PRACTICE EXAM 6: FIREFIGHTER I & II SIMULATION (150 QUESTIONS)

1. The principle that each member reports to only one supervisor in the fire department chain of command is called:

A. Span of control limiting subordinates per supervisor

B. Unity of command requiring one supervisor per member

C. Division of labor based on specialized assignments

D. Functional supervision across multiple departments

2. Before each shift, an SCBA user inspection should verify all of the following EXCEPT:

A. Cylinder pressure shows at least 90 percent of capacity

B. Facepiece and regulator are clean and free of damage

C. Harness straps, buckles, and PASS device function correctly

D. The internal cylinder valve seat is reground for proper seal

3. The three sides of the fire triangle are:

A. Fuel, heat, and oxygen necessary for combustion to occur

B. Fuel, oxygen, and ignition required for any sustained burning

C. Heat, smoke, and flame produced by every uncontrolled fire

D. Pyrolysis, ignition, and propagation of fire through fuels

4. The stage of fire characterized by rapidly increasing heat release and involvement of available fuel surfaces is the:

A. Incipient stage with smoldering pre-flame combustion only

B. Decay stage as the fuel load becomes nearly depleted

C. Growth stage with developing flame and rising compartment temperatures

D. Smoldering stage with localized heating and no open flame

5. Structural firefighting boots must meet which of the following requirements?

A. Steel toe construction with a height of at least 10 inches above the sole

B. Puncture-resistant insole, slip-resistant outsole, and certified to NFPA 1971

C. Leather composite uppers reinforced with high-temperature aramid stitching

D. Insulated rubber soles with electrical hazard rating up to 600 volts AC

6. The purpose of the SCBA bypass valve is to:

A. Provide a means to manually supply air if the regulator malfunctions

B. Reduce cylinder pressure during transport to a safer storage level

C. Allow the user to communicate verbally through the facepiece port

D. Vent excess air pressure when the cylinder is overfilled by mistake

7. A backdraft is most likely to occur in a compartment where:

A. Fresh oxygen is freely flowing through multiple open ventilation points

B. Fuel loading is light and flame production has already burned completely

C. Compartment temperatures are below 500 degrees Fahrenheit at floor level

D. Oxygen is depleted but unburned heated fuel gases accumulate under pressure

8. Lightweight wood truss roof assemblies are dangerous to firefighters primarily because they:

A. Are constructed using fire-retardant chemically treated softwood members

B. Use heavier solid sawn lumber that resists fire but is hard to ventilate

C. Lose structural integrity rapidly when exposed to fire and can collapse early

D. Cannot be cut with standard rotary saws during roof ventilation operations

9. A masonry wall that supports only its own weight and not the floor or roof above is called a:

A. Bearing wall carrying the structural loads of the building above

B. Non-bearing wall supporting only its own weight without other loads

C. Party wall shared between two adjoining buildings or occupancies

D. Curtain wall hung from the structural frame without supporting loads

10. The minimum breaking strength for general-use life safety rope under NFPA 1983 is:

A. 8,992 pounds force (40 kN) for general-use rope applications

B. 4,496 pounds force (20 kN) for technical-use rope applications

C. 2,248 pounds force (10 kN) for utility rope applications only

D. 1,124 pounds force (5 kN) for escape rope under emergency loads

11. Which knot is used to join two ropes of equal diameter?

A. Bowline tied with a single working end loop around the standing line

B. Clove hitch placed around the standing portion of one rope at the eye

C. Square knot or bend with safety knots secured on each working end

D. Half hitch tied with one rope's bight passed through the other rope

12. The proper position of a firefighter's hands when carrying a ladder using the high shoulder carry is:

A. Both hands grasping the upper beam directly above the shoulder placement

B. One hand grasping the rung at chest level, the other supporting the butt

C. Both hands on the lower beam to keep the ladder upright during the walk

D. One hand grasping the beam above the shoulder, the other below for balance

13. The two-firefighter beam raise of a 24-foot extension ladder begins with:

A. Both firefighters standing at the tip end facing the building structure

B. The ladder placed flat with the butt against the wall and tip extended out

C. One firefighter at the tip and one at the butt with the ladder on its rails

D. The fly section positioned away from the building before extension begins

14. Through-the-lock forcible entry is preferred when:

A. The door must remain functional for occupants or property security afterward

B. Speed of entry takes priority over preserving the lock or door condition

C. The lock is unfamiliar and conventional methods would damage the structure

D. Hydraulic tools are unavailable and only basic hand tools can be deployed

15. The proper technique for forcing a padlocked chain-link fence gate is to:

A. Cut the chain links one at a time using a bolt cutter at the lock side

B. Pry the hinge pins out using the adz of the halligan tool at the post

C. Cut the shackle or hasp using bolt cutters or a rotary saw with a metal blade

D. Spread the gate frame using hydraulic tools until the lock body releases

16. A primary search is best described as a:

A. Detailed methodical search performed after the fire is fully extinguished

B. Search conducted only by RIT members after a Mayday transmission is received

C. Search of exterior areas including yards, driveways, and surrounding property

D. Rapid search of involved areas while fire conditions still threaten occupants

17. The tag line used during a search of a large open-space area serves to:

A. Provide a continuous physical reference back to the point of entry

B. Communicate directly with the IC via electronic signal pulses sent through it

C. Connect the search team members directly to each other for accountability

D. Mark areas already searched so other teams do not duplicate the effort

18. Vertical ventilation should be performed:

A. After all interior occupants have been removed and the fire is extinguished

B. As directly over the seat of the fire as safely possible to release heated gases

C. On the leeward side of the building to take advantage of wind direction

D. Only after positive pressure ventilation has been started at the main entry

19. A coffin cut on a residential roof during vertical ventilation is:

A. A circular hole approximately 4 feet in diameter cut through both layers

B. A series of small cuts forming a louver pattern across the roof surface

C. A rectangular opening typically 4 by 8 feet cut between roof rafters

D. A single straight cut along the ridge to release rising heated gases below

20. The female hose coupling is identified by:

A. The presence of external threads on the swivel coupling for connection

B. A solid metal end that is permanently attached to the hose jacket itself

C. A higher pressure rating compared to the male coupling on the same line

D. Internal threads inside a rotating swivel that turns onto the male coupling

21. Double male and double female adapters are used to:

A. Connect two hoselines of the same gender threading when the genders don't match

B. Increase the working pressure rating of the connection between two hoselines

C. Reduce friction loss in long supply line evolutions by streamlining couplings

D. Convert national standard threading to a metric coupling at the appliance

22. A wet-barrel hydrant differs from a dry-barrel hydrant in that:

A. Wet-barrel hydrants are used only in regions where freezing is common

B. Dry-barrel hydrants have water in the barrel at all times and drain slowly

C. Wet-barrel hydrants hold water in the barrel and have a valve at each outlet

D. Dry-barrel hydrants have a single main valve controlled at each outlet port

23. The main control valve of a dry-barrel hydrant is located:

A. Inside the bonnet at the top of the hydrant under the operating nut cap

B. Below the frost line at the base of the hydrant in the supply pipe connection

C. Within each individual outlet to allow connection without shutting others down

D. At the curb box several feet away from the actual hydrant body itself

24. A combination nozzle differs from a smoothbore nozzle in that it:

A. Produces only a wide fog pattern that cannot be adjusted by the firefighter

B. Operates at a lower nozzle pressure than smoothbore for the same flow rate

C. Provides longer reach and better penetration into deep-seated fires reliably

D. Allows the firefighter to select between straight stream and various fog patterns

25. The standard operating pressure for an automatic fog nozzle is approximately:

A. 100 psi to maintain the slug position and proper stream pattern at any flow

B. 50 psi to reduce nozzle reaction forces during single-firefighter operation

C. 75 psi to match the standard operating pressure of all smoothbore nozzles

D. 125 psi to maximize reach and penetration on exterior defensive attacks

26. The acronym RECEO-VS represents fireground priorities in what order?

A. Rescue, Extinguishment, Confinement, Exposures, Overhaul, Ventilation, Salvage

B. Rescue, Extinguishment, Confinement, Evacuation, Overhaul, Ventilation, Salvage

C. Rescue, Exposures, Confinement, Extinguishment, Overhaul, Ventilation, Salvage

D. Rescue, Exposures, Containment, Extinguishment, Overhaul, Ventilation, Salvage

27. The most common cause of injury to firefighters during interior fire attack is:

A. Falling structural members from collapsing ceiling and roof assemblies

B. Slips, trips, and falls including stair collapses and floor hole intrusions

C. Burns from direct flame contact through gaps in turnout gear protection

D. Cardiac events triggered by physical exertion during extended interior operations

28. The primary objective of salvage operations is to:

A. Minimize secondary damage to property from water, smoke, and debris exposure

B. Determine the origin and cause of the fire for the investigator on scene

C. Remove all damaged contents to the exterior for the owner to inspect them

D. Verify that the fire has been completely extinguished before leaving the area

29. During overhaul, firefighters should remain in full PPE including SCBA because:

A. The building owner may attempt to enter and observe the damaged property

B. Wet structural surfaces can become electrically charged and cause electrocution

C. Investigators require all personnel to wear full PPE during evidence preservation

D. Toxic gases and respiratory hazards can persist long after visible fire is out

30. The phonetic alphabet term for the letter S is:

A. Sigma used in scientific and engineering communications widely

B. Sierra is used in military and aviation but not in fire service usage

C. Sierra used universally in fire service radio communications protocols

D. Spectrum used to differentiate from similar-sounding letter calls

31. A four-wire smoke detector circuit differs from a two-wire smoke detector circuit in that the four-wire circuit:

A. Combines power and signal on the same pair of conductors to the panel

B. Uses one pair of conductors for power and a separate pair for alarm signal

C. Increases the maximum number of detectors allowed on a single loop by half

D. Provides backup power directly from the device without panel supervision

32. A pendant sprinkler head:

A. Is installed upright on the supply piping with the deflector above the orifice

B. Mounts horizontally on a wall with a deflector that throws water outward only

C. Combines the features of upright and sidewall heads in a single installation

D. Hangs downward from the supply pipe with the deflector below the discharge

33. A sprinkler head wedge is used to:

A. Stop water flow from an activated head by inserting it between deflector and orifice

B. Hold a sprinkler head in the open position during system testing operations

C. Replace a fusible link element in pendant heads during routine maintenance

D. Anchor a sprinkler head to the supply pipe during initial system installation

34. The first step in stabilizing a vehicle on its wheels at an extrication scene is to:

A. Cut the battery cables at the negative terminal to disable the electrical system

B. Remove the keys from the ignition and place them in a safe location nearby

C. Chock the wheels and use step chocks or cribbing to prevent vehicle movement

D. Deploy hydraulic spreaders at the door hinges to begin patient access immediately

35. The undeployed airbag in a vehicle should be considered:

A. Safe to work around because it can only deploy when the engine is running

B. A hazard with an inflation zone that must not be obstructed by rescuers

C. Deactivated automatically once the battery cables have been disconnected fully

D. A useful patient cushion that should be intentionally deployed during the extrication

36. The acronym LCES used in wildland fire safety stands for:

A. Lookouts, Communications, Escape routes, and Safety zones for the crew

B. Location, Conditions, Egress strategy, and Suppression tactics on the line

C. Leeward direction, Conditions, Equipment status, and Strategy assessment

D. Limits, Communications, Equipment maintenance, and Safe zones in the rear

37. The head of a wildland fire is:

A. The portion of the fire that is burning into the wind at the slowest rate

B. The point of origin where the fire first ignited the available ground fuels

C. The unburned area surrounded by flames on multiple sides at the same time

D. The most rapidly spreading portion of the perimeter usually downwind or upslope

38. The mnemonic SAMPLE used during patient assessment stands for:

A. Signs, Allergies, Medications, Past history, Lifestyle, Events leading up to incident

B. Symptoms, Acuity, Medications, Past illness, Last meal, Examination findings on scene

C. Signs/symptoms, Allergies, Medications, Past history, Last oral intake, Events leading up

D. Status, Allergies, Mental state, Past trauma, Last meal, Events leading up to incident

39. A patient with snoring respirations most likely has:

A. Fluid accumulation in the lower airways causing audible respiratory distress

B. A partial upper airway obstruction commonly caused by the tongue falling back

C. Pneumothorax with a flail chest segment producing paradoxical breathing pattern

D. Severe bronchospasm causing high-pitched wheezing on every exhalation breath

40. At a hazmat incident, the area immediately surrounding the release is called the:

A. Hot zone where contamination is present and entry requires full PPE protection

B. Cold zone where command, staging, and support operations are conducted safely

C. Warm zone where decontamination occurs between the hot and cold areas

D. Exclusion area where civilian bystanders are prevented from observing the scene

41. A diamond-shaped placard with the number 3 indicates:

A. Explosives that may detonate due to friction, heat, or shock during transport

B. Compressed gases that may be flammable or asphyxiating in confined spaces

C. Oxidizers that supply oxygen to other materials and accelerate combustion

D. Flammable liquids with flash points below 141 degrees Fahrenheit at standard pressure

42. The blue diamond on the NFPA 704 hazard placard indicates:

A. Reactivity hazard rated from 0 to 4 based on stability of the material

B. Flammability hazard rated from 0 to 4 based on flash point and combustibility

C. Special hazards including water reactivity, oxidizer status, or simple asphyxiant

D. Health hazard rated from 0 to 4 based on toxicity and exposure consequences

43. The transfer of heat through a solid material from molecule to molecule is:

A. Convection heat transfer through circulating fluids or air masses upward

B. Conduction heat transfer through direct contact within solids or fluids

C. Radiation heat transfer through electromagnetic waves across open spaces

D. Combustion heat release from rapid oxidation of fuel and oxygen mixtures

44. The most common method of heat transfer in a wildland fire is:

A. Radiation from flames preheating fuels ahead of the advancing fire front

B. Conduction from the ground surface to the root systems of nearby fuels

C. Convection carrying flames horizontally through low ground fuel layers

D. Direct flame impingement on each individual fuel particle being burned

45. The PASS device is designed to:

A. Track the firefighter's air consumption rate during interior operations

B. Provide automatic dispatch notification when the firefighter activates a Mayday

C. Sound an alarm when the firefighter has been motionless for approximately 30 seconds

D. Measure ambient temperature and warn the firefighter of dangerous heat levels

46. The recommended maximum allowable distance from a charged hoseline to a firefighter operating inside a structure on SCBA is:

A. Always within line-of-sight of another firefighter for accountability purposes

B. Within the length and reach of a charged attack line for protection and egress

C. No more than 50 feet from the entry point to maintain effective communication

D. Within the buddy team distance regardless of charged hoseline location or status

47. Webbing is most useful in the fire service for:

A. Replacing life safety rope in technical rescue applications requiring high strength

B. Hoisting heavy power tools and breathing apparatus to upper floors during fires

C. Constructing improvised harnesses only on a single-use emergency basis once

D. Securing patients, creating improvised harnesses, and packaging victims for rescue

48. A figure eight on a bight is commonly used to:

A. Create a secure, easily inspected loop at the end of a rope for an anchor point

B. Join two ropes of unequal diameter for an emergency rappel down a structure

C. Anchor the working end to a fixed object before lifting heavy equipment

D. Secure a hoisting line to a tool handle for vertical advancement up a ladder

49. A roof ladder differs from a straight ladder in that it has:

A. A higher load capacity rating to support heavier rescue and ventilation tools

B. Folding side beams that can be telescoped for compact storage on apparatus

C. Folding hooks at the tip end that deploy to grip the ridge of a pitched roof

D. A wider base section that provides additional stability on uneven ground surfaces

50. The K tool is used in through-the-lock forcible entry to:

A. Break the case of the lock cylinder so the bolt mechanism falls free internally

B. Pull the lock cylinder from the door so the latch can be operated with a key tool

C. Spread the door jamb so the latch bolt clears the strike plate for entry

D. Cut the deadbolt with a metal-cutting blade powered by a battery saw

51. A secondary search is best described as a:

A. Search conducted from the exterior using only thermal imaging cameras

B. Quick room-by-room search during active fire conditions for trapped occupants

C. Search of the area immediately surrounding the structure for ejected victims

D. Thorough methodical search of the entire structure after fire control is achieved

52. Hydraulic ventilation uses:

A. A water curtain to absorb heat and reduce smoke production at openings

B. Pressurized water sprayed through floors to extinguish hidden fire below

C. A fog stream directed out a window opening to draw smoke from the room

D. A high-volume positive pressure fan operating at maximum continuous output

53. The most common cause of friction loss in fire hose is:

A. Turbulence created by water flowing past the hose's interior surfaces and fittings

B. Pressure loss from elevation changes between the pump and nozzle operating points

C. Reduction in cross-sectional area where two hose sections couple together at joints

D. Air entrainment in the stream as it flows through appliances on the way to the nozzle

54. Friction loss in a fire hose increases:

A. Linearly with flow rate, so doubling the flow doubles the friction loss exactly

B. Approximately with the square of the flow rate, so doubling flow quadruples loss

C. Inversely with the diameter, so larger diameter hose has more friction loss

D. Independently of hose diameter at any flow rate, depending only on hose length

55. Static pressure on a hydrant is:

A. The pressure remaining at the hydrant when water is flowing at maximum rate

B. The difference between flowing and residual pressure during a hydrant flow test

C. The maximum pressure the hydrant system can produce under any flow condition

D. The pressure available at the hydrant when no water is being discharged or flowing

56. Residual pressure on a hydrant is:

A. The pressure measured at the pump panel when water is being discharged through it

B. The starting pressure available at the hydrant before any flow has been initiated

C. The pressure remaining at the hydrant while water is flowing during a test

D. The maximum pressure rating of the hydrant body itself as installed by the utility

57. A master stream device delivers a minimum flow of approximately:

A. 350 gallons per minute or more from a fixed or portable monitor in operation

B. 250 gallons per minute through preconnected attack lines off the pumper

C. 150 gallons per minute through a handline operated by a single firefighter

D. 100 gallons per minute as a minimum for booster line interior attack operations

58. The direct attack method of fire suppression involves:

A. Applying water from outside the structure through window openings into the room

B. Applying water directly onto the burning fuel to cool it below its ignition point

C. Applying a fog stream into the hot gas layer to convert water to steam volume

D. Applying foam concentrate to smother the flames and seal the fuel surface only

59. The indirect attack method of fire suppression is best used when:

A. The fire is in the incipient stage with minimal heat and limited smoke production

B. Crews can safely enter the compartment and apply water directly onto the seat

C. The structure is uninvolved and protected exposures need cooling along edges

D. Conditions are too severe for entry and steam conversion can extinguish the fire

60. A water chute used during salvage operations is:

A. A constructed channel of salvage covers and pike poles that directs water outdoors

B. A floor drain installed in commercial occupancies for water removal during fires

C. A flexible hose used to siphon standing water from the lowest point of a basement

D. A device installed on sprinkler systems to prevent water flow into adjacent rooms

61. After overhaul is complete, the structure should be returned to the property owner:

A. Immediately after the last fire engine leaves the scene at the conclusion of work

B. After a complete walk-through by the IC and the assistant chief at the same time

C. After a thorough check confirms no hidden fire and a transfer of custody is documented

D. After the salvage company has removed all damaged contents from the structure

62. When transmitting on a fire ground radio, the firefighter should:

A. Speak loudly into the microphone and use rapid speech to conserve radio airtime

B. Press the transmit key, pause briefly, speak clearly, then release the key

C. Press and release the transmit key several times to indicate priority of message

D. Hold the microphone directly against the mouth and speak with full volume

63. An ionization smoke detector is most responsive to:

A. Slow smoldering smoke from upholstered furniture and bedding fires only

B. Smoke containing large particles produced by smoldering combustion sources

C. Heat changes that occur prior to visible flame production in incipient stages

D. Fast-flaming fires that produce small smoke particles in significant quantities

64. The riser is part of a sprinkler system that:

A. Carries water vertically from the main supply to the system feed mains

B. Contains the fusible link element that activates each individual sprinkler head

C. Provides the alarm signal to the building's main fire alarm control panel

D. Drains water from the system after each test or unscheduled activation event

65. The "golden hour" in trauma care refers to:

A. The first 30 minutes after injury during which transport must be initiated

B. The first 6 hours after injury during which definitive surgery is most effective

C. The first hour after a severe traumatic injury when intervention has the best outcome

D. The first 10 minutes on scene when scene size-up and patient triage are conducted

66. The B-post of a passenger vehicle is located:

A. At the front of the vehicle between the windshield and the front door opening

B. At the rear of the vehicle behind the rear seat and adjacent to the trunk lid

C. Along the roof rail between the front and rear seat passenger compartments

D. Between the front and rear doors as the structural pillar supporting the roof

67. A wildland fire shelter is intended to:

A. Provide a long-term safe refuge for firefighters trapped overnight by an advancing fire

B. Protect firefighters from radiant heat and brief direct flame contact during entrapment

C. Replace fire-resistant clothing during extended attack operations in remote areas

D. Allow firefighters to actively engage the fire from inside a heat-resistant covering

68. The first action in caring for an unresponsive adult patient who is not breathing is to:

A. Activate the EMS system and request additional resources before starting CPR

B. Begin two rescue breaths followed immediately by 30 chest compressions

C. Open the airway and check for a pulse for at least 30 seconds before acting

D. Position the patient on their side in the recovery position to prevent aspiration

69. The recommended depth of chest compressions for an adult during CPR is:

A. Approximately 1 inch to avoid causing rib fractures during sustained compressions

B. Approximately 1.5 inches to balance perfusion with the risk of internal injury

C. At least 2 inches but not more than 2.4 inches into the patient's chest depth

D. At least 3 inches to ensure adequate cardiac perfusion during extended resuscitation

70. The first responder at the awareness level is expected to:

A. Stop the release and decontaminate exposed victims using available equipment

B. Recognize the presence of hazardous materials, isolate the area, and call for help

C. Enter the hot zone with appropriate PPE to identify the substance involved

D. Plug and patch leaking containers using specialized tools and product control

71. The first responder at the operations level is expected to:

A. Take offensive actions to stop the release of hazardous materials at the source

B. Identify the specific chemical involved using monitoring and detection equipment

C. Conduct technical decontamination of contaminated victims and rescuers on scene

D. Take defensive actions to confine the release from a safe distance using diking or damming

72. The point of origin of a fire is:

A. The exact location where the heat source and the fuel first came into contact

B. The lowest point of fire damage observed during the post-fire investigation

C. The first room that became involved after fire spread from the original area

D. The location where the fuel package generated the most intense heat damage

73. A pre-incident plan for a target hazard should include:

A. The names of all building occupants and their work shift schedules in detail

B. Detailed financial records of the business and proprietary trade secret materials

C. Building access points, hazards, utilities, water supplies, and key contact information

D. Personal information about the building owner including home address and family details

74. Class A foam is most effective on:

A. Flammable and combustible liquid fires involving hydrocarbon fuel sources

B. Ordinary combustible fires involving wood, paper, cloth, and similar fuels

C. Energized electrical equipment fires where conductivity must be minimized

D. Three-dimensional fires involving running fuel with high pressure releases

75. Class B foam works by:

A. Forming a vapor-suppressing film on the surface of a flammable liquid fuel

B. Cooling the burning fuel below its autoignition temperature through evaporation

C. Diluting the fuel until its concentration falls below the lower flammable limit

D. Displacing oxygen at the fuel surface by means of an inert gas chemical reaction

76. The chemical chain reaction in the fire tetrahedron can be interrupted by:

A. Removing the available fuel from the area around the burning fire involvement

B. Reducing the heat output through application of cooling water in large volumes

C. Excluding oxygen from the combustion zone by smothering with a heavy blanket

D. Applying certain extinguishing agents such as dry chemical or halon substitutes

77. Pyrolysis is best defined as:

A. The combustion phase during which visible flame is produced in fuel surfaces

B. The cooling of fuel surfaces by direct application of water to extinguish flames

C. The chemical decomposition of a substance through the action of heat absorption

D. The blending of fuel vapors with oxygen in the proper ratio for ignition

78. Type II (Non-Combustible) construction is characterized by:

A. Combustible exterior walls and combustible structural members throughout the building

B. Noncombustible structural elements that may have limited or no fire-resistance rating

C. Heavy timber members of large cross-section that resist fire by self-protection

D. Steel structural members with full encasement in spray-applied fireproofing materials

79. A truss is dangerous in a fire because:

A. The failure of a single component can cause the entire assembly to collapse rapidly

B. Trusses are made entirely of fire-treated lumber and burn slower than expected

C. The connections in modern trusses are bolted and remain intact during exposure

D. Trusses transfer all loads to the exterior walls, leaving the interior fully clear

80. The thermal liner of structural turnout gear:

A. Prevents water and liquid contaminants from reaching the skin under any condition

B. Provides the first line of abrasion and cut resistance for the firefighter's body

C. Provides the primary thermal protection against conducted and convected heat

D. Reflects radiant heat back away from the firefighter's body during exposure

81. The maximum service life of a composite SCBA cylinder is typically:

A. 5 years from the date of manufacture stamped on the cylinder shoulder

B. 10 years from the date of manufacture with mandatory annual hydrostatic testing

C. 20 years from the date of manufacture with periodic visual inspection only

D. 15 years from the date of manufacture after which it must be removed from service

82. The hydrostatic test interval for a composite SCBA cylinder is:

A. Every 2 years from the date of manufacture for the life of the cylinder

B. Every 5 years from the date of manufacture for the life of the cylinder

C. Every 10 years from the date of manufacture for the life of the cylinder

D. Only once at the time of manufacture before being placed into service

83. A kernmantle rope is constructed with:

A. A load-bearing inner core surrounded by a protective outer woven sheath

B. A single braided sheath without an internal core for maximum flexibility

C. Twisted natural fibers in a single laid construction for strength rating

D. Multiple steel cables sheathed in a synthetic jacket for cut resistance

84. A bowline is best described as:

A. A knot that joins two ropes of unequal diameter for emergency hoisting purposes

B. A knot used to secure a rope to a fixed object by passing the end through itself

C. A knot that forms a fixed loop at the end of a rope that will not slip under load

D. A knot used to shorten a rope without cutting it during a rescue operation

85. The labeled working length of an extension ladder section is determined by:

A. The total length of the ladder when fully extended to its physical end stops

B. The length of the longest ladder section measured from the butt to the tip end

C. The distance from the ground to the point where the ladder rests on the building

D. The labeled designation, which reflects useful length less overlap between sections

86. A folding (attic) ladder is most commonly used:

A. As a primary ground ladder for upper-story window rescue operations from outside

B. To access attic scuttle openings or other narrow vertical accesses inside structures

C. As a roof ladder during vertical ventilation operations on residential structures

D. As a stabilizer beneath the main ladder to provide a level base on soft ground

87. The most common technique for forcing a residential lock cylinder using a K tool is:

A. Striking the lock face directly with a flathead axe until the cylinder fails

B. Cutting the cylinder housing using a rotary saw equipped with a metal blade

C. Driving the K tool's blade behind the lock cylinder and pulling the cylinder out

D. Drilling through the keyway with a battery-powered drill to defeat the pins

88. The recommended way to swing a flathead axe when striking a halligan tool held by another firefighter is to:

A. Use short controlled swings with the axe head striking flat on the striking surface

B. Use long overhead swings with maximum force to drive the halligan into the door

C. Strike the halligan with the cutting edge of the axe blade to gain better penetration

D. Strike at an angle to bounce the halligan further into the gap at each impact

89. A drag rescue device (DRD) built into turnout gear is used to:

A. Allow the firefighter to descend rapidly from upper floors during emergencies

B. Connect two firefighters together during a buddy team interior search operation

C. Anchor the firefighter to a fixed point during a search of a high-hazard occupancy

D. Provide a built-in handle for another firefighter to drag a downed firefighter to safety

90. The proper carry for a small child during a search is:

A. The cradle carry with the child held face-down across the firefighter's forearms

B. Holding the child close to the firefighter's chest while crawling toward the exit

C. The seat carry with the child sitting on the firefighter's shoulders for visibility

D. The two-firefighter carry with one supporting the head and one supporting the legs

91. Natural ventilation relies on:

A. Convection currents, wind, and the buoyancy of heated gases to move smoke

B. Powered fans positioned at strategic openings to direct the smoke outward

C. Hose stream patterns to push smoke from one area of the building to another

D. Sprinkler activation patterns to cool gases and drop them to the floor level

92. Horizontal ventilation is most appropriate when:

A. The fire is on the top floor of a multi-story structure with truss roof construction

B. The seat of the fire cannot be located and visibility throughout is severely limited

C. The fire is confined to a single compartment with windows or doors leading outside

D. The roof is too dangerous to access and vertical ventilation is not feasible at all

93. A booster hose differs from an attack hose in that it:

A. Has a larger inside diameter and can deliver master stream flows from monitor devices

B. Is rated for higher operating pressures than typical 1.75-inch attack hose lines

C. Is woven from a single jacket of synthetic fibers and stored on a flat hose load

D. Has a hard rubber outer wall and is stored on a reel for small grass and trash fires

94. A portable water tank used in tanker shuttle operations holds approximately:

A. 500 to 1,000 gallons in a self-supporting steel-framed reservoir at the dump site

B. 1,500 to 3,000 gallons in a collapsible frame structure positioned at the dump site

C. 5,000 to 10,000 gallons in a permanent above-ground tank installed permanently

D. 250 to 500 gallons in a portable rigid plastic container brought to remote scenes

95. A jet siphon is used during tanker shuttle operations to:

A. Pressurize the supply hose between the tanker and the engine drafting from it

B. Remove debris from a static water source before drafting through the pump intake

C. Transfer water between portable tanks or from a tank to another supply container

D. Increase the discharge pressure on a master stream device fed from a portable tank

96. The reaction force of a 1.75-inch fog handline flowing 150 gpm at 100 psi nozzle pressure is approximately:

A. 75 pounds of force that the nozzle operator and backup must resist during operations

B. 25 pounds of force which can be managed easily by a single firefighter alone

C. 150 pounds of force requiring a fixed master stream device to safely operate

D. 200 pounds of force requiring at least three firefighters on the line at all times

97. A smoothbore handline tip typically operates at a nozzle pressure of:

A. 100 psi to match the operating pressure of an automatic fog nozzle for the same flow

B. 75 psi to reduce reaction force while delivering equivalent flow to a fog nozzle

C. 125 psi to maximize reach during exterior defensive operations on building exposures

D. 50 psi which is the standard nozzle pressure for smoothbore handline tips in use

98. The "two in, two out" rule under OSHA 1910.134 requires that:

A. Two firefighters must enter the structure together while two firefighters remain in vehicles

B. Two firefighters inside the IDLH atmosphere must be backed up by two firefighters outside

C. Two engine companies must always be on scene before any interior attack is initiated

D. Two ladders must be placed at the rear of the structure before entry through the front

99. An exception to the OSHA two-in/two-out rule allows entry by fewer than two members outside when:

A. The fire is in an unoccupied structure with no immediate exposure problems present

B. The IC has determined the structure is structurally unsafe but a victim must be removed

C. There is a known life hazard inside and immediate action could save a victim's life

D. The fire is in the incipient stage and can be extinguished with a portable extinguisher

100. A salvage cover should be inspected before and after each use for:

A. Tears, holes, mildew, and damage to the grommets at the corners or edges

B. Compliance with the most recent NFPA fire-resistance and laundering standards

C. The presence of the manufacturer's date code stamped on the back surface

D. Color uniformity to match other covers in the same set used by the company

101. The presence of charred wood with a glossy alligator pattern indicates:

A. Slow smoldering combustion over an extended period in well-insulated areas

B. Areas where the fire burned more slowly than surrounding regions of the room

C. Materials that resisted the heat of the fire and remained essentially undamaged

D. Areas of intense, fast-burning fire that consumed the surface fuel rapidly

102. The "size-up" report from the first arriving officer should include:

A. The name and contact information of the property owner for the investigation file

B. A complete inventory of the contents of the building and their estimated values

C. A description of conditions, actions being taken, and any resources needed at scene

D. The exact origin and cause of the fire as preliminarily determined from outside

103. A flow switch on a wet-pipe sprinkler system:

A. Shuts off the water supply automatically once the fire has been fully extinguished

B. Detects the movement of water in the riser and sends an alarm signal to the panel

C. Limits the maximum flow through the system to prevent supply piping from rupturing

D. Resets the system to normal standby mode after a sprinkler has activated and closed

104. A standpipe system Class I is intended for use by:

A. Trained firefighters using 2.5-inch hose connections at each floor of the building

B. Building occupants using preconnected 1.5-inch hose stored in cabinets on each floor

C. Both occupants and firefighters from the same outlet at each level of the structure

D. Engineers performing scheduled pressure tests of the system using calibrated gauges

105. A deluge sprinkler system uses:

A. Closed sprinkler heads supplied by a water-filled piping arrangement under pressure

B. Closed sprinkler heads supplied by air-pressurized piping that releases water on activation

C. A combination of wet and dry piping in alternating zones throughout the structure

D. Open sprinkler heads supplied by a deluge valve that opens upon detection signal activation

106. The first priority when sizing up a vehicle extrication incident is:

A. Identification of the make, model, and year of each vehicle involved in the collision

B. Determination of the patient's medical insurance carrier and policy information at scene

C. Scene safety including hazards from traffic, fuel, fire, and unstable vehicle positioning

D. Notification of the patient's family members and the patient's primary care provider

107. Roof flap removal during a vehicle extrication involves:

A. Cutting and removing the entire roof of the vehicle to provide maximum patient access

B. Cutting two posts on one side and folding the roof back like the page of a book

C. Removing the roof rails and headliner to access entrapped patients in the back seat

D. Cutting horizontally across the windshield to fold the front of the roof down forward

108. A direct attack on a wildland fire involves:

A. Working at the very edge of the fire and applying water or beating out the flames directly

B. Constructing a fire line at some distance from the fire and conducting a burnout operation

C. Allowing the fire to burn to a natural barrier such as a road, river, or rocky outcrop

D. Using aircraft to drop retardant on unburned fuels ahead of the advancing fire front

109. The black, or burned-over area, of a wildland fire is generally considered:

A. The most dangerous portion of the fire because of hot embers and reburn potential

B. The active flame front area where direct attack should be initiated first by crews

C. Outside the perimeter where unburned fuels still threaten structures and properties

D. A potential safety zone because the fuel has already been consumed and cannot reburn

110. The proper site for chest compressions on an adult during CPR is:

A. The xiphoid process directly below the sternal notch of the patient's chest cavity

B. The upper third of the sternum just below the suprasternal notch and clavicles

C. The center of the chest on the lower half of the sternum between the nipples

D. The left side of the chest directly over the apex of the heart for direct compression

111. The correct ratio of chest compressions to ventilations for one-rescuer adult CPR is:

A. 15 compressions followed by 2 ventilations repeated until ALS providers arrive

B. 30 compressions followed by 2 ventilations repeated through five complete cycles

C. 10 compressions followed by 1 ventilation repeated at a rate of 80 per minute

D. 100 compressions followed by 10 ventilations repeated every two minutes consistently

112. A bill of lading is used during transportation incidents to:

A. Identify the products being shipped, their quantity, and the consignee receiving them

B. Provide the medical treatment instructions for victims exposed to chemical materials

C. Authorize the carrier to enter restricted federal areas during interstate commerce

D. Document the driver's hours of service and the maintenance history of the vehicle

113. A safety data sheet (SDS) provides:

A. Only the names of all employees authorized to handle the hazardous material in a facility

B. Only the name of the manufacturer with their main mailing address and phone number

C. Only the chemical formula of the substance and its molecular weight for reference

D. Chemical, physical, health, and emergency response information about a specific substance

114. The lower flammable limit (LFL) of a substance is:

A. The temperature below which the substance will not produce vapors to ignite normally

B. The pressure below which the substance vapors cannot be ignited under any conditions

C. The minimum concentration of vapor in air below which ignition will not occur

D. The maximum concentration of vapor in air above which the mixture is too rich to ignite

115. The vapor density of a gas indicates:

A. The flammable range of the gas in air at standard temperature and pressure conditions

B. The temperature at which the gas will spontaneously ignite without an external source

C. The minimum amount of gas in air required for combustion to be sustained over time

D. Whether the gas will rise or sink in air, with values above 1 sinking and below 1 rising

116. Spalling of concrete during a fire is caused by:

A. The slow chemical breakdown of the cement matrix at elevated temperatures over hours

B. Steam pressure created when water trapped in the concrete expands due to fire heat

C. The melting of reinforcing steel within the concrete causing the surrounding to fail

D. Chemical reactions between extinguishing agents and the concrete surface composition

117. A parapet wall is:

A. An interior load-bearing wall that supports the floor or roof structure above it

B. A vertical wall used to separate two occupancies that share a common building

C. A protected horizontal wall used as a fire stop within a vertical shaft enclosure

D. An exterior wall that extends above the roofline of a building to provide a barrier

118. The outer shell of structural turnout gear is designed primarily to:

A. Wick perspiration away from the firefighter's skin to maintain a comfortable temperature

B. Provide a vapor barrier to prevent the transmission of liquids and pathogens to the skin

C. Provide flame, abrasion, cut, and tear resistance during structural fire fighting operations

D. Insulate against radiant, conductive, and convective heat as the primary thermal layer

119. The hood worn beneath a structural firefighter's helmet is designed to:

A. Protect the head, neck, and ears from heat where the helmet, coat, and SCBA mask meet

B. Provide an extra layer of vapor barrier between the helmet and the firefighter's head

C. Absorb perspiration and keep sweat from running into the firefighter's eyes during work

D. Identify the wearer's company assignment by the color code on the front of the hood

120. Donning the SCBA using the over-the-head method is performed by:

A. Lowering the SCBA from above using a rope and pulley assembled on the apparatus

B. Lifting the SCBA over the head and allowing the harness to drop into position on the back

C. Having a second firefighter slide the SCBA up the wearer's back from the rear position

D. Stepping into the SCBA harness laid on the ground and pulling the shoulder straps upward

121. A rope log:

A. Lists the names of all firefighters certified to use technical rescue rope equipment

B. Tracks the inventory of all rope assets currently assigned to a specific fire company

C. Documents the history, use, inspection, and condition of each piece of life safety rope

D. Records the breaking strength tests performed on each rope at the time of manufacture

122. A water knot is most commonly used with:

A. Twisted polypropylene rope of small diameter for utility uses on the fireground

B. Steel cable assemblies in technical rescue operations involving heavy mechanical loads

C. Kernmantle life safety rope when joining two ends of equal diameter for rappelling

D. Tubular webbing to form a loop or to join two ends of webbing together securely

123. The dogs (also called pawls or rung locks) on an extension ladder:

A. Lock the fly section in place at each rung to prevent the fly from retracting under load

B. Allow the firefighter to slide the fly section up and down freely during the climb

C. Secure the ladder tip to the building when placed against a window or roof edge

D. Connect the two ladder sections together permanently during assembly at the factory

124. The halyard on an extension ladder:

A. Is the rope used to secure the ladder to a stationary object after it has been raised

B. Is the rope used to extend the fly section of the ladder during the raise operation

C. Is the metal cable attached to the underside of the rungs for additional strength

D. Is the locking mechanism that holds the fly section in place once it has been extended

125. The proper position for striking a halligan tool driven into a door jamb is:

A. Directly in line with the door swing direction to maximize force into the doorway

B. Above the level of the lock to ensure the adz reaches behind the locking mechanism

C. At the same level as the lock with the adz angled slightly downward toward the door

D. Below the level of the lock with the fork angled upward into the supporting jamb

126. When forcing an outward-opening door, the firefighter should:

A. Drive the fork end of the halligan between the door and jamb at the locking side

B. Drive the adz end into the door panel and pry the door outward by leverage alone

C. Strike the hinge pins with the pick end of the halligan to remove the hinges first

D. Apply the irons to the strike plate side and pry the door inward toward the firefighter

127. An oriented search differs from a standard search in that:

A. All members of the team move simultaneously through the same rooms together

B. The search is conducted exclusively from the exterior using only thermal imagers

C. Search ropes are used to maintain physical contact between team members and the entry

D. One firefighter remains at the doorway or hallway while another searches each room individually

128. A victim removed from a fire structure should be carried:

A. Through the original point of entry regardless of distance to other available exits

B. Through the safest and most direct route, which may be a window or alternative exit

C. Up to the roof for helicopter evacuation when ground-level transport is not available

D. To an interior safe room while waiting for EMS personnel to arrive at the scene

129. Trench cut ventilation is used when:

A. The fire is in the basement of a multi-story building and vertical access is needed

B. A single-room fire requires immediate top ventilation directly above the seat

C. A large structure has fire spreading and a cut is needed to stop horizontal extension

D. The roof shows signs of collapse and ventilation must be performed from a distance

130. Mechanical ventilation includes:

A. Positive pressure, negative pressure, and hydraulic methods using fans or hose streams

B. Only positive pressure ventilation using a fan placed at the structure's main entry

C. Only negative pressure ventilation using smoke ejectors placed at exhaust openings

D. Only hydraulic ventilation using fog streams directed out of window openings outward

131. The proper position for the nozzle operator on an attack handline is:

A. Standing fully upright behind the nozzle to maximize visibility of the fire room

B. Kneeling with one knee on the floor and the nozzle held high above shoulder level

C. Sitting on the floor with both legs forward and the nozzle resting across the lap

D. Crouched low with the nozzle held in front and the body braced against the reaction

132. A wye appliance is used to:

A. Reduce the diameter of a single line from 2.5 inches down to a smaller 1.75-inch attack line

B. Divide a single hoseline into two separate lines downstream of the appliance for operations

C. Combine two separate hoselines into a single larger line for master stream device flow

D. Increase the operating pressure on a single hoseline by adding a relay pump appliance

133. A pumper drafting from a static water source must:

A. Maintain a minimum positive pressure of 50 psi at the pump intake during drafting

B. Use only soft sleeve hose since hard suction hose is not designed for static sources

C. Use hard suction hose with a strainer attached to keep debris from entering the pump

D. Add water treatment chemicals to the source before drafting to prevent pump damage

134. The required fire flow for a structure is determined primarily by the:

A. Construction type, occupancy, area, and exposures of the building being protected

B. Population density of the surrounding neighborhood and the response time of the apparatus

C. Distance from the nearest fire hydrant and the size of the water main serving the area

D. Year of construction and the most recent renovation date listed on the building permit

135. Cavitation in a fire pump occurs when:

A. The pump is operated at a pressure above its rated maximum capacity for the system

B. The pump tries to discharge more water than is being supplied to the intake

C. Air enters the pump through a leak in the intake side during pressurized operations

D. The relief valve is improperly adjusted and water hammer occurs in the discharge

136. The phenomenon called nozzle reaction is caused by:

A. The recoil of the pump as it accelerates water from rest into the hoseline at the intake

B. The friction loss within the hoseline between the pump discharge gate and the nozzle tip

C. The change in atmospheric pressure as water leaves the nozzle into the open air around it

D. Newton's third law as water is accelerated and ejected from the nozzle in one direction

137. A transitional attack involves:

A. A long defensive operation followed by interior attack only after the structure cools

B. A defensive attack from a master stream device throughout the entire incident duration

C. A brief exterior application of water onto the fire followed by an interior attack on the seat

D. Interior attack initially followed by withdrawal to defensive operations once flashover occurs

138. A defensive attack is initiated when:

A. The structure is unsafe to enter and the strategy is to protect exposures from extension

B. The fire is in the incipient stage and a portable extinguisher can be used to extinguish it

C. A single room is involved and a 1.75-inch handline can suppress the fire from inside it

D. The hose stream from outside can reach the seat through an open window in a small house

139. The use of plastic sheeting in salvage operations is preferred over salvage covers when:

A. The covered area is small and the cleanup time is expected to be very brief overall

B. Large areas need protection and the disposable plastic is more cost-effective afterward

C. The contents are extremely valuable and only canvas covers can provide protection

D. The structure is unstable and only lightweight covers can be safely deployed within it

140. A PAR (personnel accountability report) during interior operations is used to:

A. Confirm that all responding apparatus has arrived and is positioned on the scene

B. Document the chain of evidence for fire investigation purposes after the fire is extinguished

C. Identify the leader of each individual division or group operating on the fireground

D. Verify the location, function, and welfare of every member operating on the fireground

141. A manual pull station:

A. Allows occupants to manually initiate the fire alarm system from a fixed location

B. Activates the sprinkler system manually when occupants identify a fire condition

C. Releases the building's locking mechanism on doors automatically during an emergency

D. Resets the fire alarm panel after a false alarm has been verified by the building staff

142. A standpipe system Class III is intended for use by:

A. Building occupants exclusively using only 1.5-inch hose stored in occupant cabinets

B. Trained firefighters exclusively using only 2.5-inch hose connections at landings

C. Both occupants and firefighters with both 1.5-inch and 2.5-inch connections available

D. Maintenance staff only during scheduled annual pressure testing of the system risers

143. The proper sequence for vehicle stabilization is:

A. Open access doors before stabilizing the vehicle to avoid unnecessary delay in extrication

B. Stabilize the vehicle before performing any access or disentanglement operations on it

C. Disconnect the battery and remove all electrical components before stabilizing the chassis

D. Wait for additional resources before placing any stabilization equipment at the scene

144. The most common method of stabilizing a vehicle resting on all four wheels is:

A. Lifting one corner of the vehicle and placing a jack stand beneath each support point

B. Placing tow truck cables under the chassis and tensioning them in opposite directions

C. Inflating large airbags placed beneath the chassis to lift the vehicle off its suspension

D. Cribbing or step chocks placed under the rocker panels with the wheels chocked in place

145. A backfire is set:

A. From a control line toward the main fire to consume fuel and stop the fire's spread

B. To allow firefighters to escape from an entrapment by burning a path to safety

C. As a method of clearing brush from a planned construction site after a controlled burn

D. By an arsonist to start a new fire ahead of an existing wildland fire being contained

146. Universal precautions during patient care include:

A. Wearing only a surgical mask during patient contact in any clinical setting situation

B. Treating only known infected patients as if they were carriers of any communicable disease

C. Treating every patient as if they were potentially infected with bloodborne pathogens

D. Decontaminating equipment only after contact with patients who have visible bleeding

147. An adult patient is considered to be in respiratory distress when:

A. Respiratory rate exceeds 12 breaths per minute during normal resting conditions

B. The patient exhibits labored breathing, accessory muscle use, or audible airway sounds

C. The patient is fully alert and oriented while speaking in complete sentences clearly

D. Oxygen saturation measures 99 percent on room air with no signs of distress visible

148. A material that is corrosive may:

A. Cause cancer in laboratory test animals after extended chronic low-dose exposures

B. Spontaneously ignite when exposed to air at normal ambient temperatures and pressures

C. Release toxic vapors only when heated above its boiling point in a closed container

D. Cause visible destruction or irreversible damage to living tissue at the point of contact

149. The recommended initial isolation distance for an unknown hazardous material released indoors is:

A. 100 feet in all directions until additional resources arrive at the incident scene

B. 250 feet in all directions and downwind to the limit of visible vapor cloud edge

C. 330 feet (100 meters) in all directions as the ERG initial isolation default value

D. 500 feet upwind and 1,000 feet downwind to ensure protection of all bystanders

150. A V-pattern on a wall above the point of origin indicates:

A. The typical pattern of fire growth as flames and heat rise upward from a single source

B. The presence of an accelerant that produced low rapid burning across a horizontal area

C. Backdraft conditions where the fire moved horizontally before being interrupted by entry

D. The exact temperature of the heated gases at the highest point of the burn pattern wall

ANSWER KEY WITH EXPLANATIONS — PRACTICE EXAM 6

1. B — Unity of command is the principle that each individual reports to only one supervisor at a time. This eliminates conflicting orders and confusion during emergency operations. Without unity of command, firefighters may receive contradictory directions and lose accountability within the chain of command.

2. D — The internal cylinder valve seat is a manufacturer-serviced component and is not part of a routine user inspection. Daily SCBA checks verify cylinder pressure, condition of facepiece and harness, and PASS device operation. Reseating valve seats requires specialized tools and certified technicians.

3. A — Fuel, heat, and oxygen are the three components of the fire triangle. All three must be present in correct proportions for combustion to initiate, and removing any one extinguishes the fire. The fire tetrahedron adds a fourth side, the chemical chain reaction.

4. C — The growth stage follows the incipient stage and is marked by increasing heat release, expanding flame, and rising compartment temperatures as additional fuel surfaces ignite. Recognizing this stage is critical because flashover typically occurs at the transition from growth to fully developed fire.

5. B — NFPA 1971 specifies that structural firefighting boots must include a puncture-resistant insole and slip-resistant outsole. The standard ensures protection against nails, glass, and other puncture hazards common at fire scenes while maintaining traction on wet or unstable surfaces.

6. A — The bypass valve allows the user to manually deliver air directly to the facepiece if the primary regulator fails. This emergency backup feature provides breathable air long enough for the firefighter to exit the IDLH atmosphere.

7. D — Backdraft requires a heat-rich, oxygen-depleted atmosphere containing unburned fuel gases under pressure. When fresh oxygen is suddenly introduced, the superheated gases ignite explosively. Warning signs include puffing smoke, smoke-stained windows, and an absence of visible flame.

8. C — Lightweight wood trusses use small-dimension lumber connected by metal gusset plates that lose their grip rapidly when exposed to fire. Failure of a single connection can collapse the entire assembly without warning, often within 5 to 10 minutes of fire exposure.

9. B — A non-bearing wall supports only its own weight and does not carry floor or roof loads from above. This distinction is critical during overhaul and structural collapse assessment because removing a non-bearing wall does not threaten overall building stability.

10. A — NFPA 1983 requires general-use life safety rope to have a minimum breaking strength of 8,992 pounds force (40 kN). General-use rope is rated for two-person loads in technical rescue, while technical-use rope has a 20 kN minimum and is rated for one-person loads.

11. C — A square knot (or appropriate bend such as a sheet bend) joins two ropes of equal diameter, with safety knots tied on each working end to prevent the knot from slipping. The safety knots are essential because unsecured square knots can capsize under shock loads.

12. D — In the high shoulder carry, one hand grasps the beam above the shoulder to control the upper portion while the other hand grasps below the shoulder for balance and steering. This grip distributes weight properly and allows the firefighter to maneuver around obstacles safely.

13. B — The beam raise begins with the ladder placed flat on the ground with the butt against the building or a heel placed firmly. One firefighter heels the butt while the other walks the tip up hand-over-hand along the beam.

14. A — Through-the-lock entry preserves the door, frame, and locking hardware so the occupancy can be secured after the incident. It is the preferred method when speed is not critical and the property must remain serviceable, such as during medical assists or non-fire emergencies.

15. C — Padlocks and hasps are most efficiently defeated by cutting through the shackle using bolt cutters or a rotary saw with a metal-cutting blade. Cutting the shackle is faster than attacking the lock body or hinges and works on most common padlock designs.

16. D — A primary search is a rapid search performed while fire conditions still threaten occupants, with the goal of locating viable victims as quickly as possible. Speed and coverage take priority over thoroughness, which is achieved during the secondary search.

17. A — A tag line (search rope) provides a continuous physical link from the search team back to the point of entry. This is critical in large open spaces such as warehouses, big-box retail, or commercial structures where disorientation can occur in heavy smoke.

18. B — Vertical ventilation is most effective when performed directly over the seat of the fire because the natural buoyancy of heated gases drives them upward through the opening. Cutting offset from the fire allows heat and smoke to spread horizontally through the structure.

19. C — A coffin cut is a rectangular vertical ventilation opening, typically 4 by 8 feet, cut between roof rafters so existing structural members frame the opening. The dimensions allow heat and smoke to release efficiently while preserving the load-bearing rafters.

20. D — The female coupling has internal threads housed inside a rotating swivel that turns onto the male coupling's external threads. The swivel allows the connection to be made without rotating the hose itself, which would twist and damage the line.

21. A — Double male and double female adapters allow two same-gender hose couplings to be joined when needed. They are essential when an evolution requires connecting two male ends or two female ends, which occurs frequently in reverse lays and complex hose configurations.

22. C — Wet-barrel hydrants are used in non-freezing climates and contain water under pressure all the way to each outlet, with a separate compression valve at each outlet. This allows individual outlets to be opened or closed without affecting the others.

23. B — In a dry-barrel hydrant the main valve is located below the frost line at the base of the hydrant, where freezing temperatures cannot reach. When the operating nut is turned, this valve opens and water rises through the barrel.

24. D — A combination nozzle gives the operator the ability to select between a straight stream and various fog pattern widths by rotating the bumper or shaper. This versatility makes combination nozzles standard on interior attack lines.

25. A — Automatic fog nozzles are designed to operate at 100 psi nozzle pressure. The automatic mechanism adjusts the orifice opening to maintain stream pattern and reach across a range of flow rates while keeping nozzle pressure constant.

26. C — RECEO-VS stands for Rescue, Exposures, Confinement, Extinguishment, Overhaul, Ventilation, and Salvage. The sequence reflects fireground priorities, with rescue first and supporting tactics following, though ventilation and salvage are conducted concurrently as conditions require.

27. B — National Fire Protection Association and NIOSH data show slips, trips, and falls are the most common injury category for firefighters during interior operations. Wet floors, holes, debris, and limited visibility combine to make footing hazardous throughout the fire ground.

28. A — Salvage operations aim to minimize secondary damage caused by water, smoke, and debris during fire suppression. Effective salvage protects building contents, reduces overall property loss, and improves customer service and public perception of the fire department.

29. D — Smoke contains carbon monoxide, hydrogen cyanide, acrolein, and other toxic gases that persist long after visible flames are gone. SCBA must remain on during overhaul because air monitoring is the only reliable way to confirm the atmosphere is safe.

30. C — Sierra is the phonetic designation for the letter S under the NATO/ICAO phonetic alphabet, which is universally adopted in fire service radio communications. Using standardized phonetics prevents misunderstood transmissions of similar-sounding letters.

31. B — A four-wire smoke detector circuit uses one pair of conductors to supply continuous power to the detectors and a separate pair to carry the alarm signal back to the panel. This separation allows greater detector loads and more reliable supervision than a two-wire circuit.

32. D — A pendant sprinkler hangs downward from the supply pipe with the deflector positioned below the discharge orifice. The deflector directs water in a downward umbrella pattern, making pendant heads suitable for installation below finished ceilings.

33. A — A sprinkler wedge (or sprinkler stop) is inserted between the deflector and orifice of an activated head to stop the flow of water without shutting down the entire system. This allows fire control to be maintained while limiting water damage.

34. C — The first stabilization step on a vehicle resting on its wheels is to chock the wheels and add step chocks or cribbing under the rocker panels. Stabilization must precede any access cuts because vehicle movement during extrication can injure both the patient and rescuers.

35. B — An undeployed airbag remains a hazard because the capacitors retain charge for some time after the battery is disconnected and the inflator can still deploy. Rescuers must avoid placing their bodies or tools within the airbag's inflation zone.

36. A — LCES stands for Lookouts, Communications, Escape routes, and Safety zones. Every wildland firefighter must have all four elements in place at all times; the loss of any one element triggers immediate withdrawal to a safe position.

37. D — The head of a wildland fire is the most rapidly spreading portion of the perimeter, typically driven downwind or upslope by wind and topographic preheating. The head produces the longest flames and highest intensity, making it the most hazardous segment to attack directly.

38. C — SAMPLE is a patient history mnemonic: Signs/symptoms, Allergies, Medications, Past medical history, Last oral intake, and Events leading up to the illness or injury. It provides a structured approach to gathering relevant patient information.

39. B — Snoring respirations indicate partial upper airway obstruction, most commonly caused by the tongue falling back against the posterior pharynx in unconscious patients. Manual airway maneuvers such as the head-tilt/chin-lift or jaw-thrust typically resolve the obstruction.

40. A — The hot zone is the area of contamination immediately surrounding the release where airborne, splash, or contact hazards exist. Entry into the hot zone requires the highest level of PPE appropriate to the hazard and is restricted to trained, equipped personnel.

41. D — DOT Hazard Class 3 covers flammable liquids with flash points generally below 141°F (60.5°C) at standard pressure. The red placard with the number 3 alerts responders to ignitable liquid hazards such as gasoline, alcohol, and many solvents.

42. D — On the NFPA 704 placard, the blue diamond represents the health hazard rated from 0 (no hazard) to 4 (very short exposure could cause death or major residual injury). Red represents flammability, yellow represents instability, and white represents special hazards.

43. B — Conduction is heat transfer through direct molecular contact within a solid or between solids in contact. This is how heat travels through metal beams, pipes, and walls, allowing fire to extend into adjoining compartments even without flame contact.

44. A — Radiation is the primary heat transfer mechanism in wildland fires, preheating and drying vegetation ahead of the advancing flame front. Radiated heat dries fuels and lowers their ignition temperature, accelerating fire spread.

45. C — The personal alert safety system (PASS) sounds a loud audible alarm when the firefighter has been motionless for approximately 30 seconds. The alarm helps rescuers locate a downed firefighter by sound when visibility is limited.

46. B — A working firefighter inside an IDLH atmosphere should remain within reach of a charged attack line so the line is available for both protection from fire and as a physical reference path back to the exit. The hoseline is the firefighter's lifeline.

47. D — Webbing is highly versatile and is used to secure patients to litters, build improvised harnesses, package victims for rope rescue, and create anchors. Its flat profile distributes loads more comfortably than round rope against the body.

48. A — A figure eight on a bight forms a secure, easily inspected loop at the end of a rope that holds well under load and unties readily after loading. It is the standard knot for terminating life safety rope at an anchor.

49. C — The defining feature of a roof ladder is a pair of folding hooks at the tip that deploy outward to grip the ridge of a pitched roof. With the hooks set over the peak, the ladder lies flat against the slope and provides a stable working platform.

50. B — The K tool is driven into the face of a lock cylinder and then pulled outward to remove the entire cylinder from the door. Once the cylinder is out, a key tool is inserted to operate the locking mechanism directly.

51. D — A secondary search is a thorough, methodical search of the entire structure performed after the fire is under control. Because conditions allow for slower, more systematic coverage, the secondary search is more likely to locate victims missed during the rapid primary search.

52. C — Hydraulic ventilation uses a wide fog stream directed out a window or door opening to entrain and carry smoke from the room through the opening. The water spray creates a low-pressure zone behind it that draws air and smoke along with it.

53. A — Friction loss in fire hose is caused primarily by turbulence as water moves past the hose lining, couplings, and internal irregularities. Smoother lining and larger diameter both reduce turbulence and therefore reduce friction loss.

54. B — Friction loss increases roughly with the square of the flow rate, so doubling the gpm increases friction loss approximately fourfold. This relationship is captured in the friction loss formula $FL = CQ^2L$ and explains why higher flows require larger-diameter hose.

55. D — Static pressure is the pressure available at the hydrant when no water is being discharged. It represents the system's potential pressure and is measured before a flow test begins to establish the baseline reading.

56. C — Residual pressure is the pressure remaining at the test hydrant while water is flowing from another hydrant. The difference between static and residual pressure during a flow test is used to calculate available fire flow at any desired pressure.

57. A — Master stream devices are designed to flow 350 gpm or more, well beyond what handlines can deliver. They include deck guns, portable monitors, and elevated platform streams used for defensive operations on large fires.

58. B — The direct attack method applies water directly onto the burning fuel to cool it below its ignition temperature. This is the most efficient use of water for compartment fires where the seat can be reached and visibility allows the stream to be aimed accurately.

59. D — Indirect attack is used when fire conditions are too severe for entry. Water is applied into the heated atmosphere through an opening, where it converts to steam and absorbs enormous quantities of heat, knocking the fire down without requiring crew entry.

60. A — A water chute is constructed on scene using salvage covers and pike poles to form a channel that directs flowing water out of the structure through a window or door. Chutes are improvised quickly during firefighting operations to limit water damage.

61. C — A structure is returned to the owner only after a thorough check confirms no hidden fire and a documented transfer of custody occurs. This protects the department from liability if rekindle occurs and provides legal clarity about the scene's status.

62. B — Proper radio technique is to press the transmit key, pause briefly to allow the system to open, speak clearly, then release the key. The pause prevents the first words of the transmission from being cut off by the radio's keying delay.

63. D — Ionization detectors are most responsive to fast-flaming fires that produce small smoke particles in significant quantities. Photoelectric detectors are better suited to slow smoldering fires that produce larger smoke particles.

64. A — The riser is the vertical pipe that carries water from the supply main up through the building to the cross mains and branch lines. Sprinkler system components such as the alarm valve, flow switch, and main control valve are typically located at the riser.

65. C — The golden hour refers to the first 60 minutes after a severe traumatic injury, during which definitive care (typically surgical intervention) has the greatest chance of saving the patient's life. Time on scene must be minimized to maximize this window.

66. D — The B-post is the structural pillar between the front and rear doors of a four-door passenger vehicle, supporting the roof and providing mounting for the seat belts. Cutting the B-post is a common step in side removal during extrication.

67. B — A wildland fire shelter is designed to reflect radiant heat and provide brief protection from direct flame contact during entrapment. It is a last-resort survival tool, not a working platform, and deployment indicates that all other escape options have failed.

68. A — Current AHA guidelines direct rescuers to activate EMS first when an adult is found unresponsive and not breathing, then begin CPR. Early activation gets advanced resources and an AED en route while the rescuer provides immediate chest compressions.

69. C — Adult chest compressions should be at least 2 inches deep but not more than 2.4 inches. This depth range provides effective cardiac output while limiting the risk of internal injury from excessive compression depth.

70. B — Awareness-level responders are trained to recognize the presence of hazardous materials, isolate the area, deny entry, and request appropriate resources. They do not take offensive action and do not enter the hot zone.

71. D — Operations-level responders are trained to take defensive actions such as diking, damming, and diverting from a safe distance to confine the release. They do not attempt to plug or patch the source unless trained at the technician level.

72. A — The point of origin is the exact location where the heat source and the fuel first came into contact, initiating the fire. Identifying the point of origin is essential to determining the cause and is documented during the origin and cause investigation.

73. C — A pre-incident plan documents building access points, hazards, utility shut-offs, water supplies, key contacts, and other operationally relevant information. Personal or financial information about occupants is not appropriate for an operational plan.

74. B — Class A foam is designed for ordinary combustible (Class A) fires involving wood, paper, cloth, and similar fuels. The foam wets fuels more effectively than water alone and forms an insulating blanket that resists rekindle.

75. A — Class B aqueous film-forming foams (AFFF) work by forming a vapor-suppressing film on the surface of the burning liquid fuel. The film blocks oxygen from reaching the fuel and prevents flammable vapors from rising into the flame zone.

76. D — The chemical chain reaction is interrupted by extinguishing agents such as dry chemical, clean agents, and halon substitutes that chemically inhibit the free radicals produced during combustion. This is the fourth side of the fire tetrahedron and is the basis for many specialized agents.

77. C — Pyrolysis is the chemical decomposition of a substance caused by heat, breaking complex compounds into simpler ignitable vapors. Solid fuels must undergo pyrolysis before they can burn because flaming combustion occurs in the gas phase.

78. B — Type II construction uses noncombustible structural elements (such as unprotected steel) that may have limited or no fire-resistance rating. The lack of protection means structural failure can occur quickly when steel members are exposed to fire temperatures.

79. A — Truss assemblies transfer loads through interconnected members in tension and compression, so failure of a single component can collapse the entire truss almost instantly. This makes truss roofs and floors particularly dangerous during fire operations.

80. C — The thermal liner provides the primary protection against conducted and convected heat reaching the firefighter's body. It is typically a quilted multilayer assembly that traps insulating air while remaining flexible enough for movement.

81. D — Composite SCBA cylinders carry a 15-year service life from the date of manufacture and must be removed from service at the end of that period regardless of condition. The 15-year limit is set by DOT regulation due to the long-term effects of composite material fatigue.

82. B — Composite SCBA cylinders require hydrostatic testing every 5 years from the date of manufacture for the entire 15-year service life. The test confirms that the cylinder can still safely contain its rated pressure.

83. A — Kernmantle rope construction uses a load-bearing inner core (the kern) protected by a woven outer sheath (the mantle). This design provides high strength, good shock absorption, and resistance to abrasion, making it the standard for life safety rope.

84. C — A bowline forms a fixed, non-slipping loop at the end of a rope. It is widely used to secure a rope around an anchor point or a person and unties relatively easily even after being loaded, though it must be backed up with a safety knot.

85. D — The labeled designation of an extension ladder reflects its useful working length, which is less than the sum of section lengths because of required overlap between sections. A 24-foot extension ladder reaches less than 24 feet of vertical height when accounting for climbing angle.

86. B — Folding (attic) ladders have hinged beams that fold into a narrow profile, allowing them to fit through scuttle holes and other small openings. They are designed for interior use to reach attics and similar restricted-access spaces.

87. C — The K tool's blade is driven behind the lock cylinder rim using a flathead axe, then the cylinder is pulled out using the K tool's leverage. Once the cylinder is removed, a key tool is inserted to operate the lock mechanism.

88. A — Short, controlled axe swings landed flat on the halligan's striking surface deliver consistent force without endangering the firefighter holding the halligan. Long, forceful swings are uncontrolled and risk missing the target or striking the holder.

89. D — The drag rescue device (DRD) is a built-in webbing handle sewn between the outer shell and thermal liner of the turnout coat. It provides a strong, accessible attachment point so a downed firefighter can be dragged to safety by another responder.

90. B — Small children are carried close to the firefighter's chest while the firefighter crawls toward the exit. This keeps the child low in the cooler atmosphere near the floor and protects the child against the firefighter's body during the egress.

91. A — Natural ventilation depends on convection currents, prevailing wind, and the buoyancy of heated gases to move smoke from the structure through existing openings. No mechanical assistance is used, so positioning of openings determines effectiveness.

92. C — Horizontal ventilation through windows and doors is most appropriate when the fire is confined to a single compartment with exterior openings available. Cross ventilation from the windward to leeward side clears the room without disturbing other parts of the structure.

93. D — Booster hose has a thick, hard rubber wall and is stored on a reel rather than in a flat load. It is used for small grass fires, trash fires, and overhaul because it is easy to deploy quickly but is limited to low flow rates.

94. B — Portable water tanks used in tanker shuttle operations typically hold between 1,500 and 3,000 gallons and use a collapsible frame for transport and rapid deployment. The tank serves as a buffer reservoir at the dump site, allowing tankers to unload quickly and return for refills.

95. C — A jet siphon uses a Venturi effect to transfer water between portable tanks or from one container to another without requiring an additional pump. Compact and reliable, jet siphons keep water moving between dump tanks during tanker shuttle operations.

96. A — Nozzle reaction for a fog handline is calculated as $NR = 0.0505 \times Q \times \sqrt{NP}$. At 150 gpm and 100 psi nozzle pressure, the calculation yields approximately 75.75 pounds of force, which is at the upper end of what a two-person handline crew can safely manage.

97. D — Smoothbore handline tips operate at 50 psi nozzle pressure. The lower operating pressure produces a tight, solid stream with strong reach and minimal nozzle reaction relative to the gpm delivered.

98. B — The OSHA 1910.134 two-in/two-out rule requires two firefighters in IDLH atmospheres to be backed up by at least two firefighters outside who are equipped and ready to perform rescue. This ensures rapid intervention if the interior team becomes trapped or disoriented.

99. C — OSHA permits entry by fewer than the required number of personnel outside only when there is a known life hazard and immediate action could rescue the victim. This exception recognizes the value of life over strict procedural compliance in extreme situations.

100. A — Salvage covers should be inspected before and after each use for tears, holes, mildew, and damage to corner grommets. Damaged covers will leak and fail to protect contents, which defeats the purpose of the salvage operation.

101. D — A glossy alligator char pattern with deep, shiny blisters indicates a fast, intense fire that consumed surface fuel rapidly. Dull, large-pattern alligatoring with no shine indicates slow burning. This distinction helps investigators trace fire travel and intensity.

102. C — The initial size-up report should describe conditions found, actions being taken, and resources needed at the scene. This information allows the dispatcher and incoming units to align expectations and additional resources with the developing situation.

103. B — A flow switch (vane-type or paddle) detects movement of water in the riser and sends an electrical signal to the fire alarm panel when a sprinkler activates. The signal initiates alarm notification and dispatch of the fire department.

104. A — A Class I standpipe system provides 2.5-inch hose connections at each floor for use by trained firefighters. The system is intended for fire department use and does not include preconnected hose for occupants.

105. D — A deluge system uses open sprinkler heads supplied by a deluge valve that opens upon receipt of a detection signal. When the valve opens, water flows from every head simultaneously, providing rapid total flooding of high-hazard areas such as aircraft hangars.

106. C — Scene safety is always the first priority at any incident, including hazards from passing traffic, leaking fuel, fire potential, and unstable vehicle positioning. Rescuers cannot help patients if they themselves become casualties from preventable scene hazards.

107. B — Roof flap removal involves cutting the two posts on one side of the vehicle and folding the roof back like the page of a book. This technique preserves the opposite roof attachment as a hinge and provides broad access without complete roof removal.

108. A — Direct attack on a wildland fire is conducted at the immediate edge of the fire by applying water, dirt, or hand tools directly to the burning fuel. It is used when fire intensity and accessibility allow firefighters to work safely along the perimeter.

109. D — The black, or burned-over area, is generally considered a potential safety zone because the available fuel has already been consumed and cannot reburn. Crews threatened by an advancing fire may deploy into the black if no other safety zone is accessible.

110. C — Chest compressions for an adult are delivered at the center of the chest on the lower half of the sternum between the nipples. Placement too high or over the xiphoid reduces effectiveness and increases injury risk.

111. B — Current AHA guidelines call for one-rescuer adult CPR at a ratio of 30 compressions to 2 ventilations, repeated through five complete cycles before reassessing. The 30:2 ratio balances perfusion from compressions against the oxygen delivered by rescue breaths.

112. A — A bill of lading is the shipping document that identifies the products being transported, their quantity, the shipper, and the consignee. At a transportation incident, the bill of lading is a key source of information about the hazardous materials involved.

113. D — A safety data sheet (SDS) contains chemical, physical, health, and emergency response information for a specific substance, organized into 16 standardized sections. SDSs are required to be readily accessible wherever the material is used or stored.

114. C — The lower flammable limit (LFL) is the minimum concentration of fuel vapor in air below which combustion will not occur because the mixture is too lean. Below the LFL the mixture lacks sufficient fuel to sustain a flame even with an ignition source.

115. D — Vapor density compares the weight of a gas to air, with air assigned a value of 1.0. Gases with vapor density above 1 sink and accumulate in low areas, while gases below 1 rise. This determines where to monitor and where to place ventilation.

116. B — Spalling occurs when moisture trapped within concrete heats rapidly, converts to steam, and creates internal pressure that fractures the surface. The flaking and chipping that result can expose reinforcing steel and weaken the structural member.

117. D — A parapet wall is the portion of an exterior wall that extends above the roofline. Parapets can provide a fire barrier between roofs of adjoining structures but also pose a collapse hazard to firefighters operating on roofs or in collapse zones.

118. C — The outer shell of turnout gear provides flame, abrasion, cut, and tear resistance during structural fire fighting. It is constructed from inherently flame-resistant fibers such as PBI, Nomex, and Kevlar blends.

119. A — The protective hood covers the head, neck, and ears where the helmet, coat collar, and SCBA mask meet, closing the gap of unprotected skin. Without the hood, this area is highly vulnerable to burns from heat and embers.

120. B — The over-the-head donning method involves lifting the SCBA over the head and allowing the harness straps to drop into position on each shoulder. The user then adjusts shoulder, chest, and waist straps for fit.

121. C — A rope log documents the history, use, inspection, and condition of each piece of life safety rope. Maintaining the log is required so the condition of the rope can be tracked and so it can be retired when criteria are met.

122. D — The water knot (also called a ring bend or tape knot) is the standard knot for joining two ends of tubular webbing or forming a webbing loop. The flat profile of webbing requires a knot specifically designed not to roll or capsize under load.

123. A — The dogs (also called pawls or rung locks) lock the fly section in place at each rung, preventing the fly from retracting once it has been raised. They engage automatically as the fly is extended.

124. B — The halyard is the rope used to extend the fly section of an extension ladder. The firefighter at the butt pulls the halyard hand-over-hand to raise the fly to the desired height, then secures the halyard with a clove hitch and safety.

125. C — The proper striking position is at the same level as the lock with the adz angled slightly downward toward the door. This drives the tool behind the lock and provides the leverage needed to defeat the locking mechanism.

126. A — For an outward-opening door, the fork end of the halligan is driven between the door and jamb at the locking side. Once seated, the halligan is pried outward toward the firefighter to overcome the lock.

127. D — In an oriented search, one firefighter remains at the doorway or hallway acting as the orientation point while another searches the individual room. The fixed reference firefighter maintains the path back to safety and tracks team accountability.

128. B — A rescued victim should be removed by the safest and most direct route, which may be a window, alternative door, or a different exit than the entry point. Speed and the protection of the victim from continued exposure are the priorities.

129. C — A trench cut is a defensive ventilation tactic used in large structures with active fire spread. A long, narrow cut completely across the roof channels heat and smoke upward and stops the horizontal extension of fire through the cockloft or attic.

130. A — Mechanical ventilation includes positive pressure (fan pushing air into the structure), negative pressure (fan or ejector pulling air out), and hydraulic methods (fog stream entraining air). All three rely on a mechanical means to move air rather than natural buoyancy alone.

131. D — The nozzle operator should be crouched low with the nozzle held in front and the body braced against the reaction force. The low position keeps the firefighter below the heated gas layer and provides a stable platform to manage the nozzle.

132. B — A wye appliance divides one larger hoseline into two smaller lines, typically supplying two attack lines from a single supply. Each outlet on the wye usually has a gate valve so flow can be controlled independently.

133. C — Drafting from a static water source requires hard suction hose with a strainer attached to keep debris from entering the pump. Hard suction is rigid enough to resist the negative pressure of drafting, and the strainer protects internal pump components.

134. A — Required fire flow is calculated based on the construction type, occupancy classification, total area, and exposure of the structure. Larger, more combustible, or higher-hazard occupancies require greater fire flow to control and extinguish a fire.

135. B — Cavitation occurs when the pump tries to discharge more water than is supplied to the intake, causing pressure on the impeller suction side to drop below the vapor pressure of water. The resulting vapor bubbles collapse violently and damage the impeller.

136. D — Nozzle reaction is the equal and opposite force exerted on the nozzle as water is accelerated and ejected, an application of Newton's third law. The force pushes back on the operator and must be controlled through proper stance and grip.

137. C — A transitional attack briefly applies water from outside the structure onto the fire to knock down the main body of fire, then transitions to interior attack on the seat. This approach cools the interior and improves conditions for the crew making entry.

138. A — A defensive attack is used when the structure is unsafe to enter and the strategy is to protect exposures from fire extension. Crews operate from safe positions outside the collapse zone and use master streams to confine the fire.

139. B — Plastic sheeting is often preferred over reusable salvage covers when large areas need protection because the disposable material is cheaper than laundering and inspecting covers afterward. Sheeting can also be cut to size on scene.

140. D — A PAR (personnel accountability report) verifies the location, function, and welfare of every member operating on the fireground. PARs are called at regular intervals and at benchmark events such as fire under control or change in conditions.

141. A — A manual pull station is a wall-mounted device that allows occupants to manually initiate the fire alarm system from a fixed location. Pull stations are required at all designated exits and along egress paths in most occupancies.

142. C — A Class III standpipe combines features of Class I and Class II systems, providing both 1.5-inch connections for occupants and 2.5-inch connections for fire department use. This dual capability is common in high-rise occupancies.

143. B — Vehicle stabilization must precede any access or disentanglement operations because an unstable vehicle can shift unexpectedly, injuring both the patient and rescuers. Stabilization removes uncontrolled movement from the equation before sharp tools and forces are introduced.

144. D — The most common method of stabilizing a vehicle on all four wheels is to chock the wheels and place cribbing or step chocks under the rocker panels at four points. This creates a stable platform that resists rocking and rolling.

145. A — A backfire is set from a control line toward the main fire to consume fuel ahead of the advancing fire front, removing the fuel side of the fire triangle and stopping the spread. It is a planned tactic used by trained crews in coordinated wildland operations.

146. C — Universal (or standard) precautions require treating every patient as if potentially infected with bloodborne pathogens. This approach ensures consistent use of barriers regardless of perceived or known patient status and reduces the risk of provider exposure.

147. B — Respiratory distress in an adult is indicated by labored breathing, use of accessory muscles, audible airway sounds (such as wheezing, stridor, or gurgling), abnormal respiratory rate, and altered mental status. Recognizing these signs allows for early oxygen delivery and airway support.

148. D — A corrosive material can cause visible destruction or irreversible damage to living tissue at the site of contact. Strong acids and bases are classic examples and require immediate copious water flushing to limit injury.

149. C — The ERG specifies a default initial isolation distance of 330 feet (100 meters) in all directions for an unknown hazardous material release. This default establishes a protective perimeter while responders identify the material and refine the action zone.

150. A — A V-pattern is the typical pattern of fire growth on a vertical surface above the point of origin, formed as heat and flame rise and spread outward from a single source. Investigators trace V-patterns from their narrowest point downward to help locate the area of origin.