate their feet
54. When should a tourniquet be applied to a bleeding wound?
- a. When direct pressure has failed
 - b. When direct pressure applied for 15 minutes fails to stop bleeding
 - c. When direct pressure applied for 30 minutes fails to stop bleeding
 - d. Only as a last resort
55. Which of the following is not a symptom of Heat Stroke?
- a. Dry skin
 - b. Profuse sweating
 - c. Vertigo
 - d. Headache

33001 Fire Protection Plans and Symbols

56. What is the general symbol listed below?



- a. Water motor gong
- b. Door holder
- c. Emergency light (one lamp)
- d. Automatic detection and supervisory devices

57. What is the symbol listed below?

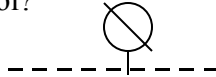


- a. Automatic smoke detector
- b. Analog smoke detector
- c. Analog sensing device
- d. Air sampling detector

58. Which one of these symbols cannot be listed on its side?

- a. Flame detector
- b. Horn/strobe
- c. Manual pull station
- d. Waterflow switch

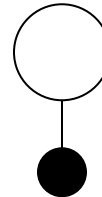
59. What is the below listed symbol?



- a. Flow detector switch
- b. Valve with tamper
- c. Tamper detector
- d. Level detector switch

60. What is the below listed symbol?

- a. Control Panel
- b. Door holder
- c. Indicator lamp
- d. Guard's tour station



33002 Basics of System Layout

61. What should be the largest size of a zone on one floor?

- a. 10,000 sq ft
- b. 20,000 sq ft
- c. 50,000 sq ft
- d. 100,000 sq ft

62. Which of the following defines the ratio for slopes?
- a. 1 in 8
 - b. More than 1 in 8
 - c. 30%
 - d. More than 30%
63. Fire alarm annunciators shall be located where?
- a. Accessible to responding fire dept personnel
 - b. At the control panel
 - c. At the front entrance
 - d. At a constantly attended location
64. What is true for addressable duct detectors?
- a. They require a remote indicator in the area of the device
 - b. They require a remote indicator if they are more than 10' AFF
 - c. They require a remote indicator at the control
 - d. They do not require a remote indicator
65. All points on the ceiling shall have a detector within _____ times the listed spacing?
- a. .5
 - b. .7
 - c. 1.0
 - d. All points on the ceiling shall have a detector within the listed spacing

33003 Electrical Installation Standards

66. Power Limited Fire Alarm cable shall have a voltage rating of not less than _____ volts?
- a. 24
 - b. 80
 - c. 300
 - d. 600
67. Transformers or other devices supplied from power supply conductors shall be protected by an overcurrent device rated at not over _____ Amps?
- a. 2
 - b. 10
 - c. 15
 - d. 20

68. For conductors not in enclosures or hoistways, power limited fire alarm cable shall be separated from electric light and power, class 1 and NPLFA cables by a minimum of _____ inches?

- a. 2
- b. 12
- c. 18
- d. 24

69. Power limited fire alarm cable installed in hoistways shall be?

- a. In rigid metal conduit
- b. In rigid non metallic conduit
- c. In electrical metallic tubing
- d. All of the above are acceptable

70. Fiber optic plenum cable shall be listed as being suitable for the purpose and shall be marked as?

- a. FOCP
- b. OFNG
- c. OFNP or OFCP
- d. All fiber exceeds the requirements for plenum rating

33004 Basic Fire Alarm Systems

71. What type of fire alarm system is connected to the municipal fire alarm system for transmitting alarm information to the public fire service communications center?

- a. Auxiliary system
- b. Central station system
- c. Proprietary system
- d. Public system

72. Consider a building where the planned action during a fire emergency is not the evacuation of occupants, but rather the relocation of occupants or their protection in place. What type of signal shall not be used in this situation?

- a. American national standard evacuation signal
- b. Private mode signals
- c. Emergency voice / alarm communications
- d. Supervisory signals

73. When is the American National Standard Evacuation signal required to be synchronized?

- a. When visible appliances are used
- b. Notification appliances in the same bldg
- c. For all public mode appliances
- d. For appliances within a notification zone

74. Which one of the following is not a Central Station Service Element?

- a. Installation of fire alarm transmitters
- b. Fire alarm system engineering and design
- c. Testing and maintenance
- d. Runner service

75. Consider a bldg with 4 floors and multiple basements. What is the recommended coded signal designation for the 3rd floor?

- a. 3-3
- b. 3-2
- c. 2-3
- d. 2-2

33005 Supervision and Supervisory Service

76. Which of the following is always a supervisory signal device?

- a. Air pressure switch
- b. Water pressure switch
- c. Duct Detector
- d. Elevator lobby smoke detectors

77. If a guard fails to actuate a tour station as scheduled, the system shall automatically transmit a delinquency signal within _____ minutes?

- a. 5
- b. 10
- c. 15
- d. 20

78. For control valve supervisory devices, when shall the off normal signal be initiated?

- a. During the first 2 revolutions of the hand wheel
- b. During 1/5th of the travel distance of the valve control apparatus
- c. When the device has been restored to normal
- d. A and B are acceptable

79. Relays used to initiate a fire safety function shall be considered as self monitoring when?

- a. The relay operates on loss of power
- b. The relay operates on application of power
- c. The relay is located within 3 ft of the controlled appliance
- d. The relay is located within 3 ft of the fire alarm control panel

80. All means of interconnecting equipment shall be monitored for integrity such that the occurrence of a single open or a single ground fault condition shall initiate a trouble signal which will be automatically indicated in _____seconds?

- a. 60
- b. 90
- c. 180
- d. 200

33006 Detection Methods

81. Consider smoke detectors used for door release service. Under which of the following conditions shall the detectors be listed for releasing service?

- a. When they are part of an open area protection system
- b. When they operate on a class 1 circuit
- c. When smoke door release is accomplished directly from the smoke detector
- d. Under all conditions

82. Which type of detector is affected by altitudes over 3,000 feet?

- a. Ionization
- b. Photoelectric
- c. Projected beam
- d. Air sampling

83. Under which condition may smoke detectors be installed prior to construction cleanup?

- a. When they use listed dust covers
- b. When approved by the AHJ for protection during construction
- c. When installed detectors are cleaned or replaced according to chap 7
- d. Both b and c

84. The color of smoke can affect which type of detector?
- Ionization
 - Photoelectric
 - Projected beam
 - Air sampling
85. When using radiant energy sensing fire detectors, the system design shall specify?
- Sensitivity of the detector
 - Field of view of the detector
 - Radiant energy absorption of the atmosphere
 - Size of the flaming fire of given fuel to be detected
 - All of the above

33007 Detector Spacing

86. Line type heat detectors shall be located on the ceiling or sidewall not more than _____ inches from the ceiling?
- 10
 - 12
 - 18
 - 20
87. Consider a ceiling where beam depths exceed 1 ft or ceiling heights exceed 12 ft. Where shall spot type smoke detectors be installed?
- On the ceiling in every beam pocket
 - On the beam bottoms and spacing reduced perpendicular to the beams
 - On the ceiling or on the bottom of the beams
 - On the beam bottoms and spacing reduced by 50%
88. For solid joist construction, the spacing of heat detectors where measured at right angles to the solid joists shall ?
- Not exceed 33% of the smooth ceiling spacing
 - Not exceed 50% of the smooth ceiling spacing
 - Not exceed 66% of the smooth ceiling spacing
 - Not exceed 100% of the smooth ceiling spacing

89. All points on the ceiling shall have a detector within a distance equal to _____ times the listed spacing?

- a. 0.3
- b. 0.5
- c. 0.7
- d. 1.0

90. Projected beam type smoke detectors shall be located with their beams parallel to the ceiling and spaced?

- a. Using 30ft as a guide
- b. Using 60ft as a guide
- c. Based on an engineering study
- d. According to manufacturers instructions

33009 Acceptance Tests

91. Parts 1, 2, and 4-10 of the record of completion shall be completed at what time?

- a. Prior to system installation
- b. After the operational acceptance tests have been completed
- c. After the system is installed and installation wiring has been checked
- d. Prior to acceptance testing in the presence of the AHJ

92. For fixed temperature heat detectors, heat tests shall be performed with a heat source per the manufacturer's recommendations for response within _____ seconds?

- a. 20
- b. 30
- c. 60
- d. 90

93. Smoke detector sensitivity testing shall be permitted to be extended to 5 years when after the _____ required calibration test indicates the detector has remained within its listed and marked sensitivity range?

- a. 1st
- b. 2nd
- c. 3rd
- d. 4th

94. A digital alarm communicator receiver shall be tested with a frequency of?
- a. Monthly
 - b. Quarterly
 - c. Semi annually
 - d. Annually
95. For public fire reporting systems, emergency power sources other than batteries shall be operated to supply the system for a continuous period of?
- a. 1 hour at least weekly
 - b. 1 hour at least monthly
 - c. 1 hour at least quarterly
 - d. 1 hour at least semi annually

33016 Protected Premise Fire Alarm Systems

96. Circuits incapable of transmitting an alarm beyond the location of a single open or nonsimultaneous single ground fault shall be designated as?
- a. Class A
 - b. Class B
 - c. Style D
 - d. Style Z
97. Which style of circuit does not have alarm capability during a single open and nonsimultaneous single ground fault?
- a. Style A
 - b. Style B
 - c. Style 4.5
 - d. Style Z
98. At least 1 fire alarm box shall be provided for fire alarm systems employing what type of detectors?
- a. Automatic detectors
 - b. Waterflow detection devices
 - c. All fire alarm systems require fire alarm boxes at all exits
 - d. Both a and b

99. Which of the following describes circuits which are not required to be monitored for integrity?

- a. Circuits for speaker amplifiers
- b. Circuits for tone generating equipment
- c. Circuits for 2 way telephone communications
- d. All circuits shall be monitored for integrity

100. A listed relay or other listed appliance connected to the fire alarm system used to initiate control of a protected premise fire safety function shall be located within _____ ft of the controlled circuit or appliance?

- a. 3
- b. 6
- c. 10
- d. 20

33017 Auxiliary Fire Alarm Systems

101. Which types of auxiliary systems are allowed by NFPA72?

- 1. Local energy
 - 2. Shunt type
 - 3. Parallel type
 - 4. Series type
- a. 1, 2, 3, 4
 - b. 1, 2, 3
 - c. 1, 2
 - d. 1

102. When a shunt loop is used, it shall not exceed a length of _____ ft?

- a. 250
- b. 500
- c. 750
- d. 1,000

103. Which reporting system is permitted for shunt type auxiliary systems?

- a. Coded wired
- b. Coded radio
- c. Telephone series
- d. Telephone parallel

104. Consider a local system made to an auxiliary system by the addition of a relay whose coil is energized by a local power supply and whose normally closed contacts trip a shunt type master box. Which is true of this system?

- a. It shall be permitted for local energy and shunt type
- b. It shall be permitted for local energy and parallel type
- c. It shall not be permitted for shunt type
- d. It shall be permitted for all systems

105. Which type of initiating device is not permitted for use with shunt type systems?

- a. Automatic detection devices
- b. Waterflow detection devices
- c. Manual fire alarm boxes
- d. Suppression system actuating devices

33018 Supervising Station Fire Alarm Systems

106. The remote supervising station shall have sufficient, but not less than _____ persons on duty at all times to ensure disposition of signals?

- a. 1
- b. 2
- c. 3 and 1 can be a runner
- d. 4 and 1 can be a runner

107. For remote supervising station fire alarm systems, section 5-4 of NFPA 72 shall not require the use of what type of devices (other than those required at the remote supervising station)?

- a. Automatic detection devices
- b. Audible notification appliances
- c. Visible notification appliances
- d. Both b and c

108. A means for silencing alarm, supervisory and trouble signals shall be provided and shall be arranged so that?

- a. Signals automatically resound after 30 seconds
- b. Signals automatically resound after 1 minute
- c. Subsequent signals shall resound
- d. Subsequent signals shall not resound, but indicate visibly

109. Retransmission of an alarm signal, if required, shall be accomplished by which of the following methods?

- a. A dedicated circuit
- b. A one way telephone
- c. A private radio system
- d. All of the above are acceptable

110. A permanent record of the time, date and location of all signals and their restorations received and the action taken shall be maintained for _____?

- a. 6 months
- b. 1 yr
- c. 2 yrs
- d. 3 yrs

33019 Proprietary Supervising Station Fire Alarm Systems

111. The maximum elapsed time from sensing a fire alarm at an initiating device or initiating device circuit until it is recorded or displayed at the proprietary supervising station shall not exceed _____seconds?

- a. 20
- b. 30
- c. 60
- d. 90

112. The proprietary supervising station, as well as remotely located power rooms for batteries or generators, shall be provided with _____?

- a. A telephone
- b. A fire extinguisher
- c. Automatic emergency lighting system
- d. At least 1 automatic smoke detector

113. Upon receipt of an alarm signal, the proprietary supervising station operator shall?

- a. Promptly dispatch a runner (30 minute travel time)
- b. Promptly dispatch a runner (1 hour travel time)
- c. Promptly dispatch a runner (2 hour travel time)
- d. Notify the AHJ within 8 hours

114. All communications and transmission channels between the proprietary supervising station and the protected premise master control unit shall be operated manually or automatically once every _____ hrs?

- a. 12
- b. 24
- c. 26
- d. 36

115. Upon receipt of a trouble signal, the proprietary supervising station operator shall dispatch a runner or maintenance person to arrive within _____ hrs?

- a. $\frac{1}{2}$
- b. 1
- c. 4
- d. 8

33020 Central Station Fire Alarm Systems

116. In the event of failure of equipment at the subsidiary station or the communications channel to the central station, a backup shall be operational in _____ seconds?

- a. 30
- b. 60
- c. 90
- d. 180

117. Upon receipt of a trouble signal, the central station shall?

- a. Dispatch a runner (30 minute travel time)
- b. Dispatch a runner (1 hr travel time)
- c. Dispatch a runner (2 hr travel time)
- d. Dispatch a runner (4 hr travel time)

118. Which of the following is true for central station service?

- a. The prime contractor shall be a listed company
- b. The installation shall be done by a listed company
- c. Signals shall be received by any monitoring facility approved by the AHJ
- d. Testing and maintenance is not required to be under contract

119. The central station building shall conform to the requirements of?

- a. ANSI S3.41
- b. ANSI/UL 217
- c. ANSI/UL 827
- d. ANSI/UL 1910

120. Upon receipt of a trouble signal, the central station shall notify the subscriber's designated representative within _____ minutes?

- a. 1 ½
- b. 2
- c. 3
- d. 4

33021 Manual Fire Alarm Systems and Guard's Tour

121. The operable part of each manual fire alarm box shall be not less than _____ ft and not more than _____ ft above floor level?

- a. 3.5, 4.0
- b. 3.5, 4.5
- c. 3.5, 5.0
- d. 3.5, 5.5

122. Coded manual fire alarm boxes shall produce at least 3 repetitions of the coded signal. Each repetition shall consist of at least _____ impulses?

- a. 1
- b. 2
- c. 3
- d. 4

123. Manual fire alarm boxes shall be mounted on both sides of group openings over _____ ft?

- a. 25
- b. 30
- c. 40
- d. 50

124. Manual fire alarm boxes shall be provided so that the travel distance to the nearest fire alarm box will not be in excess of _____ft measured horizontally on the same floor?

- a. 100
- b. 150
- c. 200
- d. 250

125. For guard tour supervisory service, where intermediate stations that do not transmit a signal are used, signal transmitting stations shall be provided at intervals not exceeding _____stations?

- a. 5
- b. 10
- c. 15
- d. Station which do not transmit are not allowed

33022 Heat Sensing Fire Detectors

126. For a ceiling height of 22 feet, what spacing shall be used for a spot type heat detector with a listing of 30 feet?

- a. 15.6 ft
- b. 17.4 ft
- c. 20 ft
- d. 30 ft

127. For a roof slope of _____degrees the average slope height shall be used for all detectors other than those located at the peak?

- a. More than 30 degrees
- b. Less than 30 degrees
- c. More than 1 in 8
- d. Less than 1 in 8

128. Which of the following is true for spot type heat detectors?

- a. Solid joists require a 1/3 reduction in spacing perpendicular to the joists
- b. Solid joists require a 1/2 reduction in spacing perpendicular to the joists
- c. Beams require a 1/2 reduction in spacing perpendicular to the beams
- d. Beams require a 2/3 reduction in spacing perpendicular to the beams

129. A heat sensing fire detector integrally mounted on a smoke detector shall be listed or approved for not less than _____ ft spacing?

- a. 20
- b. 30
- c. 40
- d. 50

130. The minimum spacing for heat detectors shall not be required to be less than _____ times the height of the ceiling?

- a. 0.4
- b. 0.7
- c. 0.9
- d. 1.0

33023 Smoke Sensing Fire Detectors

131. Smoke detectors shall not be installed in areas where the air velocity is greater than _____ ft/min?

- a. 150
- b. 200
- c. 250
- d. 300

132. For ceilings with solid beams, smoke detector spacing perpendicular to the beams shall be reduced by _____? (Ceiling height 12' or less, beam depth 1' or less)

- a. One half
- b. One third
- c. Two thirds
- d. Smooth ceiling spacing shall be used

133. For sloped ceilings with beams running parallel to the slope, the smoke detectors located at one half the spacing from the low end shall not be required for slopes?

- a. Less than 10 degrees
- b. More than 10 degrees
- c. Less than 30 degrees
- d. More than 30 degrees

134. Consider placing smoke detectors in high air movement areas where the rate of air changes per hour is 12. Detector spacing shall be _____square ft

- a. 375
- b. 500
- c. 625
- d. 750

135. For air sampling type smoke detectors, air sample transport time from the farthest sampling point shall not exceed _____seconds?

- a. 60
- b. 90
- c. 120
- d. 180

33025 Sprinkler Waterflow and Supervisory Devices

136. The maximum # of waterflow devices permitted on a single zone shall not exceed _____?

- a. 1
- b. 3
- c. 5
- d. 10

137. Initiation of the alarm signal shall occur with _____seconds of waterflow at the alarm initiating device?

- a. 30
- b. 60
- c. 90
- d. 180

138. A steam pressure supervisory signal initiating device shall initiate a signal prior to the pressure falling below _____% of the minimum operating pressure?

- a. 125
- b. 110
- c. 90
- d. 75

139. Which of the following signals is a supervisory signal?

- a. Fire pump running
- b. Fire pump fail to start
- c. Fire pump power loss
- d. All of the above

140. Which of the following is true?

- a. Duct detector signals are alarm signals
- b. Duct detector signals are supervisory signals
- c. Duct detector signals are trouble signals
- d. Either a or b

33026 Alarm Notification Appliances

141. What is the minimum required light output for a single wall mounted visible notification appliance in a 50' x 50' room?

- a. 15 cd
- b. 75 cd
- c. 95 cd
- d. 177 cd

142. Ceiling mounted visible notification appliances shall be suspended at or below _____?

- a. 96 inches
- b. 10 ft
- c. 20 ft
- d. 30 ft

143. Combination audible/visible notification appliances shall be installed according the requirements of?

- a. The audible device
- b. The visible device
- c. Both devices
- d. Combination devices have different requirements

144. Wall mounted audible notification appliances shall have their tops above the finished floor at heights of not less than _____ inches?

- a. 80
- b. 90
- c. 96
- d. 108

145. For audible notification appliances installed in mechanical rooms, the average ambient sound level used for design guidance shall be at least _____ dba for all occupancies?

- a. 70
- b. 75
- c. 85
- d. 105

33027 Basics of Signal Transmission

146. A coded supervisory signal shall be permitted to consist of _____ rounds of the number transmitted to indicate a supervisory off normal condition and _____ rounds of the number transmitted to indicated the restoration of the supervisory condition to normal?

- a. 3, 3
- b. 3, 2
- c. 2, 2
- d. 2, 1

147. Which class and style of circuit is required to maintain alarm receipt capability during a single open, single ground, or wire to wire short?

- a. Class A Style 4
- b. Class A Style 5
- c. Class A Style 6
- d. Class A Style 7

148. For a type 4, 2 way RF multiplex system, what is the maximum number of fire alarm service initiating device circuits per primary trunk facility

- a. 5120
- b. 1280
- c. 512
- d. 128

149. Circuits which are incapable of transmitting an alarm beyond the location of a single open or a nonsimultaneous ground fault shall be designated as _____?

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

150. What class B notification appliance circuit maintains alarm capability during a single open?

- a. Style W
- b. Style X
- c. Style Y
- d. Style Z

34001 Emergency Voice Alarm Communications

151. If the emergency / voice alarm communications service is used to transmit relocation instructions or other non evacuation messages, the message shall be preceded by?

- a. The audible evacuation signal per ANSI S3.41
- b. An audibly distinctive tone in the private mode
- c. A public mode visibly distinctive signal
- d. A continuous alert tone of 6 to 10 second duration

152. Which of the following shall have priority when on the same channel?

- a. Live voice instructions
- b. Prerecorded messages
- c. The evacuation signal per ANSI S3.41
- d. Whichever was initiated first

153. Each enclosed stairway exceeding _____ stories shall be equipped with loudspeakers connected to a separate paging zone?

- a. 2
- b. 3
- c. 4
- d. 5

154. There shall be at least _____ loudspeakers in each paging zone of the building?

- a. 1
- b. 2
- c. 3
- d. 4

155. Two way telephone communications service shall be capable of permitting the simultaneous operation of any _____ telephone stations in a common talk mode?

- a. 2
- b. 3
- c. 4
- d. 5

34002 Signal Processing

156. Fire alarm systems serving _____ or more zones shall identify the zone of origin of the alarm initiation?

- a. 2
- b. 3
- c. 4
- d. 5

157. When using positive alarm sequence, trained personnel shall have up to _____ seconds during the alarm investigation phase to evaluate the fire condition and reset the system?

- a. 60
- b. 120
- c. 180
- d. 240

158. Which of the following is true of analog detectors?

- a. They can only indicate an on / off condition
- b. They are always addressable devices
- c. They are never addressable devices
- d. They indicate varying degrees of condition

159. Actuation of alarm notification appliances shall occur within _____ seconds after the activation of an initiating device?

- a. 10
- b. 20
- c. 30
- d. 60

160. On a McCulloh circuit if signals from manual fire alarm boxes and waterflow transmitters are transmitted over the same transmission channel and are operating at the same time, what shall occur?

- a. The first signal shall take precedence
- b. The waterflow shall take precedence
- c. There shall be no interference with the fire alarm box signal
- d. It does not matter, both are alarm signals

34004 Fire Alarm System Maintenance

161. System defects and malfunctions shall be corrected. If a defect or malfunction is not corrected at the conclusion of maintenance, the owner or his representative shall be notified in writing within what time frame?

- a. Immediately
- b. Within 12 hours
- c. Within 24 hours
- d. Within 48 hours

162. Reacceptance testing shall be performed when?

- a. System components are added or deleted
- b. Any modification to system hardware or wiring
- c. Any change to site specific software
- d. All of the above require reacceptance testing

163. The _____ shall be responsible for inspection, testing and maintenance of the system?

- a. Installation company
- b. Owner
- c. Monitoring facility
- d. Determined by the AHJ

164. Records of inspection, testing and maintenance shall be retained until the next test and for 1 year thereafter. Who is responsible for retaining these records?

- a. Installation company
- b. Owner
- c. Monitoring facility
- d. Determined by the AHJ

165. When shall metallic conductors be tested?

- a. Initial / reacceptance
- b. Semi annually
- c. Annually
- d. Bi annually

34006 Emergency Evacuation Signals

166. To ensure that private mode audible signals are clearly heard, they shall have a sound level at least _____ dba above the average ambient sound level or _____ dba above the maximum sound level having a duration of at least 60 seconds?

- a. 10, 5
- b. 10, 10
- c. 15, 5
- d. 15, 5

167. Where audible appliances are installed to provide signals for sleeping areas, they shall have a sound level of at least _____ dba?

- a. 70
- b. 75
- c. 85
- d. 105

168. For design guidance purposes, what is the average ambient sound level for industrial occupancies?

- a. 40 dba
- b. 60 dba
- c. 80 dba
- d. 100 dba

169. If automatically turning off the alarm notification appliances is permitted by the AHJ, the alarm shall not be turned off in less than _____ minutes?

- a. 2
- b. 3
- c. 4
- d. 5

170. An average ambient sound level greater than _____ dba shall require the use of a visible signal appliance?

- a. 75
- b. 85
- c. 105
- d. 120

34007 Combination Systems

171. Fire alarm systems _____ to share components, equipment, circuitry and installation wiring with non fire systems?

- a. Shall be permitted
- b. Shall not be permitted
- c. Only with the approval of the AHJ may be permitted
- d. And only burglar alarm systems shall be permitted

172. When are speakers used as alarm notification appliances on fire alarm systems permitted to be used for nonemergency purposes?

- a. The speakers and associated equipment are installed to prevent tampering
- b. The installation conductors are monitored for integrity during nonemergency use
- c. It is permitted by the AHJ
- d. When all of the above are met

173. Which of the following is not true?

- a. A protected premise fire alarm system shall be permitted to be interconnected with a dwelling unit fire warning system
- b. Fire alarm signals shall take precedence over nonfire signals even when the nonfire signal was initiated first
- c. Non fire alarm system wiring may not disable fire alarm system wiring
- d. Hold up signals shall take precedence over fire alarm signals

174. If the AHJ determines the information being displayed on a combination system is confusing he may require?

- a. Annunciation of fire alarm information be separate
- b. Annunciation of fire alarm information have priority
- c. Tough for the AHJ. He better learn to live with it
- d. Both a and b

175. Which of the following is true for Door locking/unlocking devices?

- a. They shall be connected to the fire alarm system
- b. They shall unlock upon receipt of a fire alarm signal
- c. Upon power loss they shall unlock & standby power shall not be used to maintain these doors in the locked position
- d. All of the above

Element	Question	Answer	Reference	Section	Page	Chuck Notes Ref
			2002 edition			
31001	1a		NFPA 72	4.4.1.5.3.1	25	2.22
	2b		NFPA 72	8.3.2.2	63	42.10
	3A		NFPA 72	3.3.88.3	19	
	4d		NFPA 72	6.8.1.1	46	3.22
	5d		NFPA 72	4.5.2.3	30	7.18
31002	6a		NFPA 72	Chap 1 Heading	13	
	7d		NFPA 72	Chap 2	14	74
						2.
	8c		NFPA 72	4.3.1	24	1
	9d		NFPA 72	A.3.2.2	112	
	10a		NFPA 72	3.2.6	14	
						116.
31003	11d		NFPA 70	760.61(B)	581	5
						118.
	12d		NFPA 70	760.58.	581	1
	13d		NFPA 72	4.4.1.1.2.2	24	2.14
	14b		NFPA 70	314.16(a)	166	144
	15d		NFPA 70	Table C1	645	130
31004	16b		NFPA 72	7.5.74	58	35.17
	17a		NFPA 72	11.3.4	105	71.3
	18d		NFPA 72	5.6.5.4.1	37	13.7
	19d		NFPA 72	7.4.1.2	57	34.15
	20a		NFPA 72	5.12.6	41	16.11
31005	21d		NFPA 72	10.6.2.1	100	66.3
	22c		NFPA 72	10.4.3	99	68
	23b		NFPA 72	10.4.2.2(d)2	92	
	24b		NFPA 72	6.5	46	22
	25c		NFPA 72	10.4.3	99	68
						12
31006	26a		Divide 24 by 240. $E = I \times r$			3
	27b		Uglys			
						12
	28a		NFPA 70	Table 8	625	4
	29c		$E = I \times R$. E (dropped on wire) = $1 \times 8.08 = 8.08$. $24 - 8.08 = 15.9$			
	30b					
31008	31c					
	32c					
	33c					
	34a					
	35d					
31009	36a		NFPA 72	Fig A.5.4.6(a)	117	
	37d		NFPA 72	A.5.7.5.2	125	14.5
	38d		NFPA 72	5.7.3.3.8	39	14.4
	39d		NFPA 72	5.4.2	35	10.2
	40d		NFPA 72	6.15.3.6	54	31.9
31011	41d					
	42d		2.54 centimeters per inch			
	43c		1.057 liters per Quart, 3.8 liters per Gallon			

	44b	39 inches per meter			
	45a	1.057 liters per Quart, 3.8 liters per Gallon			
32005	46b	29 CFR Part 1910			
	47c	29 CFR Part 1910			
	48d	29 CFR Part 1910			
	49a	29 CFR Part 1910			
	50d	29 CFR Part 1910			
32006	51d				
	52a				
	53d				
	54d				
	55b				
33001	56d	Brown Book	Appendix A		
	57d	Brown Book	Appendix A		
	58a	Brown Book	Appendix A		
	59c	Brown Book	Appendix A		
	60b	Brown Book	Appendix A		
33002	61b	NFPA 72	A.4.4.6.1.2	115	
	62b	NFPA 72	3.3.22.2	15	11.14
	63a	NFPA 72	4.4.6.1.1	28	6.4
	64d	NFPA 72	5.14.5.9	43	17.17
	65b	NFPA 72	5.7.3.2.3(E)	38	13.6
					118.
33003	66c	NFPA 70	760.71.	582	1
					118.
	67d	NFPA 70	760.51.	579	1
	68a	NFPA 70	760.55(g)	70-581	
	69d	NFPA 70	760.55(h)	70-581	
	70c	NFPA 70	Table 770.50	70-585	
33004	71a	NFPA 72	9.4.3.1	79	61.23
					28.
	72a	NFPA 72	6.8.6.4.2	50	6
	73d	NFPA 72	6.8.6.4.3	50	28.7
	74b	NFPA 72	8.2.2	61	40.2
	75c	NFPA 72	A.4.4.3.1	114	
33005	76a	NFPA 72	5.13.2.2(2)	42	16.27
	77c	NFPA 72	6.14.3	53	30.21
	78d	NFPA 72	5.13.1.2	42	16.21
					30.2
	79a	NFPA 72	6.15.2.4	54	7
	80d	NFPA 72	4.4.3.5.1	26	4.9
33006	81c	NFPA 72	5.14.6.3	43	17.9
	82a	NFPA 72	A.5.7.1.8	122	
	83d	NFPA 72	5.7.1.11	38	14.1
	84b	NFPA 72	A.5.7.1.8	122	
					15.
	85E	NFPA 72	5.8.3.2.1	40	2
33007	86d	NFPA 72	5.6.3.2	36	11.6
	87a	NFPA 72	5.7.3.2.4(B)2	38	13.11
	88b	NFPA 72	5.6.5.2	37	11.10

	89	c	NFPA 72	5.6.5.1.1(2)	37	11.9
	90	d	NFPA 72	5.7.3.4.1	39	13.3
33009	91	c	NFPA 72	4.5.2.1(A)	30	7.13
	92	c	NFPA 72	10.4.2.2(13)d2	92	
	93	b	NFPA 72	10.4.3.2.3	88	64.15
	94	a	NFPA 72	10.4.3(23)	99	69
	95	a	NFPA 72	10.4.9.1	100	
33016	96	b	NFPA 72	6.4.2.1.1(2)	45	20.6
	97	a	NFPA 72	6.5	46	22
	98	d	NFPA 72	6.8.5.1.2	49	27.7
	99	d	NFPA 72	6.4.2.1.2	45	20.8
	100	a	NFPA 72	6.15.2.2	54	30.25
33017	101	c	NFPA 72	9.4.3.2.2	79	62.1
	102	c	NFPA 72	9.4.3.2.1(2)d	79	62.d
	103	a	NFPA 72	9.4.3.2.2	79	62.1
	104	c	NFPA 72	9.4.3.2.1(2)g	79	62.8
	105	a	NFPA 72	9.4.3.2.3	79	62.h
33018	106	b	NFPA 72	8.4.3.5.1	66	45.15
	107	d	NFPA 72	8.4.1.5	65	45.1
	108	c	NFPA 72	8.4.3.1.2	66	45.8
	109	d	NFPA 72	8.4.3.4	66	45.14
	110	b	NFPA 72	8.4.5.1	66	45.21
33019	111	d	NFPA 72	8.5.4.7	76	55.3
	112	b	NFPA 72	8.3.3.3	63	42.20
	113	c	NFPA 72	8.3.5.6.1(2)	65	44.11b
	114	b	NFPA 72	8.3.5.1.1	64	44.3
	115	c	NFPA 72	8.3.5.6.4(2)	65	44.14b
33020	116	c	NFPA 72	8.2.5.2.3	61	40.15
	117	d	NFPA 72	8.2.7.4(2)	62	42.1b
	118	a	NFPA 72	8.2.3	61	40.3
	119	c	NFPA 72	8.2.5.1	61	40.11
	120	d	NFPA 72	A.8.2.7.5.3	149	Inside front cover
33021	121	b	NFPA 72	5.12.4	41	16.9
	122	c	NFPA 72	4.4.3.1	26	16.17
	123	c	NFPA 72	5.12.7	41	16.13
	124	c	NFPA 72	5.12.8	41	16.15
	125	b	NFPA 72	6.13.4	53	30.18
33022	126	b	NFPA 72	5.6.5.5.1	37	12
	127	a	NFPA 72	5.6.5.4.3	37	11.19
	128	b	NFPA 72	5.6.5.2	37	11.10
	129	d	NFPA 72	5.6.2.2	36	11.2
	130	a	NFPA 72	5.6.5.1.1(2)	37	11.9
33023	131	d	NFPA 72	5.7.1.8(4)	37	13.25d
	132	a	NFPA 72	5.7.3.2.4(b)1	38	13.9
	133	b	NFPA 72	5.7.3.2.4 c 3	38	13.14
						14.
	134	c	NFPA 72	5.7.5.3.3	40	7
	135	c	NFPA 72	5.7.3.3.2	38	12.6
33025	136	c	NFPA 72	6.8.5.5.2	49	27.18
	137	c	NFPA 72	5.10.2	41	16.1

	138	b	NFPA 72	5.13.2.2(3)	42		16.28
	139	d	NFPA 72	6.8.5.8.2	50		27.23
	140	d	NFPA 72	6.15.5.3	55		32.2
33026	141	c	NFPA 72	7.5.4.1.1(a)	59		36
	142	d	NFPA 72	7.5.4.1.6	59		37.3
	143	b	NFPA 72	7.4.6.3	58		35.7
	144	b	NFPA 72	7.4.6.1	58		35.3
	145	c	NFPA 72	A.7.4.2	137		34.12
33027	146	d	NFPA 72	4.4.3.2.1	26		3.26
	147	d	NFPA 72	6.6.1	47		24
	148	a	NFPA 72	8.5.3.4.5	73		52
	149	b	NFPA 72	6.4.2.1.1(1)	45		20.7
	150	b	NFPA 72	6.7	47		25
34001	151	d	NFPA 72	6.9.5.3(2)	51		29.1
	152	a	NFPA 72	6.9.5.5	51		29.4
	153	a	NFPA 72	6.9.7.3	52		29.16
	154	b	NFPA 72	6.9.7.2	52		29.14
	155	d	NFPA 72	6.9.9.5	52		29.21
34002	156	a	NFPA 72	4.4.6.1.2	28		6.6
	157	c	NFPA 72	6.8.1.3.1.2	46		5.11
	158	d	NFPA 72	3.3.88.1	19		
	159	a	NFPA 72	6.8.1.1	46		3.25
	160	c	NFPA 72	8.5.3.3.3.7	72	8	50.
34004	161	c	NFPA 72	10.2.1.2c	86		64.4
	162	d	NFPA 72	10.4.1.2.1	88		64.15
	163	b	NFPA 72	10.2.2.1	86		64.5
	164	b	NFPA 72	10.6.1.3	100		
	165	a	NFPA 72	10.4.3(10)	99	8	6
34006	166	a	NFPA 72	7.4.3.2	57		34.23
	167	a	NFPA 72	7.4.4.1	58		34.27
	168	c	NFPA 72	A.7.4.2	137		
	169	d	NFPA 72	4.4.3.7	27		5.1
	170	c	NFPA 72	7.4.1.1	57		34.10
34007	171	a	NFPA 72	6.8.2.1	48		26.17
	172	d	NFPA 72	6.8.4.5	48		27.1
	173	d	NFPA 72	6.8.4.6	49		27.4
	174	d	NFPA 72	6.8.4.7	49		
	175	d	NFPA 72	6.15.7	55		32.6