

# Rapid-Fire

## Student Edition Test Page

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TEST

### Fire Department Incident Safety Officer

**1. Which** sets the stage for understanding the amount of fuels that are off gassing in a given space?

p. 86

- \*A.) *Smoke volume*
- B.) *Smoke density*
- C.) *Smoke color*
- D.) *Smoke velocity*

**2. Which** type of construction is often seen in warehouses and some churches?

p. 65

- \*A.) *Heavy timber*
- B.) *Noncombustible*
- C.) *Wood frame*
- D.) *Ordinary*

**3. Who** must determine if the situation fits the organization's "normal" way of handling the incident?

p. 98

- A.)/C
- \*B.) *ISO*
- C.) *Training officer*
- D.) *Company officer*

**4. After** what amount of time during a PPA should fire behavior and smoke flow increase at the exhaust opening?

p. 89

- A.) *One and one half minutes*
- B.) *Two and one half minutes*
- \*C.) *One minute*
- D.) *Two minutes*

**5. What** warning sign is present if there is brown smoke from structural spaces of a lightweight wooden building?

p.88

- \*A.) *Collapse*
- B.) *Explosive growth phase*
- C.) *Flame-over*
- D.) *Backdraft*

**6. Which type of arched roof is constructed like an archer's bow?**

p. 61

- A.) *Simple arch*
- B.) *Center arch*
- C.) *Lamella arch*
- \*D.) *Tied arch*

**7. What should happen to smoke when weather is cold and humid?**

p.89

- \*A.) *Sink and remain dense*
- B.) *Sink and dissipate*
- C.) *Rise and dissipate*
- D.) *Rise and remain dense*

**8. Which type of building is a high-rise and a megamall?**

p.65

- A.) *Heavy timber*
- B.) *Ordinary*
- \*C.) *Fire resistive*
- D.) *Noncombustible*

**9. What score in the U.S. Coast Guard SPE Model trigger a reassessment of risk-taking?**

p. 100

- \*A.) *50-80*
- B.) *0-40*
- C.) *30-40*
- D.) *80-90*

**10. What is included in the founders' era?**

p.67

- A.) *1980s to present*
- B.) *WWI to WWII*
- \*C.) *1700s to WWI*
- D.) *WWII to roughly 1980*

**11. Which step helps the ISO define the weak link when predicting collapse?**

p.71

- A.) *Classifying the building's construction*
- B.) *Evaluating the time*
- \*C.) *Visualizing and tracing loads***
- D.) *De\_termining struc,tural involvement*

**12. What type of operation should be undertaken when a fire is in a building under construction?**

p.73

- A.) *No operation at all*
- B.) *Offensive*
- \*C.) *Defensive***
- D.) *Cautiously offensive*

**13. Which is probably the toughest and most speculative judgment regarding?**

p. 100

- A.) *Sititational awareizess of crew*
- \*B.) *Survivable spaces***
- C.) *Fire direction*
- D.) *Fire ground progress*

**14. What is the explosive growth phase a combination or?**

p.84

- A.) *Flaslwver and backdraft*
- B.) *Backdraft and smoke explosion*
- \*C.) *Flas/wver and flame-over***
- D.) *Flame -over and backdraft*

**.ii. During which era were trusses starting to be seen more frequently?**

p.69

- A.) *Founders'*
- \*B.) *Legacy***
- C.) *Lightweight*
- D.) *Industrial*

**16. What is a good indicator of impending collapse in buildings from the industrial era?**

p.68

- A.) *Bowing rooftops*
- \*B.) *Saggingfloors***
- C.) *Cracking walls*
- D.) *Swaying walls*

**17. Which is NOT a correct statement about the rules of**

engagement for firefighter survival'?

p.97

- A.) *Do not risk your life for lives or property that cannot be saved*
- \*B.) *Declare a mayday once you know you are in trouble***
- C.) *Go in together, stay together, and come out together*
- D.) *Set up your tactical area of operation*

**18. What is the first step to take to prevent a collapse in decision making?**

p.99

- A.) *Call upon previous experience even if it is not the same situation*
- \*B.) *Acknowledge that the situation is unknown***
- C.) *Wing it until you can come up with a plan*
- D.) *Resort to old habits*

**12. Under which force does concrete have excellent strength?**

p. 60

- A.) *Tensile*
- B.) *Torsional***
- C.) *Shear*
- \*D.) *Compressive***

**20: What does the ambient heating work on that causes laminated veneer lumber to fail?**

p\_61

- \*A.) *Binding glue***
- B.) *Connection plates*
- C.) *Wood's mass*
- D.) *OSB board*

**21. Which typically occur in a trapped-smoke area away from the fire?**

p.85

- A.) *Ghosting*
- B.) *Backdraft***
- \*C.) *Smoke explosion***
- D.) *Flame-over*

**22. How much of its strength does cold-drawn steel lose at 800°F (427°C)?**

p. 60

- A.) *45%*
- \*B.) *55%***
- C.) *60%*

D.)50%

**23. What is used to keep out weather and is a non-load-bearing that only supports its own weight?**

p. 69

\*A.) *Curtain wall*

8.) *Parapet wall*

C.) *Platform wall*

D.) *Shielding wall*

**24. What is perhaps the most common type of building construction?**

p.66

A.) *Fire resistive*

8.) *Ordinary*

\*C.) *Wood-frame*

D.) *Noncombustible*

**25. What transfers load perpendicularly to its imposed load?**

p. 61

A.) *Bar*

B.) *Column*

C.) *Connector*

\*D.) *Beam*

**26. What is the most important step to take when determining a risk profile?**

p. 95

\* A.) *Determining what is at risk*

8.) *Evaluating the training level*

C.) *Considering the public's opinion*

D.) *Placing a value on the property*

**27. Which is seen as a warning sign of a flame-over?**

p. 85

A.) *Flames within the smoke*

\*B.) *Increase in smoke speed*

C.) *Staining of walls with soot*

D.) *Change in smoke coloration*

**28. What type of force is transmitted axially through a column?**

p. 61

\*A.) *Compressive*

8.) *Shear*

C.) *Torsional*

D.) *Tensile*

**29. Where was the major collapse hazard seen in buildings built during the industrial era?**

p. 68

- A.) *Shafts*
- B.) *Walls*
- C.) *Floors*
- \*D.) *Roofs***

**30. What should be looked at when trying to determine if white/gray smoke is from early-stage heating or late-stage heating?**

p. 88

- \*A.) *Velocity***
- B.) *Density*
- C.) *Volume*
- D.) *Color*

**31. Which is NOT correct about founders' era buildings?**

p. 68

- A.) *Most floor-to-wall connections use gravity*
- B.) *Most collapse threats are self-amplifying*
- \*C.) *Few combustible voids exist in the building***
- D.) *Major fires present wall collapse threat*

**32. Which type of load application is imposed through the centroid of another object?**

p. 58

- A.) *Torsional*
- B.) *Tensile*
- C.) *Eccentric*
- \*D.) *Axial***

**33. How many phases will the fire go through that is ventilation-controlled?**

p. 83

- A.) *Three*
- B.) *Four*
- \*C.) *Six***
- D.) *Five*

**34. What growth phase of the ventilation-controlled fire is also been labeled the fuel-controlled phase?**

p. 83-84

- A.) *Ventilation-limited phase*

- \*B.) Initial growth phase**
- C.) Explosive growth phase
- D.) Ignition phase

**35. In what timeframe does the backdraft occur after introduction of air?**

**p.86**

- A.) 10-15 seconds
- B.) 20-25 seconds
- C.) 15-20 seconds
- \*D.) Instantaneous**

**Which type of buildings are put together like a house of cards?**

**p.67**

- A.) Insulated concrete forming
- B.) Expanded polystyrene panel
- \*C.) Structural insulated panel**
- D.) Reinforced oriented strand board

**37. Who can benefit in terms of tool choices and access/egress options when the ISO shares information with the IC?**

**p. 74**

- A.) Attack crew
- B.) Recon unit**
- C.) Rehab
- \*D.) RIC**

**38. What SPE score would warrant an acceptable risk when there are known trapped and endangered victims?**

**p. 100**

- A.) 81-100
- B.) 101-150
- \*C.) 1-50**
- D.) 51-80

**39. Which is considered to be a brittle material?**

**p.59**

- A.) Most alloyed metals
- \*B.) Cast iron**
- C.) Wood
- D.) Plastics

**40. What tends to happen to the parapet wall when the roof structure sags?**

**p.72**

- A.) *Twists it*
- B.) *Drops it*
- \*C.) *Lifts it***
- D.) *Breaks it*

**41. What color smoke is seen with, almost all materials when they start smoking?**

p. 87

- A.) *Gray*
- B.) *Green*
- \*C.) *White***
- D.) *Black*

**42. Which is NOT a correct statement?**

p. 96

- A.) *Activities that are routinely employed to protect property shall be recognized as inherent risks to the safety of members, and actions shall be taken to reduce or avoid them*
- B.) *In situations where the risk to fire department members is excessive, only defensive operations will be acceptable***
- \*C.) *No risk to the safety of members shall be acceptable even if lives could be saved***
- D.) *Activities that present a significant risk to the safety of members shall be limited to situations where there is the potential to save endangered lives*

**43. What refers to the weight of the building itself?**

p. 58

- A.) *Flow load*
- \*B.) *Dead load***
- C.) *Tact load*
- D.) *Live load*

**44. Where must forces be delivered for the building to be structurally sound?**

p.58

- A.) *Flooring*
- \*B.) *Ground***
- C.) *Walls*
- D.) *Foundation*

**45. What phase occurs immediately after the ventilation-limited phase?**

p. 84

- A.) *Fully developed phase*
- B.) *Initial growth phase*



C.) *Ignition phase*

**\*D.) *Explosive growth phase***

**46. What is breaking down compounds into other substances during pyrolysis?**

p.80

A.) *Light*

**\*B.) *Heat***

C.) *Flame*

D.) *Water*

**47. Which of the following does NOT happen to steel when it is heated?**

p.60

A.) *Sags*

**B.) *Elongates***

**\*C.) *Snaps***

D.) *Cracks*

**48. What is a suspended or propelled liquid in smoke?**

p.81

A.) *Vapor*

B.) *Gas*

**\*C.) *Aerosol***

D.) *Particulates*

**49. In which type of connection are the elements bonded together to form a solid union?**

p.63

**\*A.) *Rigid***

B.) *Pinned*

C.) *Gravity*

**D.) *Truss***

**50. What is the first step taken when reading smoke?**

p.90

A.) *Analyze the contributing factors to determine what factors are affecting WDC*

**\*B.) *View the smoke VVDC***

C.) *Determine the rate of change of each attribute*

D.) *Determine the size of the box*

**51. What is the most commonly used type of truss used to form a peaked roof?**

p.63

A.) *Parallel chord*

- B.) *Cantilever*
- C.) *Arched*
- \*D.) *Triangular***

52. What does the ISO view as a multiplier for risk-taking?

p.70

- A.) *Building use*
- B.) *Building age*
- \*C.) *Building size***
- D.) *Construction type*

53. Where does flame spread when the smoke has pressurized a room?

p. 82

- A.) *Through the contents*
- \*B.) *With the smoke flow***
- C.) *Across the surface of items*
- D.) *Along the wall surface*

54. Which type of buildings have beams that rest on exterior walls?

p. 64

- \*A.) *Wall-bearing***
- B.) *Center-core*
- C.) *Skeletal frame*
- D.) *Post and beam*

55. Which part of predicting collapse includes "decide"?

p.73

- \*A.) *Predicting collapse***
- B.) *Determining structural involvement*
- C.) *Visualizing and tracing loads*
- D.) *Evaluating time*

56. What is used to help prevent or correct the sagging of walls or floors?

p. 68

- A.) *Tie plate*
- B.) *Joist plate*
- C.) *Joist rod*
- \*D.) *Tie rod***

57. For the most part how are connections loaded?

p.63

- A.) *In compressive force*
- \*B.) *In shear force***

- C.) *In torsional force*
- D.) *In tensile force*

**58. What has increased the community expectations of firefighters?**

p. 97

- A.) *Open training sessions*
- B.) *Public relations events*
- \*C.) *Advances in news media***
- D.) *Increased visibility*

**59. Which of the following is NOT a factor that can accelerate the potential collapse time of a building?**

p. 72

- A.) *Firefighting in pact loads*
- B.) *Undesigned loading*
- \*C.) *Low surface-to-mass ratio***
- D.) *Age deterioration*

**60. What geometric shape is used to form a truss?**

p. 62

- A.) *Hexagons*
- B.) *Squares*
- C.) *Parallelograms*
- \*D.) *Triangles***

**61. What should the ISO do if crews are attempting a task that they have not been trained to perform?**

p. 98

- A.) *Stop the crew*
- B.) *Watch to see how they do*
- \*C.) *Inform the JC***
- D.) *Move to another area*

**62. What is a force that causes a material to be torn in opposite directions perpendicular or diagonal to the material?**

p. 58

- \*A.) *Shear***
- B.) *Compression*
- C.) *Tension*
- D.) *Torsion*

**63. What is a beam that spans an opening in a load-bearing masonry wall?**

p. 62

- A.) *Joist*
- B.) *Truss*
- \*C.) *Lintel*
- D.) *Girder*

64. What is the primary fire and collapse concern with ordinary construction?

p.65

- A.) *Building weight*
- B.) *Combustible members*
- C.) *Contents*
- \*D.) *Void spaces*

65. Which is true about turbulent smoke?

p.87

- \*A.) *It is caused by serious heat*
- B.) *It is from the exterior weather*
- C.) *It is no cause for concern*
- D.) *It is caused by cooling factors*

66. What color will ash add to the smoke?

p.81

- A.) *Green*
- B.) *Black*
- C.) *Yellow*
- \*D.) *White*

67. What tells you how much fuel is laden in the smoke?

p.87

- A.) *Volume*
- B.) *Color*
- C.) *Velocity*
- \*D.) *Density*

68. What is the second step taken in the ISO read-risk model?

p.99

- A.) *Take action*
- B.) *Collect information*
- C.) *Judge risk*
- \*D.) *Analyze*

69. Which hostile fire event has a warning sign of exhaust flow paths that intermittently puff or try to suck air?

p.85

- A.) *Flashover*
- B.) *Smoke explosion*

C.) *Backdraft*

**\*D.) *Explosive growth phase***

**70. How many of the four attributes of smoke must be changing for the ISO to deem firefighting efforts successful?**

p.89

**\*A.) *Four***

**B.) *Three***

C.) *One*

D.) *Two*

**71. What arc type II noncombustible buildings constructed from more often?**

p.65

A.) *Wood*

**B.) *Cast iron***

C.) *Concrete*

**\*D.) *Steel***

**72. What dictates the amount of load a beam can carry?**

p.62

A.) *Distance between supports of the beam*

B.) *Type of material the beam is constructed from*

C.) *Type of connections used to secure the beam*

**\*D.) *Distance between the top and bottom of the beam***

**73. What is turbulent smoke that has filled a compartment a sign of?**

p.87

A.) *Backdraft*

**\*B.) *Flashtover***

C.) *Flame-over*

O.) *Rollover*

**74. What is situational awareness actually a measure of?**

p.98

A.) *Intelligence*

**B.) *Urgency***

C.) *Prediction*

**\*D.) *Accuracy***

**75. Which is a true bowstring truss?**

p.64

A.) *Lamella truss*

**\*B.) *Arched truss***

C.) *Simple arch*

**D.) Tied arch**

**76. Which ratio really determines the strength of concrete?**

p. 60

- A.) *Portland cement and sand*
- B.) *Portland cement and li lile :*
- C.) *Portland cement and gravel*
- \*D.) *Portland cement and water***

**77. On how many points is a simpli beam supported?**

p. 62

- A.) *One*
- B.) *Four*
- \*C.) *Two***
- D.) *Three*

**78. What is the fire spread influenced by in type II buildings?**

p. 65

- A.) *Members*
- B.) *Elevation*
- C.) *Landscape*
- \*D.) *Contents***

**79. What is the first step taken when predicting collapse?**

p. 70

- \*A.) *Classify the building's construction***
- B.) *Evaluate time*
- C.) *Visual and trace loads*
- D.) *Determine structural involvement*

**80. What level of situational awareness involves making sense of what is happening based on what you know and have experienced?**

p.98

- \*A.) *Comprehending the situation***
- B.) *Predicting tlze future*
- C.) *Capturing current clues*
- D.) *Capturing current cue*

**81. Which of the following is being used when reading LODD technical investigative reports?**

p.99

- \*A.) *Vicarious learning***
- B.) *Mental.fitness*
- C.) *Personal values*

D.) *Recognition-primed decision-making*

**82. What is the collective flammable range in air of gases typically found in smoke?**

p. 82

- \*A.) *1% to 74%:*
- B.) *50% to 97%*
- C.) *8% to 24%*
- D.) *15% to 32% ,.*

**il What occurs when native wood that has been rough sawn from a tree is exposed to flame?**

p.59

- \*A.) *Develops char*
- B.) *Develops alligator burn pattern*
- C.) *Begins to degrade*
- D.) *Nothing*

**84. What is heat resistance when looking at building materials?**

p.59

- A.) *Width*
- B.) *Composition*
- \*C.) *Mass*
- D.) *Length*

**85. Why does smoke rise?**

p.88

- A.) *Due to contents*
- \*B.) *Due to heat*
- C.) *Due to light*
- D.) *Due to moisture*

**86. What color smoke is seen before a backdraft occurs?**

p.85

- A.) *Reddish-white*
- B.) *Greenish-blue*
- C.) *Orange-black*
- \*D.) *Yellowish-gray*

**87. What can a V-type floor or roof collapse put lateral forces on?**

p. 74

- \*A.) *Load-bearing walls*
- B.) *Non-load-bearing walls*
- C.) *Partition walls*

**D.) *Curtain walls***

**88. Which is an indicator of pressure that has built up in the building?**

p. 86

- \*A.) *Smoke velocity***
- B.) *Smoke density*
- C.) *Smoke color*
- D.) *Smoke volume*

**89. What color smoke is seen when unfinished wood is being rapidly heated?**

p. 71

- A.) *Yellowish*
- B.) *Greenish***
- C.) *Blackish*
- \*D.) *Brownish***

**90. Which is NOT something that should be used to rate survivability?**

p. 100

- A.) *Reading the smoke*
- B.) *Reading the building*
- C.) *Evaluating the resources*
- \*D.) *Considering history***

**91. What type of compression force does the masonry wall depend upon to keep it strong?**

p. 61

- A.) *Tensionally imposed*
- B.) *Eccentrically imposed*
- C.) *Torsionally imposed*
- \*D.) *Axially imposed***

**92. Which of the following is NOT released with complete combustion of a material?**

p. 82

- A.) *Light*
- \*B.) *Hydrogen cyanide***
- C.) *Carbon dioxide*
- D.) *Water vapor*

**93. What is seen as the intermittent ignition of small pockets of smoke?**

p. 85

- A.) *Flashtover*



- \*B.) *Ghosting*
- C.) *Flame-over*
- D.) *Smoke explosion*

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