PRACTICE EXAM 20: FIREFIGHTER I & II SIMULATION (150 QUESTIONS)

1. Your engine arrives at a working fire in a 2-story platform-frame residence with reported entrapment of a child in the back bedroom. Heavy brown turbulent smoke is pushing under pressure from second-floor windows and the front door. Initial water supply is being established by the second-arriving engine. The most appropriate initial action for your crew is?

A. Defensive operations from the exterior until additional units arrive on scene

B. Conduct primary search without coordinated fire attack to maximize search speed

C. Coordinate aggressive interior fire attack with primary search to address survivability window

D. Wait for the truck company to complete ventilation before any operations begin

2. You arrive at a single-story residence with a working fire and observe that smoke from the front door is pushing outward in rapid pulses. Wind is blowing from behind the structure toward your position. The most appropriate immediate consideration is?

A. Open additional doors to enhance ventilation throughout the structure

B. Apply water directly into the front door opening to attack the fire

C. Recognize that uncoordinated openings could create wind-driven fire conditions

D. Have the homeowner close the front door to reduce smoke release

3. After fire control at a residential fire, your crew begins overhaul. Visible smoke has cleared and atmospheric monitoring shows CO at 75 ppm; CO IDLH is 1,200 ppm and OSHA PEL is 50 ppm. The most appropriate action is?

A. Continue overhaul without SCBA since the level is below IDLH thresholds

B. Continue overhaul with SCBA optional since the level is below IDLH thresholds

C. Wait until the level drops below 50 ppm before any overhaul activities

D. Continue overhaul with SCBA in use since the level exceeds the OSHA PEL

4. You are operating in a high-rise standpipe scenario on the 18th floor. The standpipe outlet shows 65 psi, and you are using a smooth-bore handline with 50 psi nozzle pressure and approximately 25 psi friction loss for the 150-foot stretch. The expected nozzle pressure is approximately?

A. 65 psi delivered to the nozzle from the standpipe outlet directly

B. 50 psi delivered to the nozzle as the standard operating pressure

C. 40 psi delivered (65 psi outlet − 25 psi friction loss in the stretch)

D. 25 psi delivered to the nozzle from the standpipe operation

5. You are conducting primary search on the second floor of a residence with a fire on the first floor. After 4 minutes you find a victim in a child's bedroom. Conditions are deteriorating with descending smoke layer. The most appropriate action is?

A. Communicate the find, rapidly remove victim to safety, coordinate with crew

B. Continue the search of remaining rooms before victim removal is attempted

C. Wait for additional crew assistance before any victim movement is begun

D. Conduct medical assessment in place before removal of the victim

6. A 2018 residence with lightweight wood truss construction has been burning for an estimated 12 minutes. Smoke is venting from the attic ridge with mid-pressure brown smoke. Your truck company is preparing for vertical ventilation operations. The most appropriate consideration is?

A. Lightweight truss construction has likely sustained significant damage; extreme caution required

B. Lightweight truss construction is identical to heavy timber and tactics apply directly

C. The 12-minute duration is insufficient to compromise truss structures at all

D. Vertical ventilation should be conducted with maximum personnel for efficiency

7. Your engine is the third arriving at a working fire in a strip mall. The first engine is attacking the involved unit, and the second engine is providing exposure protection to the adjacent unit. You observe smoke pushing from the eaves of three additional units along the strip. The most appropriate action is?

A. Conduct interior attack in the first uninvolved unit independently

B. Begin defensive operations on the exterior of the strip mall structure

C. Coordinate with command to address attic involvement spreading laterally

D. Stage the engine and wait for command direction without action

8. At a working fire in a 3-story apartment building, your crew is operating an attack line on the second floor. The pump operator reports the supply hydrant is producing only 350 gpm at 20 psi residual when the operation requires 500 gpm. Two attack lines are in operation. The most appropriate action is?

A. Communicate the supply limitation to command for supplemental water supply

B. Continue operations at the reduced flow without coordination changes

C. Shut down one of the two attack lines to match the available supply

D. Increase the pump discharge pressure to compensate for the supply

9. You are operating in a residential basement fire. The basement has only the stairway as egress. As you advance the attack line, you observe that the floor above is showing visible char on the underside and significant heat. The most appropriate consideration is?

A. The floor may be approaching structural failure; assess collapse risk for crews above and your egress

B. The floor is normal and the char is decorative in nature for this construction type

C. The floor compromise is unrelated to your basement operation directly

D. The floor should be flooded with water from below to cool it

10. Your crew is conducting forcible entry on a commercial occupancy with a metal roll-up door and a pedestrian door adjacent. The roll-up door is locked and the pedestrian door has a deadbolt and multiple locks. Time is critical because of reported entrapment. The most appropriate entry approach is?

A. Force the roll-up door using hand tools for the largest opening

B. Cut through the building's exterior wall for the most direct access route

C. Force the pedestrian door using through-the-lock or conventional forcing

D. Wait for specialized hydraulic forcible entry equipment to arrive on scene

11. You are operating a 2½-inch attack line for an interior commercial fire with a 250 gpm smooth-bore tip. The line is stretched 200 feet through multiple corners. The pump operator reports the discharge pressure is 110 psi. The most likely operational consideration is?

A. The 110 psi pump pressure is excessive for the 2½-inch operation

B. The line may have inadequate pressure for the friction loss in the 200-foot stretch

C. The line is operating at the correct pump pressure for this configuration

D. The line should be reduced in length for better operational pressure

12. At a hazmat incident, your crew arrives to find a placard displaying number 1219 in an orange diamond, with a small spill near the involved vehicle. ERG indicates the material is isopropyl alcohol, flash point 12°C, with established isolation distances. The most appropriate initial action is?

A. Approach the spill aggressively to contain the source of the release

B. Establish isolation, eliminate ignition sources, and conduct operations per ERG

C. Apply water to the spill to dilute the alcohol and reduce flammability risk

D. Apply foam directly to the spill without further consideration of the material

13. Your engine is staged at a working fire with reports of trapped occupants. The first-arriving engine is conducting fire attack, and the truck company is conducting search. Your assignment is to back up the attack with a second line. As you advance toward your position, the attack crew reports increasing difficulty maintaining fire control. The most appropriate action is?

A. Advance the backup line to support the attack crew's operation immediately

B. Wait until the attack crew calls for additional assistance before advancing

C. Establish your own attack from a different position to flank the fire

D. Stage the line outside until directed otherwise by command

14. At a residential fire, you observe that the smoke from a second-story window has a thick black turbulent character with high velocity. The window above shows lighter smoke at lower pressure. The most appropriate operational interpretation is?

A. The second-story window indicates significant fire intensity nearby; conditions warrant tactical caution

B. The two windows show identical conditions and no operational distinction is needed

C. The conditions indicate that the fire has self-extinguished in both rooms

D. The conditions are normal for residential fires of this type without significance

15. Your truck company is operating on a residential roof for vertical ventilation. The saw operator reports the cutting effort has become noticeably labored partway through the cut, and the felt material is releasing dark smoke from the cut. The most appropriate action is?

A. Continue the cut with increased downward pressure on the saw

B. Switch to a different cut location for better roof access

C. Disengage and assess the saw and cut location for the cause of the change

D. Stop the cut, disengage, and immediately retreat from the roof to safer position

16. You are operating in a residential structure where the homeowner reports that they shut off the central air conditioning system before the fire department arrived. However, you observe that smoke is being drawn into the return air vents and circulated through the structure. The most appropriate consideration is?

A. The homeowner's report is sufficient and operations should proceed without further action

B. The HVAC is operating correctly because the smoke is being drawn appropriately

C. The smoke movement is unrelated to the HVAC system status currently

D. The HVAC may still be circulating air; verify the actual status and shut down if needed

17. Your engine is supplying a sprinkler system FDC at a working commercial fire. The pump is supplying 150 psi to the FDC, which is the standard supplemental pressure. After 20 minutes of operation, the residual pressure on the supply gauge is dropping from 25 psi to 15 psi. The most appropriate action is?

A. Continue supplying the FDC at 150 psi without modification to the operation

B. Investigate the supply pressure drop and coordinate with command for additional supply

C. Increase the FDC supply pressure to 200 psi to compensate for the drop

D. Shut down the FDC supply because the residual pressure has decreased

18. Your crew is assigned to RIC at a working fire. Your equipment includes a RIC pack, spare cylinder, tools, and lighting. Personnel are positioned at the entry point. The interior crew transmits a MAYDAY with location and air status. The most appropriate immediate action is?

A. Deploy with equipment to the reported location, coordinate with command, and initiate rescue

B. Wait for the MAYDAY firefighter to provide additional information before deploying

C. Continue staging until command directs deployment of the RIC

D. Request additional resources before deploying with the existing crew

19. At a residential fire, your truck company has placed a 24-foot extension ladder to a second-story window for rescue. The ladder is at 75 degrees with the tip at the windowsill. A civilian victim is at the window. The most appropriate rescue technique is?

A. Have the victim climb down independently using the ladder beams for support

B. Position rescuer on the ladder; assist the victim to a controlled descent

C. Have the victim wait at the window until additional rescue resources arrive

D. Move the ladder to a different window for better rescue positioning

20. Your engine is operating at a working fire in a residence with multiple occupants reported. The first-arriving company has initiated fire attack and search. A neighbor approaches you and states that there is an elderly person in the back basement room who uses a wheelchair. The most appropriate action is?

A. Continue your current assignment without modification based on the report

B. Communicate the information to command immediately for coordinated rescue

C. Initiate independent basement rescue without coordination with the operation

D. Ask the neighbor to provide additional information before any action is taken

21. You are operating in a residential structure where the smoke conditions are improving as ventilation is established by the truck company. The smoke is transitioning from thick black turbulent to lighter brown laminar. The interior temperature is decreasing. The most appropriate consideration is?

A. The fire has been completely extinguished and operations can be discontinued

B. The conditions indicate fire growth that requires immediate tactical adjustment

C. The conditions indicate the ventilation and attack are effectively combined; continue and reassess

D. The conditions are unrelated to the ventilation effects on the fire

22. At a residential fire, you discover during overhaul that the residence has a continuous open vertical pipe chase from basement to attic. Fire has been controlled on the first floor. The most appropriate action is?

A. Conduct overhaul on the first floor only without checking other levels

B. Apply water to the basement level to address any potential fire spread there

C. Conduct overhaul on the basement level only without checking upper areas

D. Conduct overhaul throughout the vertical chase, basement, first floor, and attic for hidden fire

23. Your crew is operating a hose line in a residence and observes that the line is being pinched by a partially closed door. The line pressure at the nozzle has dropped noticeably. The most appropriate action is?

A. Continue operations and tolerate the reduced pressure for now

B. Pull harder on the line to overcome the pinch from the partial closure

C. Cut the line at the pinch point to access water flow at the nozzle

D. Address the door to clear the line and restore proper water flow to the nozzle

24. At a working fire, you observe that the first-arriving company has stretched a 1¾-inch attack line that is approximately 50 feet short of reaching the involved area. The pump operator is supplying the line. The most appropriate action is?

A. Have the attack crew continue with the line that is 50 feet short

B. Cut the attack line at the apparatus to extend it with new hose

C. Add an additional section of hose or stretch a new appropriate-length line

D. Reduce pump pressure to compensate for the inadequate line length

25. You are operating in a smoke-filled commercial occupancy with a thermal imaging camera. The camera shows a uniform thermal signature throughout the room with no variation. The most appropriate interpretation is?

A. The room is at normal temperature without any heat sources present

B. The thermal conditions are extreme, with TIC saturation requiring careful tactical assessment

C. The camera is malfunctioning and operations should continue without TIC support

D. The thermal conditions are improving toward fire extinguishment

26. At a hazmat incident with a confirmed flammable liquid release, your crew is establishing isolation zones. The wind is from the north at 10 mph. The release is approximately 50 gallons. The most appropriate hot-zone consideration is?

A. The isolation distance is irrelevant because the spill is small

B. Establish isolation based on the ERG-recommended distance with downwind awareness for vapor travel

C. Apply water directly to the spill without isolation considerations

D. Allow personnel to enter the spill area without PPE for inspection

27. Your engine is operating at a commercial fire. The standpipe pressure target is 100 psi at the outlet on the fire floor, with the building fire pump providing supplemental pressure. The outlet pressure is reading 75 psi. The most appropriate action is?

A. Communicate the pressure shortfall to command and pump operator for assessment

B. Continue operations at the reduced pressure without coordination changes

C. Add additional sections of hose to the line to compensate for low pressure

D. Reduce the nozzle pressure expectations for the operation accordingly

28. You are conducting a primary search in a residence and find a smoke detector mounted on a hallway wall (rather than ceiling) approximately 4 feet from the floor. The detector shows no power indicator. The most appropriate consideration is?

A. The detector mounting is correct and the lack of power is from the fire

B. The detector is irrelevant to the search activities currently

C. The detector should be ignored as a search consideration in this scenario

D. The detector was non-functional and improperly mounted; document for the investigator

29. At a working fire, your truck company observes that the structure has fire showing from two non-adjacent rooms on the same floor, with no fire in between. The fire pattern is irregular. The most appropriate consideration is?

A. The pattern is consistent with normal accidental fire spread between rooms

B. The pattern indicates uncoordinated fire growth from a single ignition

C. The pattern requires no special documentation for the investigation

D. The pattern may indicate multiple ignition points warranting investigation as possibly incendiary

30. You are operating in a residence where the smoke layer has descended to within 4 feet of the floor in the room you are searching. The temperature is increasing rapidly through your PPE. The most appropriate action is?

A. Communicate conditions to crew, prepare for immediate withdrawal or attack line readiness, reassess

B. Continue searching the room without modification to operations

C. Apply water from a personal small extinguisher to the smoke layer

D. Remove your face piece briefly to gauge the temperature directly

31. Your crew is operating at a residential fire where the homeowner reports that an oxygen-dependent occupant is in the back bedroom with a portable oxygen concentrator. The most appropriate operational consideration is?

A. Oxygen-enriched local atmosphere intensifies fire; tactical adjustments and rapid rescue priority

B. The oxygen concentrator is unrelated to fire operations and tactics

C. The oxygen concentrator improves the residence's safety profile during the fire

D. The oxygen concentrator should be left running during the rescue operation

32. At a working fire in a 3-story apartment building, your engine arrives third. The first two engines have established fire attack and supply. Reports indicate multiple residents may be on upper floors. The most appropriate assignment for your crew is?

A. Initiate independent fire attack from the rear of the structure

B. Establish a second supply line from a separate hydrant for redundancy

C. Conduct vertical ventilation on the roof of the apartment building

D. Coordinate with command for assignment focused on upper-floor search and rescue

33. You are operating at a working fire with a wind-driven condition. Wind is blowing at 25 mph from the west, and the fire is venting through eastern windows. Your crew has been assigned to conduct attack from the west side. The most appropriate consideration is?

A. The wind is irrelevant to attack operations from the west side directly

B. The wind direction supports the attack from the west naturally

C. The wind from the west creates an inlet path; attack from the west may push fire toward crews

D. Wind-driven attack from the west uses the wind to support fire flow toward the east exit

34. Your crew is operating at a residential fire with a confirmed basement fire and reports of trapped occupants on the first floor. The first floor smoke is moderate, but the basement is severely involved. The most appropriate operational priority is?

A. Address the basement fire to remove the source of the heat affecting the first floor occupants

B. Search the first floor exclusively without basement fire attack to maximize search speed

C. Conduct exterior defensive attack on the basement without interior search operations at all

D. Wait for the basement fire to be controlled before any first floor search activities

35. At a hazmat incident with a confirmed pesticide release, your crew is operating per the ERG. The wind has shifted, changing the downwind direction by 90 degrees. The most appropriate action is?

A. Continue operations without modification to the isolation zones currently established

B. Re-establish isolation zones to reflect the new wind direction immediately

C. Apply additional water to the release area to suppress vapor production

D. Move closer to the release to maintain the original isolation pattern

36. You are operating a 2½-inch attack line at an interior commercial fire. The line is being supplied by the engine through 200 feet of 5-inch supply hose from the hydrant. The pump is operating at 120 psi discharge. The hydrant residual is 15 psi. The most appropriate consideration is?

A. The hydrant residual approaches the minimum operating pressure; supplemental supply should be established

B. The pump pressure is excessive for the operation and should be reduced

C. The supply hose is too long for the current operational configuration

D. The hydrant residual is normal and the operation can continue indefinitely

37. Your truck company arrives at a residential fire and observes a 32-foot wood-frame structure with a wood-shake roof. The fire has been burning for an estimated 15 minutes with heavy involvement of the attic space. The most appropriate ventilation consideration is?

A. Conduct standard vertical ventilation with personnel directly on the roof surface

B. Conduct horizontal ventilation only because the roof is unsafe

C. Wait for additional crews before any ventilation operations begin

D. Recognize the elevated roof failure risk; consider trench cut, exterior fan, or alternative methods

38. At a residential fire, you discover a victim in the master bedroom showing burns consistent with thermal exposure but no apparent inhalation injury. The victim is unresponsive. The most appropriate action is?

A. Continue search for additional victims without addressing this victim immediately

B. Communicate the find, rapidly remove the victim to safety, and request EMS support

C. Conduct detailed assessment in place before any victim movement is initiated

D. Wait for EMS to arrive on scene before any patient contact or movement

39. Your crew is conducting forcible entry on a heavy steel commercial door with multiple deadbolts. Time is critical. The pedestrian door is the only entry option to the involved area. The most appropriate forcing approach is?

A. Use through-the-lock entry with specialized tools to defeat the deadbolts efficiently

B. Force the entire door with maximum-effort conventional forcing without tool selection

C. Wait for specialized hydraulic forcing equipment before any entry attempts

D. Skip the door and breach the adjacent exterior wall for direct entry

40. You are operating at a residence with active sprinkler operation. Three heads have activated and are providing apparent fire control. The most appropriate consideration is?

A. Shut down the sprinklers immediately to minimize water damage to property

B. Allow sprinkler operation to continue, supplement with attack line as needed, address shutdown after control

C. Conduct independent fire attack without coordination with the sprinkler system

D. Wait for the sprinklers to completely extinguish the fire before any attack

41. Your engine is supplying multiple discharge lines at a working fire. The discharge pressure on Line A is normal but Line B is reading 50 psi lower than expected. The pump operator confirms the valve settings are correct. The most likely cause for Line B is?

A. The pump is malfunctioning at the discharge valve for Line B specifically

B. The pump operator has set the wrong pressure for Line B's expected operation

C. Line B may have a kink, partial blockage, or appliance restriction creating friction loss

D. Line B is operating correctly and the pressure difference is normal

42. At a residential fire with reported children trapped, your crew is conducting primary search on the second floor. You find a closed bedroom door with no smoke pulling under it and the door at ambient temperature. The most appropriate action is?

A. Open the door carefully, prepare for possible viable occupant, and search the room

B. Force the door open quickly without preparation or assessment of the conditions

C. Bypass the door because the lack of heat indicates no involvement requiring search

D. Apply water to the door before opening to suppress any potential conditions

43. Your crew is operating at a working fire where the fire has progressed to a fully developed stage with multiple rooms involved. Defensive operations have been ordered. The most appropriate consideration for your defensive position is?

A. Position close to the structure for the most direct application of water

B. Position based on convenience without specific safety distance considerations

C. Position outside the collapse zone (1.5× structure height) with adjustments for lean and conditions

D. Position to maintain visual contact with the fire from any safe distance

44. You are operating in a residential structure where the smoke layer is showing turbulent flow with intermittent flame ignition at the layer interface (rollover). The most appropriate action is?

A. Continue operations and apply water only to the seat of the fire

B. Recognize rollover indicates imminent flashover; apply water to upper layer, prepare for withdrawal

C. Remove SCBA face piece briefly to better assess the conditions visually

D. Apply water to the floor to suppress any falling debris from the layer

45. Your engine is at a hazmat incident with a confirmed natural gas leak from a residential service line. The gas company has been contacted but is 45 minutes from the scene. The most appropriate immediate action is?

A. Apply water to the area to suppress the gas release temporarily

B. Approach the leak source to identify the precise location of the release

C. Establish isolation distance, eliminate ignition sources, atmospheric monitoring, evacuate the area

D. Cut the gas line with available tools to stop the release at the source

46. At a residential fire, your crew is conducting overhaul. You observe that the structure has a metal-truss roof system with significant char on the truss members. The truss connectors appear deformed. The most appropriate action is?

A. Continue overhaul operations without modification due to the truss observations

B. Apply water to the trusses to cool them and restore structural integrity

C. Apply additional weight to the trusses to test their load-bearing capacity

D. Recognize the truss compromise and limit personnel exposure; consider structural engineer consultation

47. Your truck company is operating ground ladders at a multi-story residence. Three ladders have been placed to second-story windows for occupant egress. The most appropriate consideration for ladder placement is?

A. The ladders should be placed at 60 degrees from horizontal for maximum stability

B. The ladders should be placed at 90 degrees (vertical) for the most direct access

C. The ladders should be placed at any convenient angle based on space available

D. The ladders should be at 75 degrees with tip at sill level for victim egress

48. You are conducting a search in a residence and encounter a victim under the bed in the master bedroom. The victim is unconscious. The smoke conditions allow for visibility at the floor level. The most appropriate action is?

A. Continue the search and return for the victim after additional rooms are checked

B. Conduct detailed medical assessment in place before any movement is initiated

C. Communicate the find, remove the victim rapidly using appropriate technique, coordinate with crew

D. Wait for additional resources before victim movement is attempted

49. At a working commercial fire, the building's standpipe system is being used. The first attack line has been placed on the fire floor, but the standpipe pressure is dropping. The pump operator confirms the FDC supply pressure is correct at 150 psi. The most likely cause is?

A. The pump operator has set the wrong pressure for the FDC supply currently

B. The standpipe outlet on the fire floor has a faulty pressure-reducing valve

C. The supply hose is too long for the operational configuration

D. The building fire pump may be malfunctioning; check the pump and supplement supply

50. Your crew is operating at a working fire with reports of multiple trapped occupants. The structure is showing significant fire involvement with smoke pushing from all sides. A neighbor reports that the residents have already self-evacuated. The most appropriate action is?

A. Verify the report and adjust operations based on confirmed information; continue rescue posture if uncertain

B. Discontinue search operations based on the neighbor's report immediately

C. Continue search operations without verification of the report from the neighbor

D. Ignore the report and continue search operations as originally planned

51. You are operating a smooth-bore handline (1¾-inch with 7/8-inch tip flowing 161 gpm) at 50 psi nozzle pressure. The pump operator reports discharge pressure of 95 psi for the 150-foot stretch. The expected discharge pressure should be approximately?

A. 50 psi (matching the nozzle pressure)

B. 95 psi (50 psi nozzle + ~45 psi friction loss for 7/8-inch tip flow at 150 ft)

C. 120 psi (50 psi nozzle + 70 psi friction loss)

D. 150 psi (matching combination nozzle operation)

52. At a working fire in a residence, your crew arrives to find heavy fire showing from a first-floor window with the front door open. Smoke is pushing from the door and pulling air toward the window. The most appropriate consideration is?

A. The flow path is irrelevant to the operational decisions being made

B. The flow path will reverse when fire department operations begin

C. The flow path should be enhanced by opening additional doors and windows

D. The flow path runs from the door to the window; crews on the path face heat/fire exposure

53. Your engine is supplying an attack operation at a residential fire. The pump is operating at 175 psi discharge pressure with two 1¾-inch attack lines. After 10 minutes, the engine's coolant temperature gauge reads at the maximum range. The most appropriate action is?

A. Continue operations and monitor the temperature throughout the operation

B. Increase pump pressure to compensate for the engine temperature issue

C. Shut down the pump immediately to prevent severe engine damage; relief apparatus

D. Reduce attack flow to lower the engine load and prevent further temperature rise

54. You are operating in a residence with a known fire that has been controlled by fire department attack. The fire has been confined to one room with minimal extension. Your crew is conducting overhaul. The most appropriate sequence is?

A. Conduct overhaul rapidly without preservation considerations for any evidence

B. Apply water continuously to all surfaces in the room without inspection

C. Carefully expose voids, check for hidden fire, preserve evidence in the area of origin

D. Move all furniture out of the room before any inspection or overhaul is initiated

55. At a working fire, your truck company is operating positive-pressure ventilation. The PPV fan is positioned at the front door at the typical 6-8 foot distance, with the exhaust opening established at the rear. After 90 seconds, smoke is still filling the structure rather than clearing. The most appropriate consideration is?

A. The PPV is operating correctly; the smoke clearing requires additional time

B. The fan distance or angle, exhaust opening size, or inlet sealing may not be correct; reassess setup

C. The PPV should be replaced with negative-pressure ventilation for better effectiveness

D. The structure has no exhaust path and PPV cannot be effective

56. Your crew is operating at a residential fire where the homeowner reports that an elderly resident has limited mobility and uses oxygen. The resident is in the back bedroom. The most appropriate immediate action is?

A. Coordinate rescue with command; prioritize search of back bedroom with appropriate technique

B. Continue current operations without modification based on the report

C. Wait for EMS to arrive before any rescue or evacuation activities begin

D. Direct the homeowner to retrieve the resident independently from the back

57. You are conducting forcible entry on a residential inward-opening door with a deadbolt and a knob lock. The door is in a wooden frame. The most appropriate forcing approach is?

A. Use a chain saw to cut the door for the most direct entry to the room

B. Wait for hydraulic forcible entry equipment to arrive before any forcing

C. Use conventional forcing with the Halligan and flat-head axe (the irons) to defeat the locks

D. Force the door using only manual hand pressure without tools

58. At a residential fire, your crew encounters a victim trapped in the basement with rising water from a damaged plumbing fixture. The water is at the victim's chest level and rising. The most appropriate immediate action is?

A. Coordinate with command for water shutoff and rapid victim extraction

B. Initiate immediate victim removal while requesting utility water shutoff and additional resources

C. Wait for the water to drain before attempting victim removal from the basement

D. Apply additional water to the area to dilute any contaminants in the water

59. Your engine is operating at a working fire. The fire has been controlled and your crew has transitioned to overhaul. You observe that the structure's electrical panel has been damaged by fire and shows signs of heat damage. The most appropriate consideration is?

A. The panel can be inspected directly for damage assessment immediately

B. The panel is safe to approach once the fire is controlled in the area

C. The panel should be flooded with water to cool any remaining heat

D. The panel may have energized conductors; coordinate with utility for service isolation before approach

60. At a working fire, your truck company observes that the building has masonry construction with steel-frame internal supports. The fire has been burning for 25 minutes with significant involvement. The most appropriate consideration is?

A. The masonry construction provides indefinite fire resistance for operations

B. The steel-frame components may have lost structural strength from prolonged heat exposure

C. The construction has eliminated all collapse considerations from the operation

D. The construction is safe to operate within regardless of the burn time observed

61. You are operating a hose line at a working fire and the nozzle reaction force becomes significantly stronger than expected. The pump operator reports normal operating pressure. The most likely cause is?

A. The flow has decreased and the reaction force is artificially low

B. The nozzle has been damaged and is no longer producing the expected stream

C. The pump may be producing higher-than-reported pressure, or the gauge is malfunctioning

D. The hose has been replaced with a different size during the operation

62. Your crew is at a hazmat incident with confirmed chlorine release from a pool maintenance shed. The wind direction is shifting frequently. The most appropriate isolation strategy is?

A. Establish a fixed isolation zone based on the initial wind direction at arrival

B. Allow personnel to enter the area without isolation since the wind is variable

C. Establish dynamic isolation zones that adjust to wind direction, with wider downwind buffer

D. Discontinue all isolation because the wind shifts make it impractical for the operation

63. At a residential fire, you arrive to find heavy smoke from a single second-floor window. The front door is closed and there is no visible fire elsewhere. The most appropriate operational interpretation is?

A. The fire is contained to a single room with possible flashover potential when the door opens

B. The structure is unaffected by the fire because most areas show no signs

C. The fire has already been extinguished and operations should focus on overhaul only

D. The fire likely affects a single room; coordinate ventilation with attack, account for door-opening dynamics

64. Your engine is operating at a working fire with a wind from the rear of the structure at 15 mph. Your attack crew is positioned to enter from the front door. The most appropriate consideration is?

A. The wind from the rear creates exhaust toward the front; the front entry crew will face the flow path

B. The wind direction is irrelevant to the attack operations being initiated from the front

C. The wind from the rear improves attack conditions for the front entry crew

D. The wind from the rear has no effect on the fire conditions inside the structure

65. You are operating at a residential fire with reports of trapped occupants. Your crew has conducted primary search and found one victim. Secondary search has not yet been conducted. The most appropriate consideration is?

A. The secondary search is necessary to verify that no additional victims remain in the structure

B. The secondary search is unnecessary because the primary search was completed

C. The secondary search should be deferred until the next training session for review

D. The secondary search is the property owner's responsibility, not the fire department's role

66. Your crew is operating a hose line at an industrial fire involving stored Class A combustibles in a large warehouse. The fire is approximately 30 feet from the attack position. The most appropriate stream selection is?

A. Wide fog at 30 feet for maximum dispersion across the fuel surface area

B. Wide fog at 30 feet for thermal protection of the attack crew

C. Combination nozzle at narrow stream pattern for some stream cohesion

D. Smooth-bore or straight stream for reach, momentum, and direct fuel cooling

67. At a working fire, you discover during overhaul that the residence has a wood-stove flue that runs through a wall void from the basement to the roof. The wall shows significant char around the flue penetration. The most appropriate consideration is?

A. The flue penetration is unrelated to the fire cause investigation

B. The flue should be removed during the overhaul process for safety

C. The char around the penetration is decorative only and not significant

D. The flue installation may be a fire-cause consideration (clearance, installation quality); preserve for investigator

68. Your crew is operating at a residential fire. The pump operator reports that the supply hydrant is producing only 500 gpm at 10 psi residual pressure when 800 gpm is required. The most appropriate action is?

A. Continue operations with the reduced flow without coordination changes to the attack

B. Communicate to command, establish supplemental supply, reduce flow to match available water

C. Increase pump discharge pressure to compensate for the limited supply

D. Discontinue all operations and wait for additional supply to be established

69. You are conducting search in a residence and the rope reference back to your entry has been disrupted (cut or detached). The smoke is heavy and visibility is near zero. The most appropriate self-rescue action is?

A. Stop, communicate, and use systematic search techniques (wall search) to re-establish orientation toward egress

B. Continue searching in the same general direction without modification or reference

C. Remove the SCBA face piece to call for help with a louder unmuffled voice

D. Increase walking speed to find the egress as quickly as possible by motion

70. Your engine is operating at a working fire. After the fire is controlled, your crew begins overhaul and discovers significant char on a portion of the floor near the kitchen stove. The stove burner controls are in the "on" position. The most appropriate action is?

A. Continue overhaul and document the stove burner status only in the post-incident report

B. Preserve the stove and burner status in place for investigator examination; document and report

C. Shut off the burners and continue overhaul without further documentation

D. Move the stove to expose any fire damage beneath the appliance for inspection

71. At a residential fire, your truck company has placed a ground ladder to a third-story window. The ladder is at the correct angle. A civilian is at the window. The smoke conditions inside the room are heavy. The most appropriate rescue technique is?

A. Have the civilian climb down without assistance from the rescuer at the ladder

B. Position rescuer at the ladder tip; have the civilian transition to the ladder beam grip directly

C. Position the rescuer at the ladder; assist the civilian to controlled descent with appropriate technique

D. Have the civilian wait at the window for additional rescue resources to arrive

72. Your crew is operating at a working fire. The structure has reports of multiple ignition points on different floors. The fire pattern shows fire growth from multiple locations with no apparent natural connection. The most appropriate action during overhaul is?

A. Continue overhaul without documentation of the unusual fire pattern observations

B. Document the standard observations only in the post-incident report

C. Apply water to all areas to control any remaining fire spread without inspection

D. Preserve each apparent ignition area for investigator examination; report observations to command

73. You are conducting forcible entry on a commercial occupancy with a steel door and a locked panic-bar mechanism. The door is set in a steel frame. The most appropriate forcing approach is?

A. Use conventional forcing with the irons against the panic bar mechanism specifically

B. Use through-the-lock entry to defeat the locking mechanism on the door

C. Use a chain saw to cut directly through the steel door frame for the entry

D. Wait for specialized hydraulic forcing equipment before any further entry attempts

74. At a working fire, your crew is operating an attack line in a residence. The line passes through three doorways and around two corners. The line is binding and the advance is slow. The most appropriate action is?

A. Continue operations and pull harder on the line to overcome the binding

B. Position personnel at corners to manage the line flake; coordinate the advance with crew

C. Cut the line at the most restrictive corner to reduce the resistance

D. Stop operations and remove the line from service until the binding is corrected

75. Your engine is operating at a residential fire with reports of trapped occupants. The first-arriving company has initiated fire attack and is making progress. Your assignment is rescue. Conditions are tenable for entry. The most appropriate action is?

A. Wait for the fire to be fully extinguished before any rescue activities begin

B. Conduct primary search of the most likely victim locations without coordination with attack

C. Conduct primary search exclusively at the front of the structure for accessibility

D. Coordinate with attack crew for search of likely victim locations with crew support and accountability

76. You are operating in a residence with a sprinkler system that has activated three heads. The fire appears controlled. Your crew has been assigned to inspect the area and supplement suppression as needed. The most appropriate action is?

A. Inspect the area carefully, supplement with attack line if needed, allow sprinkler to continue until full control

B. Shut down the sprinkler system immediately to minimize water damage

C. Add additional sprinkler heads to the activated area for better fire control

D. Discontinue all operations because the sprinkler is providing complete control alone

77. Your crew is operating at a working fire. The first-arriving company reports that the fire conditions are stable, but the structure has lightweight wood truss roof construction and the fire has been burning for an estimated 18 minutes. The most appropriate command consideration is?

A. The truss construction is irrelevant after 18 minutes of burning time on the fire

B. The stable conditions indicate no further structural concerns for the operation

C. The truss roof has been exposed to significant heat duration; collapse risk is elevated and tactics should account

D. The truss roof provides additional safety margin during prolonged operations naturally

78. At a residential fire, your engine arrives and the homeowner approaches you stating that they were able to extinguish a small kitchen grease fire with a pot lid before fire department arrival. You observe no visible smoke from the structure. The most appropriate action is?

A. Continue size-up on the assumption that the fire is fully extinguished as reported

B. Discontinue the response immediately and clear the scene without further investigation

C. Disregard the homeowner's report and conduct a full structural attack from the apparatus

D. Conduct a thorough inspection of the kitchen, surrounding areas, and ventilate, since hidden fire is possible

79. Your crew is operating at a residential fire where the smoke conditions are improving as ventilation is established by the truck company. After 60 seconds, the smoke conditions suddenly worsen again with thick black turbulent smoke pushing from openings. The most appropriate consideration is?

A. The fire has likely intensified due to ventilation; reassess attack capability and consider tactical adjustment

B. The ventilation is working incorrectly and should be discontinued immediately

C. The conditions are normal and the variations are expected during operations

D. The smoke is from outside the structure entering through the ventilation openings

80. You are operating at a working fire in a residence with a fully developed fire in the kitchen. The fire is venting through the kitchen window. Your crew has been assigned to attack via the front door. The most appropriate consideration is?

A. The fire is venting through the kitchen window which is the exhaust path; advance from the front of the structure

B. The fire venting is irrelevant to the front entry attack operations

C. The crew should enter through the kitchen window to apply water directly to the fire

D. The crew should wait for the fire to self-extinguish in the kitchen before any attack

81. Your engine is operating at a working fire. The pump operator reports unusual vibration and a knocking sound from the pump. The discharge pressure remains stable. The most likely cause is?

A. The pump is operating normally and the vibration is from the apparatus engine

B. The pump bearings have worn out and the pump should be replaced immediately

C. The pump is producing more flow than the operation requires currently

D. The pump may be cavitating due to inadequate supply; investigate supply side and reduce demand if needed

82. At a hazmat incident, your crew arrives to find a placard displaying number 1075 (LPG) in a red diamond and a small leak from a residential propane tank. The tank is approximately 50 feet from the residence. The most appropriate immediate action is?

A. Approach the tank and shut off the valve to stop the release at the source directly

B. Apply water to the tank to dilute the propane and reduce flammability around it

C. Apply foam to the tank to suppress the propane vapor production from the leak

D. Establish isolation, eliminate ignition sources, consider protective water for tank cooling if safe

83. Your crew is operating at a residential fire. After fire control, you observe during overhaul that one of the bedrooms has its window broken outward (glass debris on the exterior) and the door was closed at fire department arrival. The most appropriate consideration is?

A. The closed door and broken window are unrelated to the fire investigation activities

B. The broken window outward suggests internal pressure or occupant escape; the closed door protected the bedroom

C. The broken window indicates that the fire originated in the bedroom and spread outward

D. The closed door and broken window suggest forced entry before the fire department arrived on scene

84. You are operating at a working fire with a 2½-inch attack line flowing 250 gpm. The line is being supplied by the engine at 150 psi pump discharge through 200 feet of hose. The expected nozzle pressure for a smooth-bore tip on this line is?

A. 100 psi nozzle pressure for the smooth-bore tip in this configuration

B. 50 psi nozzle pressure (150 psi pump − 50 psi friction loss + elevation factors = ~50 psi at tip)

C. 75 psi nozzle pressure for the smooth-bore tip in this configuration

D. 25 psi nozzle pressure for the smooth-bore tip in this configuration

85. Your crew is operating at a residential fire. The first-arriving company reports an unconfirmed victim location in the basement based on neighbor reports. Conditions in the basement are severely deteriorated. The most appropriate action is?

A. Initiate aggressive basement search without coordination based on the unconfirmed report

B. Discontinue search operations entirely based on the unconfirmed nature of the report

C. Wait for confirmation of the report before any search of the basement is initiated

D. Coordinate with command; conduct basement search if conditions are survivable with full crew support, RIC

86. At a working fire in a commercial occupancy, the first-arriving company has reported the fire as being in the storage area with limited involvement. As your crew advances, you observe that fire has extended significantly beyond the initial report. The most appropriate action is?

A. Continue with the original tactical plan without modification based on the changed conditions

B. Retreat completely from the structure based on the worsened conditions throughout

C. Apply additional water without coordination with command or the operation

D. Communicate updated conditions to command, reassess tactical plan, coordinate with crew

87. Your engine is operating at a residential fire. The pump operator reports that the relief valve is dumping water during operations. The discharge pressure is reading at the set point. The most likely cause is?

A. The pump has malfunctioned and the relief valve is leaking water continuously

B. The relief valve is set incorrectly for the operating pressure currently in use

C. The relief valve is responding to a discharge line shutdown or pressure spike; verify line operations

D. The relief valve is decorative and the water dump is unrelated to operations currently

88. You are operating at a working fire and your crew is conducting interior search. The fire is being attacked by another crew on the same floor. You observe that the smoke conditions in the search area are stable while the attack crew is making progress. The most appropriate consideration is?

A. The search and attack operations are independent; coordination is not required for either operation

B. The search and attack are coordinated; the stable smoke conditions support both operations as designed

C. The search should be discontinued because the attack is progressing without it on the floor

D. The attack should be discontinued because the search is finding stable conditions

89. Your crew is operating at a working fire with reports of an elderly occupant in a wheelchair on the first floor. The first-arriving company is conducting fire attack. The most appropriate immediate action for your crew is?

A. Conduct independent fire attack from a different entry point of the structure

B. Wait for fire attack to be complete before any rescue activities begin

C. Coordinate with command and attack crew for rescue with appropriate technique for the mobility-limited occupant

D. Initiate ventilation operations without coordination with rescue or attack

90. At a residential fire, your truck company observes that the structure has a partially collapsed front porch with debris around the entry. The first-arriving company has been operating but has not addressed the collapse hazard. The most appropriate action is?

A. Communicate the collapse hazard to command and the attack crew for awareness and tactical adjustment

B. Continue operations without addressing the collapse hazard during the operation

C. Remove the collapsed porch debris before any operations continue at the structure

D. Discontinue all operations until the collapse hazard is fully cleared from the scene

91. Your engine is operating at a working fire. The first-arriving company has established attack from the Alpha (front) side. Your crew has been assigned to back up the attack. As you stretch your line, you observe that smoke from the structure has changed from gray laminar to black turbulent in the past 30 seconds. The most appropriate action is?

A. Communicate the conditions change to the attack crew and command; reassess the tactical situation

B. Continue with the original plan without modification based on the conditions change

C. Discontinue the operation entirely based on the smoke condition change

D. Apply water to the exterior of the structure to suppress the smoke changes

92. You are operating at a residential fire. The smoke layer is showing thick black turbulent characteristics with high velocity at the openings. The temperature is increasing rapidly. The most appropriate operational consideration is?

A. The conditions are normal and the operation can continue without adjustment

B. The conditions indicate significant fire intensity with potential rapid deterioration; tactical assessment needed

C. The conditions indicate fire extinguishment and operations should transition to overhaul

D. The conditions are from outside the structure entering through openings during the operation

93. Your crew is operating at a working fire. The first-arriving company has established attack, and the building has reported sprinkler activation. After 10 minutes, the sprinkler discharge has reduced significantly. The most appropriate consideration is?

A. The sprinkler may be controlling the fire effectively or running out of water; verify status and coordinate

B. The sprinkler has malfunctioned and should be shut down immediately

C. The sprinkler reduction is decorative and not relevant to operations

D. The sprinkler should be supplemented with additional sprinklers immediately

94. At a residential fire, your engine arrives to find the structure with heavy fire involvement and reports of trapped occupants. The first-due engine officer transmits a size-up indicating defensive operations. The most appropriate action for your crew is?

A. Coordinate with command for assignment consistent with defensive operations

B. Initiate independent interior attack despite the defensive declaration

C. Establish your own offensive operations from a different side of the structure

D. Wait at the apparatus for orders without any coordination activities

95. Your crew is operating at a working fire. After fire control, the engine pump operator reports that the apparatus has been operating for 5 hours continuously and the engine coolant temperature has been gradually rising. The most appropriate consideration is?

A. The continuous operation is unrelated to the engine temperature observation

B. The engine should be shut down for inspection regardless of the operational need

C. Communicate to command; consider relief apparatus while monitoring the engine temperature carefully

D. Increase the engine RPM to maximize cooling system effectiveness

96. You are conducting overhaul at a residential fire. Your crew has worked in the area of origin for 30 minutes wearing SCBA. Atmospheric monitoring shows CO levels declining. The most appropriate consideration is?

A. Discontinue SCBA use immediately because the CO levels are declining

B. Continue SCBA use until atmospheric monitoring confirms safe levels per the standards in use

C. Use SCBA optionally based on personal preference of the firefighter

D. Apply water to the area to further reduce the CO levels in the atmosphere

97. Your crew is operating at a working fire. The first-arriving company has established attack from the Alpha side with a 1¾-inch line. After 5 minutes, the company officer reports that the fire is not being controlled. The most appropriate consideration is?

A. The 1¾-inch line is adequate for any residential fire and should continue

B. The crew should change to a different attack position from a different side

C. The fire load may exceed the 150 gpm capability; consider 2½-inch line or master stream

D. The attack should be discontinued and defensive operations initiated immediately

98. At a working fire, your truck company has conducted ventilation on the roof. The ventilation opening is releasing smoke and heat appropriately. After 5 minutes, the smoke from the opening transitions to a clear thermal column with rising hot air but no smoke. The most appropriate consideration is?

A. The ventilation is malfunctioning and should be reconfigured immediately

B. The fire has grown significantly and the heat is now visible without smoke

C. The fire has been knocked down; the residual heat is venting without smoke production

D. The conditions are unrelated to the ventilation effectiveness during the operation

99. Your engine is operating at a residential fire. The pump operator reports that the supply hydrant pressure has dropped from 60 psi residual to 25 psi residual during operations. The most appropriate consideration is?

A. The hydrant is malfunctioning and the pressure drop is unrelated to demand

B. The supply pressure drop is normal during operations and requires no action

C. The pressure drop is from external causes unrelated to the fire department use

D. The increased demand from operations is exceeding the hydrant's capacity; supplemental supply may be needed

100. You are operating at a working fire. Your crew has been advancing an attack line for 8 minutes. The line operator reports difficulty maintaining nozzle position due to elevated nozzle reaction. The most likely cause is?

A. The pump operator has increased the discharge pressure beyond the design pressure for the line

B. The nozzle has been damaged and is producing increased reaction force as a result

C. The flow has increased beyond the design capability of the line in use

D. The hose has been replaced with a different size during the operation

101. Your crew is at a hazmat incident with a placard showing number 1830 (sulfuric acid). A small spill is contained near the involved vehicle. The most appropriate response action is?

A. Approach the spill with standard fire-attack PPE for direct neutralization activities

B. Apply water to the spill to dilute the acid and reduce its concentration

C. Apply foam to the spill to suppress any vapor production from the acid

D. Establish isolation, identify the material via ERG, coordinate hazmat response with appropriate PPE

102. At a working fire, you are operating in a residence where the smoke is showing pulses and "huffing" sounds from openings. The first-arriving company is preparing to enter. The most appropriate action is?

A. Continue with the planned entry without modification to the operation

B. Recognize backdraft potential; coordinate ventilation with attack, prepare appropriately

C. Apply water to the exterior smoke to suppress the pulsing patterns

D. Wait indefinitely for the smoke to stabilize before any operations begin

103. Your engine is supplying multiple discharge lines at a working fire. One discharge line has just been shut down by the attack crew. The pump operator notices the master gauge pressure has spiked momentarily. The most appropriate consideration is?

A. The pump is malfunctioning and should be shut down for inspection

B. The spike is unrelated to the line shutdown and is from external causes

C. The pump should be replaced because of the pressure spike observation

D. The discharge shutdown caused a brief water hammer; the relief valve should respond, and the pump can continue

104. You are operating at a residential fire. The first-arriving company is conducting interior attack from the Alpha side. Your crew arrives as the second engine. You observe smoke pushing from the Charlie (rear) side at higher velocity than the Alpha side. The most appropriate consideration is?

A. The Alpha and Charlie sides are equivalent operationally and require no special action

B. The fire is venting through both sides equally without operational implications

C. The Charlie side may be the exhaust path; consider the flow path implications for the attack crew on the Alpha side

D. The Charlie side smoke is irrelevant to the attack operations being conducted on the Alpha side

105. Your crew is operating at a working fire. The fire conditions have been stable for 10 minutes during attack. Suddenly, the smoke from the structure intensifies with increased pressure and turbulence. The most appropriate consideration is?

A. The conditions are normal and the variation is expected during operations

B. The conditions may indicate ventilation change, additional fuel involvement, or fire spread; reassess

C. The fire has been extinguished and the smoke is residual from the suppression activities

D. The conditions are from outside the structure entering through openings

106. At a residential fire, your truck company has placed ground ladders to second-story windows. After 5 minutes, you observe that one of the ladders has shifted significantly from its original position. The most appropriate action is?

A. Continue operations because ladder shifts are normal during the operation

B. Discontinue all ladder operations because the ladder has moved during the operation

C. Reposition the ladder to ensure stability and check the other ladders for similar shifts

D. Apply water to the ladder to cool any heat exposure causing the shift

107. Your engine is operating at a working fire. The first-arriving company is attacking from the Alpha side. Your crew has been assigned to ventilation. The fire is in a residential structure with a known basement involvement. The most appropriate ventilation strategy is?

A. Conduct vertical ventilation on the roof for the basement fire condition

B. Conduct horizontal ventilation through second-floor windows

C. Coordinate ventilation with the attack crew, considering basement-fire dynamics and smoke movement

D. Wait for fire control before any ventilation operations begin

108. You are operating at a working commercial fire. The building has a Class III standpipe system with both 1½-inch and 2½-inch outlets on each floor. Your crew is on the fire floor with a 2½-inch attack line. The 1½-inch outlet has been used by an occupant attempting initial suppression. The most appropriate action is?

A. Connect to the 1½-inch outlet that was already being used by the occupant

B. Wait for the 1½-inch outlet to be reset before using the 2½-inch outlet

C. Connect to the 1½-inch outlet because it has been verified to be working

D. Connect to the 2½-inch outlet for fire department use, providing higher flow capability for the attack

109. Your crew is operating at a working fire. The fire has been controlled and overhaul is in progress. You observe that the structure's hot water heater shows extensive heat damage on the upper portion but the burner area is clean. The most appropriate consideration is?

A. The damage pattern is consistent with external fire damage from above; the heater is unlikely the ignition source

B. The water heater caused the fire and should be removed for evidence collection

C. The damage is irrelevant to the fire investigation activities currently

D. The water heater should be inspected during a future fire prevention visit

110. At a working fire, your engine is the third-arriving. The first two engines have established attack and supply. Your crew has been assigned to RIC. You observe that the interior crews have been operating for 25 minutes without rotation. The most appropriate consideration is?

A. The interior crews can continue operating indefinitely without rotation needed

B. The interior crews should rotate immediately based on the time alone

C. The interior crews are operating normally and the 25 minutes is acceptable

D. The time may exceed safe SCBA duration; communicate to command for crew rotation consideration

111. Your crew is operating at a residential fire. After fire control, the homeowner approaches and asks for permission to enter the structure to recover personal items. The structure has significant fire damage. The most appropriate response is?

A. Allow the homeowner to enter immediately for personal item recovery

B. Explain the safety concerns and request the homeowner wait until cleared by command for entry

C. Refuse all entry requests without explanation to the homeowner

D. Direct the homeowner to enter only the undamaged portions of the structure

112. You are operating at a working fire. The fire has been controlled and your crew is conducting overhaul. You discover what appears to be evidence consistent with deliberate ignition (multiple ignition points, accelerant odor). The most appropriate action is?

A. Preserve the area, document the observations, report to command and the investigator immediately

B. Collect the evidence personally to ensure preservation for the investigator's arrival

C. Continue overhaul activities without addressing the evidence observations on scene

D. Apply additional water to the area to ensure complete extinguishment regardless of the evidence

113. Your engine is at a working fire with multiple aerial apparatus on scene. The truck companies are operating master streams from elevated positions. Your crew is conducting interior operations. The most appropriate consideration is?

A. The aerial operations and interior operations are independent without coordination requirements

B. The aerial operations may push water and fire products into the structure where interior crews are operating

C. The aerial operations are not relevant to the interior operations being conducted by your crew

D. The aerial operations should be discontinued because interior operations are underway

114. At a working fire, you observe that the smoke from the structure is showing distinct color separation, with darker smoke at the upper layer and lighter smoke at the lower layer. The most appropriate operational consideration is?

A. The color separation is irrelevant to the operational decisions being made

B. The color separation indicates fire extinguishment and the operation can be discontinued

C. The color separation is from outside the structure entering through openings during operations

D. The thermal layering reflects the fire's stage and combustion dynamics; useful tactical intelligence

115. Your crew is operating at a residential fire. The first-arriving company reports successful initial knockdown of the fire. You observe that the smoke from the structure has reduced significantly but the temperature inside (felt through PPE) remains elevated. The most appropriate consideration is?

A. The remaining heat indicates continuing fire that requires further attack; do not declare control prematurely

B. The fire has been completely extinguished and operations can transition to overhaul

C. The elevated temperature is from outside the structure and is unrelated to the fire conditions

D. The temperature should drop immediately upon fire knockdown without further operations

116. You are operating at a working fire with reports of medical equipment in the residence. Your crew has confirmed the presence of medical oxygen tanks in a back bedroom. The fire is in the kitchen. The most appropriate consideration is?

A. The oxygen tanks are unrelated to operations and require no special consideration

B. Coordinate with command; the oxygen tanks present BLEVE and oxygen-enriched atmosphere hazards

C. The oxygen tanks should be removed from the structure during fire attack operations

D. The oxygen tanks should be applied water to suppress any release from them

117. Your engine is operating at a working fire. After fire control, your crew begins overhaul. You observe that the structure has been heavily damaged with multiple structural concerns. The most appropriate consideration is?

A. Limit personnel exposure, conduct careful overhaul with structural awareness, consider engineer consultation if available

B. Continue overhaul without modification because the fire is out

C. Apply additional water to the structure to address any remaining fire

D. Remove all damaged materials immediately to assess structural conditions

118. At a residential fire, your truck company has conducted PPV ventilation. The smoke is clearing effectively. The interior attack crew reports improving conditions. After 10 minutes, the PPV operator reports that the fan's engine has stopped. The most appropriate action is?

A. Communicate to attack crew and command; assess PPV effectiveness impact and address fan if possible

B. Continue operations without addressing the PPV fan status

C. Discontinue all operations because the PPV has stopped

D. Apply water to the fan to suppress any heat causing the engine to stop

119. Your crew is operating at a working fire. The fire conditions are stable. You observe that the structure has reports of a known stash of ammunition or fireworks in a back room based on neighbor reports. The most appropriate consideration is?

A. The reports are unrelated to operations and require no special consideration

B. The reports should be ignored because they are unverified during the operation

C. Communicate to command; ammunition or fireworks present projectile and explosion hazards

D. The reports indicate that interior operations should be discontinued immediately

120. You are operating at a working fire. The first-arriving company has established attack. Your crew has been assigned to vertical ventilation. The roof shows lightweight wood truss construction. The fire has been burning for an estimated 8 minutes. The most appropriate consideration is?

A. The 8-minute duration is sufficient for full vertical ventilation without concerns

B. The truss construction warrants careful assessment; consider alternative ventilation if roof is questionable

C. The truss construction is irrelevant to ventilation decisions on the roof

D. The vertical ventilation should be conducted with maximum personnel for efficiency

121. Your engine is operating at a working fire. The first-arriving company has established attack with the 1¾-inch line. Your crew has been assigned to a second 1¾-inch line as backup. The first line operator reports nozzle reaction is normal. As your crew advances, you observe the operator suddenly losing control of the nozzle. The most appropriate action is?

A. Continue with your assigned backup line without addressing the first-line situation

B. Communicate to command and dispatch only and continue your assigned advance

C. Take immediate action to control the runaway nozzle while communicating MAYDAY/RIC needs as appropriate

D. Wait for command to direct action while the first-line nozzle continues uncontrolled

122. At a working fire, your crew is conducting search on the second floor of a residence. You observe that the smoke conditions are deteriorating rapidly with the smoke layer descending. The first-arriving company is attacking the first-floor fire. The most appropriate consideration is?

A. The descending smoke indicates increasing risk on the search floor; communicate, consider withdrawal or attack support

B. The descending smoke is unrelated to the search operations being conducted

C. The descending smoke indicates that the fire is being controlled by the first-floor attack

D. The descending smoke is from outside the structure entering through openings

123. You are operating at a residential fire. The first-arriving company has established a 1¾-inch attack line. Your crew has been assigned to a second 1¾-inch line. As you stretch your line, the first-arriving company officer transmits an emergency MAYDAY indicating a firefighter is down. The most appropriate action is?

A. Continue your assigned advance and complete the backup line task as planned

B. Wait for command to direct your action based on the MAYDAY transmission

C. Coordinate with command for immediate RIC response to the MAYDAY; assist as directed

D. Discontinue the backup line and exit the structure without coordination with command

124. Your crew is at a hazmat incident with a confirmed flammable liquid spill in a parking lot. Two vehicles are involved, with one showing visible fire on the engine compartment. The fire has not yet ignited the spill. The most appropriate action is?

A. Continue operations without addressing the proximity of fire to the spill

B. Apply water to the spill to dilute the flammable liquid before fire involvement

C. Approach the spill aggressively to contain it before the fire reaches it

D. Establish isolation; apply foam to the spill to prevent ignition; address the vehicle fire with coordination

125. At a working fire in a 3-story apartment building, your engine is the second arriving. The first engine has established water supply and attack on the 2nd floor. Reports indicate additional residents on the 3rd floor with no known evacuation. The most appropriate action for your crew is?

A. Establish a second attack line on the 2nd floor to support the first engine's operation

B. Wait for the first engine to complete the 2nd floor attack before any 3rd floor activities

C. Conduct independent attack on the 3rd floor without coordination with the 2nd floor crew

D. Coordinate with command for assignment focused on 3rd floor search/rescue with appropriate coordination

126. You are operating at a working fire. The pump operator reports that the fire pump is operating at design pressure but the discharge pressure on Line A is 50 psi lower than expected. The line gauge is reading lower than the master gauge. The most likely cause is?

A. The pump is malfunctioning and the line gauge readings are accurate

B. The line gauge has been incorrectly calibrated for the operation in progress

C. Line A may have a kink, restriction, or appliance loss; investigate the line for cause

D. The line is operating correctly and the gauge difference is normal during operations

127. Your crew is operating at a residential fire. The first-arriving company has established attack on the first floor. Your crew has been assigned to ventilate. The structure has a balloon-frame construction. The most appropriate consideration is?

A. Balloon-frame allows fire spread through continuous vertical voids; ventilation should account for upper-level involvement

B. Balloon-frame construction is irrelevant to ventilation decisions on the residence

C. Balloon-frame construction provides additional fire resistance and ventilation is simplified

D. Balloon-frame is found only in modern homes and requires no special ventilation consideration

128. At a residential fire, you observe during overhaul that the structure has a Class A foam tag on the kitchen smoke detector. The detector is on the wall (not ceiling) at approximately 3 feet from the floor. The most appropriate consideration is?

A. The detector mounting is correct and the wall location provides effective detection

B. The detector tag is decorative and not relevant to the investigation

C. The detector wall-mounting at 3 feet is incorrect; smoke alarms should be on ceiling or high on wall

D. The detector mounting is irrelevant to the fire investigation activities

129. Your engine is operating at a working fire. After fire control, your crew conducts overhaul in the area of origin. You discover an electrical extension cord with multiple appliances connected through a power strip with no GFCI protection. The most appropriate consideration is?

A. The extension cord setup is irrelevant to the fire investigation activities

B. The setup may be a cause of the fire (overload, arcing); preserve for investigator examination

C. The extension cord should be removed during overhaul to clean the area

D. The setup should be ignored as a normal residential electrical practice

130. You are operating at a working fire. The first-arriving company has established attack. Your crew is assigned to RIC. You observe that the structure has multiple windows that have been broken by the fire department for ventilation. The most appropriate consideration is?

A. The broken windows are operational openings for ventilation and rescue access

B. The broken windows indicate the structure has lost integrity and operations should be discontinued

C. The broken windows are unrelated to the RIC operations being staged on scene

D. The broken windows should be repaired before any operations continue

131. Your crew is at a hazmat incident with a confirmed unidentified material in a residential garage. The wind is from the south at 8 mph. Vapors are visible at the source. The most appropriate action is?

A. Approach the material to identify it visually for the responders on scene

B. Establish isolation with appropriate distance, identify material via ERG, coordinate hazmat response

C. Apply water to the material to dilute and reduce vapor production at the source

D. Apply foam to the material to suppress vapor production from the source

132. At a working fire in a 2-story residence, your crew is conducting search on the first floor. The first-arriving company is attacking on the same floor. You observe that the smoke conditions on the first floor are improving as the attack progresses. The most appropriate consideration is?

A. The improving conditions are unrelated to the attack progress on the floor

B. The improving conditions reflect successful attack; continue search and reassess as conditions warrant

C. The improving conditions indicate that the search can be discontinued because the fire is extinguished

D. The improving conditions are from outside the structure entering through openings

133. Your engine is operating at a working fire. The first-arriving company has reported aggressive interior attack. Your crew has been assigned to support. After 8 minutes, the first-arriving company officer reports that the fire is being knocked down. The most appropriate consideration for your crew is?

A. Continue your support role with awareness of conditions and crew rotation requirements

B. Discontinue operations because the fire is being knocked down by the first crew

C. Initiate independent operations on a different floor or area without coordination

D. Wait for command to provide additional assignment before any further action

134. You are operating at a working fire. The pump operator reports that the supply hydrant is performing as expected. After 15 minutes of operation, the discharge gauge has slowly dropped from 175 psi to 155 psi without any operator change. The most appropriate action is?

A. Increase the throttle to restore the discharge pressure to the original 175 psi setting

B. Continue operations without addressing the gauge change during the operation

C. The drop is unrelated to operations and the gauge is malfunctioning likely

D. Investigate the cause (supply change, line obstruction, pump issue) and coordinate with command

135. Your crew is operating at a working fire. The first-arriving company has established attack from the Alpha side. Your crew is conducting search. You observe that the truck company has placed a ground ladder to the Bravo (left) side second-floor window. The most appropriate consideration is?

A. The ladder is irrelevant to your search operations being conducted on the floor

B. The ladder placement is decorative for the operation in progress

C. The ladder is for the truck crew's use only during the operation

D. The ladder provides an additional egress path for your search crew if conditions warrant

136. At a residential fire, your engine arrives third. The first two engines have established attack and supply. Your crew has been assigned to lay a second supply line from a different hydrant. The first hydrant is producing 800 gpm at 25 psi residual. The most appropriate action is?

A. Continue with the second supply line assignment without modification

B. Wait for the first supply to drop before any second supply line activities

C. Establish the second supply line, coordinate with the pump operator, and improve total water supply

D. Discontinue the second supply line because the first hydrant is performing adequately

137. You are operating at a working fire with a confirmed sprinkler activation. The pump operator is supplying the FDC at 150 psi standard pressure. The sprinkler activations have increased from 3 to 7 heads. The most appropriate action is?

A. The supply pump should increase pressure to maintain sprinkler flow as the heads activate

B. The supply should be discontinued because the system is over-activated

C. The sprinkler heads should be manually closed to limit the flow

D. The fire department should conduct independent attack instead of supplying the sprinkler

138. Your crew is operating at a working fire. The first-arriving company reports successful interior knockdown. Your crew has been assigned to overhaul. The structure has reports of an oxygen-dependent occupant who was successfully removed before fire department arrival. Medical oxygen tanks remain in the structure. The most appropriate action is?

A. Address the medical oxygen tanks safely during overhaul; coordinate atmospheric assessment

B. Ignore the medical oxygen tanks because the occupant has been removed

C. Apply water to the tanks to cool them during overhaul activities

D. Remove the tanks without coordination during the overhaul operations

139. At a working fire, your engine has been on scene for 90 minutes. The pump operator reports that the apparatus battery voltage is dropping and the warning lights have dimmed. The most appropriate consideration is?

A. The battery and warning lights are operating normally during the operation

B. The apparatus electrical system is under strain; address before more critical functions are affected

C. The battery should be replaced immediately on scene without further consideration

D. The warning lights should be turned off to reduce electrical demand on the apparatus

140. You are operating at a working fire. The first-arriving company has established attack on the first floor. Your crew has been assigned to search the second floor. As you advance up the stairs, you observe that the temperature is significantly elevated and the smoke layer is at chest level. The most appropriate consideration is?

A. The conditions indicate elevated risk on the second floor; communicate, consider attack line support, reassess

B. The conditions are normal for second-floor search operations during a fire

C. The conditions are from the first-floor fire and do not affect the second-floor search

D. The conditions should be addressed by ventilation only without changes to the search

141. Your crew is conducting forcible entry on a residential outward-opening door with a single deadbolt. The door is in a wooden frame. Time pressure is moderate. The most appropriate forcing approach is?

A. Use a chain saw to cut through the door for the most direct entry approach

B. Wait for hydraulic forcible entry equipment before any forcing of the door

C. Use hand pressure only without tools to force the door open

D. Use conventional forcing with the Halligan and flat-head axe (irons) on the outward-opening door

142. At a working fire, you observe that the structure has a fire pattern consistent with origin at a specific corner of the living room. The pattern shows char radiating outward from a clearly defined area. The most appropriate consideration is?

A. The pattern is unrelated to the fire investigation activities being conducted

B. Document, preserve the area for investigator examination; the pattern indicates likely area of origin

C. The pattern should be removed during overhaul to clean the area for the homeowner

D. Apply additional water to the pattern to ensure complete extinguishment without preservation

143. Your engine is operating at a working fire. The first-arriving company has been operating an attack line for 20 minutes. The company officer reports that the crew is fatigued and air supply is approaching the low-air alarm. The most appropriate action is?

A. Continue operations without crew rotation considerations during the active fire

B. Crew should ignore the air alarm to maintain continuous operation throughout

C. Coordinate immediate crew rotation; the fatigued crew with low air requires relief promptly

D. The crew should continue operations until the air is completely exhausted

144. You are operating at a residential fire. The first-arriving company has established attack. Your crew has been assigned to ventilation. The roof shows lightweight wood truss construction with the fire having burned for 20 minutes. The most appropriate action is?

A. Conduct standard vertical ventilation with multiple personnel on the roof for the operation

B. Conduct horizontal ventilation only because the roof is unsafe for any operations

C. Wait for additional crews before any ventilation operations are initiated

D. Recognize elevated collapse risk; consider trench cut from ladder pipe, exterior fan, or alternative ventilation

145. Your crew is operating at a working fire with reports of multiple casualties. After fire control and rescue, your crew has been assigned to overhaul. The structure has been severely damaged. You observe a victim's personal items in the room you are searching. The most appropriate action is?

A. Continue overhaul without consideration of the personal items in the room

B. Preserve the personal items where possible; document the area for investigation

C. Collect the personal items personally for the family during overhaul activities

D. Apply water to the area to ensure complete extinguishment without preservation

146. At a working fire, your truck company has placed ground ladders to multiple windows for occupant egress. The first-arriving company is conducting interior attack. The truck company has also conducted ventilation. The most appropriate consideration for the truck company operations is?

A. The ground ladders are decorative and not part of the active operation

B. The ground ladders are for the truck crew only and not for occupants or other crews

C. The ladders provide egress paths for occupants and firefighters; ventilation supports interior attack

D. The truck operations are independent of the engine operations on the fireground

147. You are operating at a working commercial fire. The building has a Class I standpipe system with 2½-inch outlets only. Your crew is on the fire floor with a high-rise pack. The standpipe outlet pressure is 100 psi. The most appropriate setup is?

A. Connect to the standpipe outlet, deploy the high-rise pack, and operate with the appropriate nozzle pressure

B. Use the apparatus pump to bypass the standpipe for the operation

C. Use 1½-inch attack lines on the 2½-inch outlets directly without adapter

D. Wait for additional equipment before any operations on the floor

148. Your crew is operating at a residential fire. After fire control, your crew is conducting overhaul. You observe that the residence has an electrical service entrance with significant fire damage and possible exposed conductors. The most appropriate immediate action is?

A. Continue overhaul without addressing the electrical service damage observation

B. Establish isolation around the service entrance; coordinate with utility for de-energization before approach

C. Apply water to the service entrance to ensure complete extinguishment

D. Approach the service entrance for damage assessment immediately

149. At a working fire, your engine is the first-arriving. Your size-up indicates a 2-story residence with heavy smoke from the second-floor windows. Reports indicate possible trapped occupants. The most appropriate initial actions are?

A. Establish water supply only and wait for additional units before any other operations

B. Conduct defensive operations from the exterior without interior entry attempts

C. Provide size-up report, establish attack and search coordination, prioritize rescue with active fire control

D. Conduct interior attack only without search until the fire is fully controlled by attack

150. You are operating at a working fire. The first-arriving company has established attack. Your crew has been assigned to support operations. After fire control, the company officer transmits "fire under control" and command initiates the transition to overhaul. The most appropriate consideration is?

A. Overhaul can begin immediately without further coordination with command

B. The transition from fire attack to overhaul requires PAR, atmospheric monitoring, and coordination with command

C. The fire is fully extinguished and PPE requirements are relaxed for the overhaul phase

D. The transition is unrelated to operational coordination requirements for the crew

PRACTICE EXAM 20 (CAPSTONE) — ANSWER KEY AND EXPLANATIONS

1. C — Coordinate aggressive interior fire attack with primary search to address the survivability window. With reported entrapment of a child and survivable conditions still indicated by the pressurized smoke, life safety is the priority but requires coordinated fire attack to support survivable interior conditions during search. Rescue and fire attack proceed together.

2. C — Recognize that uncoordinated openings could create wind-driven fire conditions. Wind from behind the structure can create a wind-driven fire if openings on both sides establish a flow path; uncoordinated ventilation may push the fire through the structure toward attack crews. Ventilation coordination is critical to prevent this dangerous condition.

3. D — Continue overhaul with SCBA in use since the level exceeds the OSHA PEL. The OSHA Permissible Exposure Limit (PEL) of 50 ppm represents the threshold for required respiratory protection during sustained exposure; 75 ppm exceeds this limit despite being below IDLH. SCBA discipline is required.

4. C — 40 psi at the nozzle (65 psi outlet − 25 psi friction loss in the stretch). The standpipe outlet provides the supply pressure, and friction loss in the attack line reduces the pressure at the nozzle. The 40 psi result is below the 50 psi design pressure for smooth-bore handlines, indicating inadequate supply.

5. A — Communicate the find, rapidly remove victim to safety, coordinate with crew. With deteriorating conditions, the rescue must take precedence and proceed rapidly; continued search before victim removal risks both the victim's survival and the searcher's safety. Coordination ensures crew support during the rescue.

6. A — Lightweight truss construction has likely sustained significant damage at 12 minutes; extreme caution required. Lightweight wood trusses fail rapidly under fire exposure due to their high surface-to-mass ratio; at 12 minutes of significant fire exposure, the trusses are at elevated collapse risk and alternative ventilation methods should be considered.

7. C — Coordinate with command to address attic involvement spreading laterally. Strip mall attics typically lack effective firewalls; smoke from multiple eaves indicates the fire has spread throughout the attic above the involved and uninvolved units. Coordinated operations address the lateral spread.

8. A — Communicate the supply limitation to command for supplemental water supply. Operations require 500 gpm while supply provides only 350 gpm; the deficit requires supplemental supply (additional hydrant, mutual aid, or tank shuttle) to support continued attack operations.

9. A — The floor may be approaching structural failure; assess collapse risk for crews above and your egress. Char on the underside and significant heat indicate compromised structural integrity; the basement crew faces collapse risk from above and limited egress (the stairway) if the floor fails.

10. C — Force the pedestrian door using through-the-lock or conventional forcing. The pedestrian door is the standard entry path; through-the-lock or conventional forcing with the irons addresses the multiple locks efficiently. Roll-up doors are more difficult to force and exterior wall breaching is excessive.

11. B — The line may have inadequate pressure for the friction loss in the 200-foot stretch. Friction loss for 2½-inch hose flowing 250 gpm over 200 feet is approximately 25 psi (using $2Q^2$ coefficient), suggesting the pump pressure should be approximately 125 psi or higher for proper operation; 110 psi may be inadequate.

12. B — Establish isolation, eliminate ignition sources, and conduct operations per ERG. Isopropyl alcohol (UN 1219) is a flammable liquid with low flash point; ERG provides specific response information including isolation distances and protective actions. Ignition source elimination is critical.

13. A — Advance the backup line to support the attack crew's operation immediately. The attack crew's reported difficulty maintaining control indicates the need for backup; immediate support addresses the operational situation before deterioration. Coordinated attack is the standard approach.

14. A — The second-story window indicates significant fire intensity nearby; conditions warrant tactical caution. The thick black turbulent character indicates high heat-release rate and significant combustion; the velocity reflects the internal pressure of the fire compartment.

15. D — Stop the cut, disengage, and immediately retreat from the roof to a safer position. The labored cutting effort and dark smoke from the cut indicate the roof has been compromised or the saw is encountering fire-damaged structural elements; continued operation risks roof failure with personnel on it.

16. D — The HVAC may still be circulating air; verify the actual status and shut down if needed. The smoke movement into return air vents suggests the HVAC system may still be operating regardless of the homeowner's report; verification ensures the system is actually shut down.

17. B — Investigate the supply pressure drop and coordinate with command for additional supply. The dropping residual pressure indicates increasing demand or reduced supply; investigation identifies the cause and coordination ensures supplemental supply if needed for continued operation.

18. A — Deploy with equipment to the reported location, coordinate with command, and initiate rescue. The MAYDAY transmission with location and air status provides the information needed for immediate deployment; delay risks the MAYDAY firefighter's survival window.

19. B — Position rescuer on the ladder; assist the victim to a controlled descent. The rescuer-on-ladder configuration provides physical support and guidance for the victim during descent, reducing the risk of falls and supporting victims who may have reduced strength or coordination from smoke exposure.

20. B — Communicate the information to command immediately for coordinated rescue. The neighbor's information about an occupant (basement, wheelchair user) is potentially life-critical; command coordination ensures appropriate resource assignment for the specialized rescue need.

21. C — The conditions indicate the ventilation and attack are effectively combined; continue and reassess. The transition from thick black turbulent to lighter brown laminar smoke reflects effective ventilation combined with attack; continued operations with ongoing reassessment support successful fire control.

22. D — Conduct overhaul throughout the vertical chase, basement, first floor, and attic for hidden fire. Continuous open vertical pipe chases provide a flow path for fire spread; overhaul must check all levels connected by the chase for hidden fire that may have extended beyond the visible first-floor fire.

23. D — Address the door to clear the line and restore proper water flow to the nozzle. The pinched line restricts flow and damages the hose; clearing the door restores full water flow for the attack and prevents hose damage during operations.

24. C — Add an additional section of hose or stretch a new appropriate-length line. The 50-foot shortage prevents effective attack; adding a section or replacing the line ensures the attack reaches the involved area with proper flow capability.

25. B — The thermal conditions are extreme, with TIC saturation requiring careful tactical assessment. Uniform thermal signature throughout the camera image indicates the temperatures exceed the TIC's contrast range, washing out individual heat differences; extreme conditions warrant tactical reassessment.

26. B — Establish isolation based on the ERG-recommended distance with downwind awareness for vapor travel. The ERG provides specific isolation distances for hazardous materials; downwind buffer addresses vapor travel toward populated areas or operational positions.

27. A — Communicate the pressure shortfall to command and pump operator for assessment. The 75 psi outlet vs. 100 psi target indicates supply pressure inadequacy; communication enables coordinated assessment of the supply chain (pump pressure, building fire pump, system condition) for correction.

28. D — The detector was non-functional and improperly mounted; document for the investigator. Smoke detectors must be ceiling-mounted or high on a wall (within 12 inches of ceiling per NFPA 72); a hallway-wall mounting at 4 feet from the floor is improper and the lack of power indicator suggests non-function during the fire.

29. D — The pattern may indicate multiple ignition points warranting investigation as possibly incendiary. Fire in two non-adjacent rooms on the same floor with no fire between is a recognized incendiary indicator; the pattern requires careful investigation by the qualified investigator to determine cause.

30. A — Communicate conditions to crew, prepare for immediate withdrawal or attack line readiness, reassess. A smoke layer descending to within 4 feet with rapidly increasing temperature indicates pre-flashover conditions; rapid tactical adjustment is required to avoid being caught in the flashover event.

31. A — Oxygen-enriched local atmosphere intensifies fire; tactical adjustments and rapid rescue priority. Medical oxygen enrichment in the rescue area supports more intense combustion; rapid rescue addresses both the occupant's specific needs and the elevated fire-behavior risk in the area.

32. D — Coordinate with command for assignment focused on upper-floor search and rescue. With attack and supply established by the first two engines, your crew's role is best directed by command for the unmet operational need; upper-floor rescue is the apparent priority given the multiple-occupant reports.

33. D — Wind-driven attack from the west uses the wind to support fire flow toward the east exit. With wind from the west and fire venting east, the crew on the west (upwind) side benefits from the wind direction; the wind pushes fire products out the downwind east-side openings, supporting the attack rather than threatening the crew.

34. A — Address the basement fire to remove the source of the heat affecting the first floor occupants. The basement fire is the heat source threatening the first floor occupants; controlling the source supports survivable conditions for the rescue operation on the floor above.

35. B — Re-establish isolation zones to reflect the new wind direction immediately. Wind direction changes shift the downwind exposure pattern; isolation zones must be re-established to protect personnel from the new vapor travel direction.

36. A — The hydrant residual approaches the minimum operating pressure; supplemental supply should be established. The 15 psi residual is at the threshold (typically 20 psi minimum); supplemental supply (second hydrant, mutual aid, tank shuttle) prevents loss of supply during sustained operations.

37. D — Recognize the elevated roof failure risk; consider trench cut, exterior fan, or alternative methods. A wood-frame structure with wood-shake roof at 15 minutes of significant attic involvement is at elevated collapse risk; alternative ventilation methods preserve operational capability while reducing personnel exposure.

38. B — Communicate the find, rapidly remove the victim to safety, and request EMS support. The victim has thermal injuries requiring medical care; rapid removal to safety supports the medical response while maintaining the crew's operational tempo.

39. A — Use through-the-lock entry with specialized tools to defeat the deadbolts efficiently. Heavy steel commercial doors with multiple locks are difficult to force conventionally; through-the-lock entry with specialized tools (K-tool, A-tool) defeats the locking mechanisms efficiently with less effort.

40. B — Allow sprinkler operation to continue, supplement with attack line as needed, address shutdown after control. Active sprinkler operation is providing fire control; supplementing with attack improves combined fire control while sprinkler shutdown after control prevents fire redevelopment.

41. C — Line A may have a kink, partial blockage, or appliance restriction creating friction loss. The 50 psi discharge pressure deficit on Line A with correct pump settings indicates excessive friction loss between the pump and the discharge; the line should be inspected for restrictions.

42. A — Open the door carefully, prepare for possible viable occupant, and search the room. A closed bedroom door at ambient temperature with no smoke pulling under it suggests the room is intact and may contain viable occupants; careful entry supports both rescue capability and safety.

43. C — Position outside the collapse zone (1.5× structure height) with adjustments for lean and conditions. The collapse zone is the standard safe distance for fully-developed fire defensive operations; adjustments account for structure lean, wind, and conditions affecting the collapse direction.

44. B — Recognize rollover indicates imminent flashover; apply water to upper layer, prepare for withdrawal. Rollover (intermittent ignition at the smoke-air interface) is the immediate precursor to full flashover; upper-layer water application disrupts the thermal layer while withdrawal preparation addresses imminent unsurvivable conditions.

45. C — Establish isolation distance, eliminate ignition sources, atmospheric monitoring, evacuate the area. Active natural gas leak creates explosion risk; the response addresses ignition prevention, personnel safety, and gas monitoring while awaiting utility shutoff.

46. D — Recognize the truss compromise and limit personnel exposure; consider structural engineer consultation. Significant char on metal-truss members with deformed connectors indicates structural compromise; the truss roof has lost much of its load-bearing capacity.

47. D — The ladder should be at 75 degrees with the tip at sill level for victim egress. The 75-degree placement angle (with butt at one-quarter the working length) provides optimal climbing stability; tip at sill level allows victims to easily transition from the window to the ladder.

48. C — Communicate the find, remove the victim rapidly using appropriate technique, coordinate with crew. The found unconscious victim requires rapid removal from the IDLH atmosphere; appropriate technique (drag, webbing) supports the rescue while crew coordination ensures the operation continues effectively.

49. D — The building fire pump may be malfunctioning; check the pump and supplement supply. With correct FDC pressure (150 psi) but dropping standpipe pressure, the building fire pump may not be providing its expected pressure boost; supplemental supply or pump adjustment addresses the deficit.

50. A — Verify the report and adjust operations based on confirmed information; continue rescue posture if uncertain. Unverified evacuation reports must be confirmed before discontinuing rescue operations; the cost of unnecessary continued search is much less than the cost of discontinuing search with an occupant still present.

51. B — 95 psi (50 psi nozzle + approximately 45 psi friction loss for the 7/8-inch tip flow at 150 ft). The smooth-bore handline operates at 50 psi nozzle pressure; the pump discharge must overcome the friction loss in the stretch to deliver the design pressure at the tip.

52. D — The flow path runs from the door to the window; crews on the path face heat and fire exposure. Open door with smoke pushing out and fire venting through the window establishes the flow path; crews positioned in this path between inlet and outlet face direct exposure to moving heat and fire products.

53. C — Shut down the pump immediately to prevent severe engine damage; relief apparatus. Maximum coolant temperature indicates severe overheating; continued operation can cause catastrophic engine damage. Relief apparatus maintains operational capability while the affected unit is taken out of service.

54. C — Carefully expose voids, check for hidden fire, preserve evidence in the area of origin. Overhaul addresses hidden fire extension while preserving evidence for the investigator; the systematic approach supports complete extinguishment and supports the cause investigation.

55. B — The fan distance or angle, exhaust opening size, or inlet sealing may not be correct; reassess setup. Effective PPV requires correct fan placement, adequate exhaust opening, and sealed inlet; failure to clear smoke after 90 seconds indicates setup issues requiring reassessment.

56. A — Coordinate rescue with command; prioritize search of back bedroom with appropriate technique. An elderly oxygen-dependent occupant with limited mobility requires specialized rescue; command coordination ensures appropriate resource assignment and the rescue takes operational priority.

57. C — Use conventional forcing with the Halligan and flat-head axe (the irons) to defeat the locks. The irons combination is the standard tool for residential door forcing; the Halligan provides prying leverage while the axe provides striking force on inward-opening doors with standard locks.

58. B — Initiate immediate victim removal while requesting utility water shutoff and additional resources. Rising water threatens the victim's life regardless of fire conditions; rapid removal addresses the immediate life threat while utility shutoff stops the source.

59. D — The panel may have energized conductors; coordinate with utility for service isolation before approach. Fire-damaged electrical panels may have exposed energized conductors creating electrocution risk; utility coordination ensures safe service isolation before personnel approach for inspection.

60. B — The steel-frame components may have lost structural strength from prolonged heat exposure. Steel loses approximately 50% of its strength at around 1,000°F; 25 minutes of significant fire involvement can compromise steel-frame integrity, creating elevated collapse risk for ongoing operations.

61. C — The pump may be producing higher-than-reported pressure, or the gauge is malfunctioning. Stronger-than-expected nozzle reaction with reportedly normal pump pressure suggests either actual higher pressure (gauge malfunction or operator error) or excessive flow; the discrepancy warrants investigation.

62. C — Establish dynamic isolation zones that adjust to wind direction, with wider downwind buffer. Variable wind direction at a chlorine release requires adjustable isolation zones; a wider downwind buffer accounts for the worst-case wind direction during the variable conditions.

63. D — The fire likely affects a single room; coordinate ventilation with attack, account for door-opening dynamics. The single window venting with closed front door suggests a confined fire with potential for flashover when the door opens; coordinated ventilation and attack manage the door-opening dynamics safely.

64. C — The wind from the rear creates exhaust toward the front; the front entry crew will face the flow path. Wind from the rear at 15 mph creates a pressure differential pushing fire products toward the front exit; the front entry crew enters into this flow path and faces direct exposure.

65. A — The secondary search is necessary to verify that no additional victims remain in the structure. Primary search prioritizes speed and likely victim locations; secondary search provides thoroughness to verify the structure is clear of victims, addressing the imperfection of the primary search under fire conditions.

66. D — Smooth-bore or straight stream for reach, momentum, and direct fuel cooling. The 30-foot distance to the Class A combustibles requires stream reach and direct fuel application; smooth-bore or straight stream provides the coherent stream needed for effective cooling of the involved fuels.

67. D — The flue installation may be a fire-cause consideration; preserve for investigator. Wood-stove flue installations with inadequate clearance or improper installation are recognized fire causes; the char around the wall penetration suggests possible clearance issues for the investigator to examine.

68. B — Communicate to command, establish supplemental supply, reduce flow to match available water. The 500 gpm supply against 800 gpm demand requires both immediate flow reduction and supplemental supply establishment to support continued operations at the needed flow rate.

69. A — Stop, communicate, and use systematic search techniques to re-establish orientation toward egress. Lost reference during search requires deliberate response: stop further advance, communicate the situation to crew, and use wall-search or other systematic techniques to find a known reference point or egress.

70. B — Preserve the stove and burner status in place for investigator examination; document and report. The stove burner in "on" position is potentially significant cause evidence; preservation in place maintains the evidence integrity for the investigator's examination of the cause.

71. C — Position the rescuer at the ladder; assist the civilian to controlled descent with appropriate technique. Heavy smoke conditions in the room may have affected the civilian's coordination; rescuer assistance with appropriate technique supports a controlled safe descent.

72. D — Preserve each apparent ignition area for investigator examination; report observations to command. Multiple apparent ignition points are recognized incendiary indicators; preservation supports the investigator's determination of cause while command notification ensures appropriate coordination.

73. B — Use through-the-lock entry to defeat the locking mechanism on the door. Steel commercial doors with panic-bar mechanisms are best addressed by defeating the lock mechanism specifically; through-the-lock entry uses specialized tools to manipulate the locking hardware.

74. B — Position personnel at corners to manage the line flake; coordinate the advance with crew. Hose binding at corners requires deliberate management with personnel positioning or appropriate hose flake; the coordination maintains advance capability while preventing line damage.

75. D — Coordinate with attack crew for search of likely victim locations with crew support and accountability. Search operations during ongoing attack require coordination to support combined operations; likely victim locations focus the search effort while crew support maintains safety.

76. A — Inspect the area carefully, supplement with attack line if needed, allow sprinkler to continue until full control. Active sprinkler operation is providing fire control; supplementation supports complete extinguishment while continued sprinkler flow until verified control prevents fire redevelopment.

77. C — The truss roof has been exposed to significant heat duration; collapse risk is elevated and tactics should account. Lightweight wood truss roofs lose structural capacity rapidly under fire exposure; 18 minutes of fire involvement creates elevated collapse risk requiring tactical adjustment.

78. D — Conduct a thorough inspection of the kitchen, surrounding areas, and ventilate, since hidden fire is possible. Self-reported pre-arrival extinguishment may not have addressed hidden fire extension into voids, cabinets, or behind appliances; thorough inspection and ventilation prevent rekindle.

79. A — The fire has likely intensified due to ventilation; reassess attack capability and consider tactical adjustment. Sudden worsening of smoke after temporary improvement suggests the fire has accessed additional oxygen through ventilation and intensified; the attack must be reassessed for adequacy under the new conditions.

80. C — The kitchen window is the exhaust path; the crew should approach the fire with coordinated attack from the front, recognizing the venting dynamics. The front door entry is the assigned attack path; the venting kitchen window is the exhaust path, and the crew must account for this flow-path geometry during the advance.

81. D — The pump may be cavitating due to inadequate supply; investigate the supply side and reduce demand if needed. Knocking sounds with vibration from the pump are the classic cavitation signature; the operator should reduce throttle, address the supply issue, or shut down to prevent pump damage.

82. D — Establish isolation, eliminate ignition sources, consider protective water for tank cooling if safe. Active propane leak presents fire and explosion hazard; the response addresses ignition prevention with protective water for the tank to prevent BLEVE if conditions support safe application.

83. B — The broken window outward suggests internal pressure or occupant escape; the closed door protected the bedroom. Outward window breakage indicates failure from internal pressure (fire dynamics) or deliberate escape; the closed bedroom door protected the room from the rest of the fire, supporting the occupant survival principle.

84. B — 50 psi nozzle pressure is the standard operating pressure for smooth-bore handlines. The 2½-inch attack line with smooth-bore tip operates at 50 psi nozzle pressure regardless of the specific pump pressure configuration; the standard design pressure supports the stream characteristics for handline operation.

85. D — Coordinate with command; conduct basement search if conditions are survivable with full crew support and RIC. Unconfirmed reports of victims in severely deteriorated conditions require careful

evaluation; if conditions support survivable rescue, the operation proceeds with appropriate support; if not, the risk-vs-benefit assessment may preclude entry.

86. D — Communicate updated conditions to command, reassess tactical plan, coordinate with crew. Changing conditions require updated information to command for coordinated tactical response; the original plan may no longer apply to the new conditions.

87. C — The relief valve is responding to a discharge line shutdown or pressure spike; verify line operations. Relief valve activation indicates the pump pressure has exceeded the set point; sudden line shutdown causes a pressure spike that the relief valve releases, with the pump continuing normal operation afterward.

88. B — The search and attack are coordinated; the stable smoke conditions support both operations as designed. Stable smoke conditions with progressive attack reflect effective coordination; both operations can continue with ongoing reassessment as conditions change.

89. C — Coordinate with command and attack crew for rescue with appropriate technique for the mobility-limited occupant. Elderly wheelchair-using occupant requires specialized rescue technique (multiple personnel, transport device); command coordination ensures resource assignment matches the rescue requirements.

90. A — Communicate the collapse hazard to command and the attack crew for awareness and tactical adjustment. Partial collapse is a safety hazard for ongoing operations; immediate communication enables tactical adjustment to address the hazard before crews are exposed to additional collapse risk.

91. A — Communicate the conditions change to the attack crew and command; reassess the tactical situation. Smoke transition from gray laminar to black turbulent indicates significant fire growth or change; communication enables tactical adjustment by the attack crew and command.

92. B — The conditions indicate significant fire intensity with potential rapid deterioration; tactical assessment needed. Thick black turbulent smoke at high velocity with increasing temperature reflects intense active combustion approaching flashover-type conditions; tactical adjustment may be required to prevent crew exposure to deterioration.

93. A — The sprinkler may be controlling the fire effectively or running out of water; verify status and coordinate. Reduced sprinkler discharge has multiple possible causes (fire control, water supply, system issue); verification supports appropriate operational response to either continued effectiveness or system limitation.

94. A — Coordinate with command for assignment consistent with defensive operations. Defensive operations have been declared; crew assignment must be consistent with the defensive strategy through command coordination, not independent offensive operations.

95. C — Communicate to command; consider relief apparatus while monitoring the engine temperature carefully. Rising engine temperature during extended operation indicates the cooling system is being

stressed; relief apparatus maintains operational capability while preventing engine damage that would take the apparatus out of service permanently.

96. B — Continue SCBA use until atmospheric monitoring confirms safe levels per the standards in use. SCBA discipline is required until atmospheric monitoring confirms levels are below applicable exposure standards; the trend (declining levels) does not yet establish safety for unprotected exposure.

97. C — The fire load may exceed the 150 gpm capability; consider 2½-inch line or master stream. Inadequate fire control with the 1¾-inch line suggests the fire's heat-release rate exceeds the 150 gpm flow capability; escalation to higher-flow appliances may be needed for effective control.

98. C — The fire has been knocked down; the residual heat is venting without smoke production. Clear thermal column without smoke production indicates the fire has been suppressed and the remaining heat is venting through the opening; the residual thermal energy without active combustion is the post-knockdown signature.

99. D — The increased demand from operations is exceeding the hydrant's capacity; supplemental supply may be needed. Hydrant residual pressure drop from 60 to 25 psi reflects the increased flow demand from operations; supplemental supply addresses the capacity limitation for sustained operations.

100. A — The pump operator has increased the discharge pressure beyond the design pressure for the line. Elevated nozzle reaction force after operating period suggests excessive pump pressure; the operator should verify discharge pressure matches the design pressure for the specific line and nozzle configuration.

101. D — Establish isolation, identify the material via ERG, coordinate hazmat response with appropriate PPE. Sulfuric acid (UN 1830) is a corrosive hazardous material requiring specialized PPE and response; ERG provides specific response information and the hazmat team has the appropriate capabilities.

102. B — Recognize backdraft potential; coordinate ventilation with attack, prepare appropriately. Pulsing smoke with "huffing" sounds is the classic backdraft warning sign; coordinated ventilation and attack prevent the explosive deflagration that uncoordinated opening could trigger.

103. D — The discharge shutdown caused a brief water hammer; the relief valve should respond, and the pump can continue. Sudden valve closure creates a pressure spike in the system (water hammer); the relief valve releases the spike to protect the pump, and operations continue after the brief release.

104. C — The Charlie side may be the exhaust path; consider the flow path implications for the attack crew on the Alpha side. Higher-velocity smoke from the Charlie side indicates the exhaust portion of the flow path; the Alpha side may be the inlet, with the attack crew positioned in the flow path facing the moving fire products.

105. B — The conditions may indicate ventilation change, additional fuel involvement, or fire spread; reassess. Sudden change in stable conditions has multiple possible causes; tactical reassessment identifies the cause and supports appropriate operational adjustment.

106. C — Reposition the ladder to ensure stability and check the other ladders for similar shifts. Significant ladder shift indicates instability or settling; repositioning addresses the immediate issue while checking other ladders identifies similar problems that may affect ongoing operations.

107. C — Coordinate ventilation with the attack crew, considering basement-fire dynamics and smoke movement. Basement fires create unique ventilation challenges; smoke and heat rise through floor openings, and ventilation must be coordinated with attack to manage the smoke movement and support fire control.

108. D — Connect to the 2½-inch outlet for fire department use, providing higher flow capability for the attack. The 2½-inch outlets are sized for fire department higher-flow attack lines; the prior occupant use of the 1½-inch outlet does not affect the choice of the appropriate-flow outlet for the FD operation.

109. A — The damage pattern is consistent with external fire damage from above; the heater is unlikely the ignition source. Damage on the upper portion with clean burner area indicates heat from outside the heater (above), not from the heater's own operation; the appliance is unlikely the ignition source based on the damage direction.

110. D — The time may exceed safe SCBA duration; communicate to command for crew rotation consideration. 25 minutes of interior operation with the typical 30-minute SCBA rating (which actually delivers 15-20 minutes at heavy work rates) may exceed safe air supply; rotation supports continued safe operations.

111. B — Explain the safety concerns and request the homeowner wait until cleared by command for entry. The damaged structure presents safety hazards; the homeowner's understanding of the situation and command coordination support safe access when conditions allow.

112. A — Preserve the area, document the observations, report to command and the investigator immediately. Possible deliberate ignition evidence requires preservation for the qualified investigator; the Firefighter II's role is documentation and reporting, not independent collection or determination.

113. B — The aerial operations may push water and fire products into the structure where interior crews are operating. Elevated master streams from outside can move water and fire products into the structure, creating hazards for interior crews; coordination is essential for combined offensive-defensive operations.

114. D — The thermal layering reflects the fire's stage and combustion dynamics; useful tactical intelligence. Color separation in the smoke layer reflects the thermal stratification with different combustion products at different temperatures; the visible layering provides information about fire intensity and stage.

115. A — The remaining heat indicates continuing fire that requires further attack; do not declare control prematurely. Elevated interior temperature after apparent knockdown indicates residual fire that requires continued attack; declaring control prematurely risks fire redevelopment and crew exposure to deteriorating conditions.

116. B — Coordinate with command; the oxygen tanks present BLEVE and oxygen-enriched atmosphere hazards. Medical oxygen tanks in a fire create both BLEVE risk (from heated pressurized tanks) and oxygen-enriched atmosphere risk (intensifying combustion); tactical operations must account for these specific hazards.

117. A — Limit personnel exposure, conduct careful overhaul with structural awareness, consider engineer consultation if available. Significantly damaged structures present collapse risk during overhaul; limiting personnel exposure, careful operations, and engineering consultation balance overhaul thoroughness with safety.

118. A — Communicate to attack crew and command; assess PPV effectiveness impact and address fan if possible. PPV fan stoppage affects the ongoing ventilation effectiveness; immediate communication enables tactical adjustment while the fan is addressed for restart or replacement.

119. C — Communicate to command; ammunition or fireworks present projectile and explosion hazards. Stored ammunition or fireworks under fire conditions create projectile and explosion hazards; command coordination ensures appropriate isolation and operational adjustment for the specific hazard.

120. B — The truss construction warrants careful assessment; consider alternative ventilation if roof is questionable. Lightweight truss construction loses capacity rapidly under fire; at 8 minutes, assessment of roof integrity informs the decision between standard vertical ventilation or alternative methods.

121. C — Take immediate action to control the runaway nozzle while communicating MAYDAY/RIC needs as appropriate. An uncontrolled nozzle creates immediate injury hazard and exposes the operator to fire conditions; immediate action by nearby personnel addresses the hazard while command coordination ensures appropriate support.

122. A — The descending smoke indicates increasing risk on the search floor; communicate, consider withdrawal or attack support. Deteriorating conditions during search require immediate tactical assessment; the increasing risk may warrant withdrawal or additional attack-line support to maintain survivable search conditions.

123. C — Coordinate with command for immediate RIC response to the MAYDAY; assist as directed. A MAYDAY for a downed firefighter requires immediate coordinated response; RIC deployment with appropriate command coordination supports the rescue operation while maintaining overall fireground accountability.

124. D — Establish isolation; apply foam to the spill to prevent ignition; address the vehicle fire with coordination. Imminent ignition risk to the spill requires foam application for vapor suppression; isolation protects personnel, and coordinated vehicle fire attack prevents the spill ignition.

125. D — Coordinate with command for assignment focused on 3rd floor search/rescue with appropriate coordination. With attack and supply established by the first engine, the unmet operational need (3rd floor rescue) is the priority assignment for incoming units through command coordination.

126. C — Line A may have a kink, restriction, or appliance loss; investigate the line for cause. The pump operating at correct discharge pressure with the line gauge reading 50 psi lower indicates excessive friction loss in the line between the discharge and the gauge location; line inspection identifies the cause.

127. A — Balloon-frame allows fire spread through continuous vertical voids; ventilation should account for upper-level involvement. Balloon-frame construction's continuous vertical wall voids allow fire to spread from basement to attic; ventilation tactics must consider potential fire spread throughout the structure.

128. C — The detector wall-mounting at 3 feet is incorrect; smoke alarms should be on the ceiling or high on a wall. NFPA 72 requires smoke alarms be ceiling-mounted or within 12 inches of the ceiling on walls; a wall mount at 3 feet would substantially delay smoke detection due to the smoke rising to upper portions of the room first.

129. B — The setup may be a cause of the fire; preserve for investigator examination. Extension cords with multiple appliances through power strips create overload risk and are a recognized fire cause; the setup should be preserved for the qualified investigator to examine.

130. A — The broken windows are operational openings for ventilation and rescue access. Windows broken by the fire department for ventilation serve operational purposes; they are not indicators of structural failure but rather of tactical ventilation operations.

131. B — Establish isolation with appropriate distance, identify material via ERG, coordinate hazmat response. Unknown hazardous materials require precautionary isolation pending identification; ERG provides initial response information and hazmat team has specialized capability for unknown materials.

132. B — The improving conditions reflect successful attack; continue search and reassess as conditions warrant. Improving smoke conditions during ongoing attack indicate effective fire control; the search can continue with ongoing reassessment, and the improving conditions support the search operation's continuation.

133. A — Continue your support role with awareness of conditions and crew rotation requirements. Successful attack knockdown does not eliminate the need for support; continuing the assigned role with situational awareness and accountability for crew rotation supports continued operational effectiveness.

134. D — Investigate the cause (supply change, line obstruction, pump issue) and coordinate with command. Gradual pressure drop without operator change indicates a developing issue (supply reduction, line obstruction, or pump issue); investigation identifies the cause and coordination ensures appropriate response.

135. D — The ladder provides an additional egress path for your search crew if conditions warrant. Truck-placed ladders serve multiple purposes including egress for any fireground personnel; the ladder's availability provides operational flexibility for the search crew if conditions deteriorate.

136. C — Establish the second supply line, coordinate with the pump operator, and improve total water supply. Additional supply lines from separate hydrants improve total water capability and provide redundancy; the operation supports sustained fire control with adequate water for the demand.

137. A — The supply pump should increase pressure to maintain sprinkler flow as the heads activate. Additional sprinkler head activations increase the system flow demand; the supply pump must increase pressure to maintain adequate flow to all activated heads for continued effective fire suppression.

138. A — Address the medical oxygen tanks safely during overhaul; coordinate atmospheric assessment. Oxygen tanks remaining in the post-fire environment present BLEVE and oxygen-enriched atmosphere hazards; safe handling during overhaul with atmospheric assessment ensures crew safety.

139. B — The apparatus electrical system is under strain; address before more critical functions are affected. Dropping battery voltage and dimming warning lights indicate the electrical system cannot maintain full demand; addressing before critical functions (radios, gauges, emergency lighting) fail prevents operational compromise.

140. A — The conditions indicate elevated risk on the second floor; communicate, consider attack line support, reassess. Elevated temperature with smoke at chest level on the second floor indicates significant heat penetration from the first-floor fire; the search crew faces elevated risk requiring tactical assessment.

141. D — Use conventional forcing with the Halligan and flat-head axe (irons) on the outward-opening door. The irons combination provides the prying and striking capability needed for outward-opening doors with single deadbolts; conventional forcing is appropriate for the residential door and time pressure.

142. B — Document, preserve the area for investigator examination; the pattern indicates likely area of origin. Radiating char patterns identify potential points of origin; documentation and preservation support the qualified investigator's examination and cause determination.

143. C — Coordinate immediate crew rotation; the fatigued crew with low air requires relief promptly. Fatigued crews approaching low-air alarm are at elevated risk for accidents and ineffective operations; immediate rotation maintains operational effectiveness while supporting the relieved crew's recovery.

144. D — Recognize elevated collapse risk; consider trench cut from ladder pipe, exterior fan, or alternative ventilation. Lightweight wood truss roof at 20 minutes of fire exposure is at critical collapse risk; alternative ventilation methods maintain operational effectiveness while reducing personnel exposure to the unsafe roof.

145. B — Preserve the personal items where possible; document the area for investigation. Personal items at fire incidents have both investigative relevance and human-impact significance; preservation where possible supports the investigation while respecting the affected family's loss.

146. C — The ladders provide egress paths for occupants and firefighters; ventilation supports interior attack. Truck operations serve multiple purposes including ladder placement for egress and ventilation for interior attack support; the operations integrate with engine attack operations to support combined fireground objectives.

147. A — Connect to the standpipe outlet, deploy the high-rise pack, and operate with the appropriate nozzle pressure. The high-rise pack is configured for standpipe connection at the fire floor; the 100 psi outlet pressure supports both combination nozzles (100 psi NP) and smooth-bore handlines (50 psi NP with friction loss).

148. B — Establish isolation around the service entrance; coordinate with utility for de-energization before approach. Fire-damaged electrical service with exposed conductors creates electrocution risk; utility coordination for de-energization precedes safe personnel approach for assessment or operations.

149. C — Provide size-up report, establish attack and search coordination, prioritize rescue with active fire control. With possible trapped occupants and heavy smoke from the second floor, life safety drives the initial operational decisions; coordinated attack and search address both fire control and rescue simultaneously.

150. B — The transition from fire attack to overhaul requires PAR, atmospheric monitoring, and coordination with command. PAR verifies all personnel are accounted for, atmospheric monitoring informs the appropriate PPE requirements for overhaul, and command coordination ensures the transition is systematic.