Water Supply

1. Which pressure reading is the best indicator of how much more water is available in the system? p. 501

A.) Operating
B.) Elevation
*C.) Residual
D.) Static

2. What is the amount of energy in a body or stream of water measured as? p. 504

A.) Friction
*B.) Pressure
C.) Hammer
D.) Flow

3. What is the recommended minimum pressure for water coming from the fire hydrant? p. 492

A.) 80 psi (551 kPa)
B.) 60 psi (414 kPa)
*C.) 20 psi (138 kPa)
D.) 40 psi (276 kPa)

4. Where is the strainer located on a dry hydrant? p. 489

A.) Within the piping near the connector
*B.) Below the water level in the lake
C.) At the connector opening
D.) Above the water level in the lake

5. Which hose appliance can have three hose lines attached to it? p. 515

*A.) Water thief
B.) Reducer
C.) Siamese connection
D.) Wye

6. What is the first step taken when using a dry-barrel hydrant? p. 497

A.) Open the hydrant enough to check the flow
B.) Attach the hose to the hydrant outlet
C.) Look inside the hydrant for debris
*D.) Remove the cap from the outlet

7. What is the inner liner of a hose made from? p. 505

*A.) Synthetic rubber
B.) Plastic
C.) Polyester blend
D.) Woven material

8. What is used in most cases to connect an engine directly to a hydrant? p. 533

*A.) Soft suction hose
B.) Short length of large-diameter supply hose
C.) Short length of medium-diameter supply hose
D.) Hard suction hose

9. What should be done before removing the hydrant cap nearest the fire when performing a forward lay? p. 523

A.) The hydrant wrench has been attached to the hydrant nut
B.) A hose clamp has been placed on the supply line at the incident scene
C.) Charge the supply line to the appropriate pressure
*D.) Supply line has been removed from the apparatus and is lying on the ground

10. Which of the following should **NOT** be done with a hose that is frozen? p. 513

*A.) Bend it to break the ice
B.) Thaw with a steam generator
C.) Cut off the ice with an axe
D.) Transport on a flatbed truck

11. What is a primary advantage when suing a portable tank system at the fire scene? p. 490

A.) Pressure
*B.) Speed
C.) Performance
D.) Minimal manpower

12. What can be used at the fire scene which should be accessible from multiple directions? p. 490

A.) Dry hydrants
B.) Tanker shuttles
C.) Tanker trucks
*D.) Portable tanks

13. Which hose lay is most often used by the first-arriving engine company at the scene of a fire? p. 523

A.) Flat
B.) Reverse
*C.) Forward
D.) Four-way

14. Up to how many turns of the hydrant wrench may be needed to fully open the valve on the dry-barrel hydrant? p. 497

A.) 16
B.) 12
C.) 18
*D.) 14

15. Up to how much water can a portable pump deliver during drafting operations? p. 489

A.) 250 gallons per minute (1137 lpm)
*B.) 500 gallons per minute (2273 lpm)
C.) 750 gallons per minute (3410 lpm)
D.) 1000 gallons per minute (4546 lpm)

16. What motion should be performed when using the two-fire fighter stiff-arm method of uncoupling fire hose? p. 508

A.) Shake up and down
*B.) Push toward each other
C.) Pull away from each other
D.) Move side to side

17. Where should the first length of hose be laid when performing an accordion hose load? p. 531

*A.) Against the side of the bed on its edge
B.) Along the front edge of the bed on its edge
C.) Directly in the center of the bed on its edge
D.) Near the rear of the bed on its edge

18. How far from the hydrant should the apparatus stop when performing a forward hose lay? p. 523

A.) 20 feet (6 m)
B.) 15 feet (5 m)
*C.) 10 feet (3 m)
D.) 25 feet (8 m)

19. What length is the attack hose usually? p. 505

A.) 75 feet (23 m)
B.) 25 feet (8 m)
*C.) 50 feet (15 m)
D.) 100 feet (30 m)

20. Which is a correct statement about friction loss? p. 504

*A.) At a given flow rate, the smaller the diameter of the hose, the greater the friction loss
B.) At a given flow rate, the larger the diameter of the hose, the greater the friction loss
C.) At a given flow rate, the diameter of the hose makes no difference in the friction loss
D.) At a given flow rate, the smaller the diameter of the hose, the less the friction loss

21. Up to how much water can a tanker carry? p. 490

*A.) 5000 gallons (22,730 L)
B.) 3500 gallons (13,638 L)
C.) 1000 gallons (4546 L)
D.) 500 gallons (2273 L)

22. How long should the NFPA recommended service testing pressure be maintained? p. 514

A.) 7 minutes
B.) 3 minutes
*C.) 5 minutes
D.) 10 minutes

23. What is used to temporarily stop a leak in the hose line? p. 516

A.) Stop valve
*B.) Hose jacket
C.) Hose clamp
D.) Reducer

24. What is the first step taken when draining a hose line? p. 543

A.) Fold the hose down the entire length
B.) Apply pressure to the flat hose
*C.) Lay it straight on a flat surface
D.) Lift the hose up off the ground

25. Where should the soft suction hose be connected first when attaching it to a hydrant? p. 533

A.) Engine discharge
B.) Hydrant inlet
C.) Hydrant discharge
*D.) Engine inlet

26. How many new sections of hose should be used to replace a burst section of hose? p. 542

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

27. What is the minimum height from the center of a hose outlet to the finished grade as required by NFPA 24? p. 499

*A.) 18 inches (45 cm)
B.) 27 inches (69 cm)
C.) 36 inches (90 cm)
D.) 9 inches (23 cm)

28. Which technique is used to deploy hose from a hose bed and advance it a short distance? p. 537

*A.) Working hose drag
B.) Back hose drag
C.) Through the hole drag
D.) Shoulder carry

29. What color are Class C hydrants that offer less than 500 gpm (2273 lpm) of water flow at 20 psi (138 kPa)? p. 499

A.) Green
*B.) Red
C.) Orange
D.) Light blue

30. What is the last step taken when performing a reverse lay? p. 528

A.) Connect the supply line
*B.) Charge the line
C.) Connect the four-way hydrant valve
D.) Anchor the hose

31. Where is the supply line attached when connecting it to a standpipe and sprinkler system? p. 539

*A.) Discharge side of the attack engine
B.) Inlet side of the hydrant
C.) Discharge side of the hydrant
D.) Inlet side of the attack engine

32. Which is **NOT** a correct statement about the tanker shuttle? p. 492

A.) The tankers should be able to drive up, dump their water into the portable tanks, and return for another load
B.) At the fill site, the tankers must be refilled without delay
C.) Portable tanks should be able to receive the tanker's entire load
*D.) The route should include only one U-turn

33. How many hydrants are needed when testing hydrant flows? p. 501

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

34. What is the largest size supply line? p. 510-511

A.) 2 1/2 inches (65 mm)
B.) 4 inches (100 mm)
*C.) 6 inches (152 mm)
D.) 3 1/2 inches (89 mm)

35. What should be done when doing a flat hose load to keep the ends from getting too high at the folds? p. 531

A.) Make each folder a little longer
B.) Lay folds over the end
C.) Stack folds on top of each other
*D.) Alternate the folds

36. Approximately how far off the apparatus should the accordion load be pulled when preparing to use a shoulder carry? p. 539

A.) One-quarter
B.) One-half
C.) One-eighth
*D.) One-third

37. Where is the rubber gasket located in the threaded coupling? p. 507

A.) Outside of the swivel section of the female coupling
B.) Outside of the male coupling
C.) Inside the male coupling housing
*D.) Inside the swivel section of the female coupling

38. How should the spanner wrench handles be moved when using them to uncouple fire hose? p. 508

*A.) Down
B.) Up
C.) Clockwise
D.) Counterclockwise

39. What is the smallest size hose line that the outlets on the fire hydrants are sized to fit? p. 495

A.) 2-inch (50 mm)
*B.) 2 1/2-inch (65 mm)
C.) 1 1/2-inch (38 mm)
D.) 3-inch (76 mm)

40. Which NFPA standard addresses fire hose inspection and testing? p. 512

A.) NPFA 26
B.) NFPA 1507
*C.) NFPA 1962
D.) NFPA 1301

41. What level should the folds of the hose reach when performing the shoulder carry? p. 539

A.) Waist
B.) Abdomen
C.) Chest
*D.) Knee

42. What position should the hose be placed into when cleaning it? p. 513

A.) Attach it to the wall
B.) Tie it in knots
*C.) Lay it out flat
D.) Hang it upright

43. What is the pressure in a system when the water is not moving? p. 500

A.) Kinetic
B.) Harnessed
*C.) Static
D.) Motion

44. Which, if any, performs a forward lay when using a split hose lay? p. 528

A.) Supply engine
B.) Neither the attack nor the supply engine
*C.) Attack engine
D.) Both the attack and supply engine

45. How much of the water in the municipal water system must be suitable for drinking? p. 492

A.) 90%
B.) 75%
C.) 85%
*D.) 100%

46. At what pressure should each hose be filled with water when performing a service test? p. 514

A.) 40 psi (275 kPa)
B.) 60 psi (414 kPa)
C.) 30 psi (206 kPa)
*D.) 50 psi (344 kPa)

47. What is the reading taken on the second hydrant recorded as when testing the hydrant flow? p. 501

A.) Residual pressure
*B.) Pitot pressure
C.) Static pressure
D.) Operating pressure

48. What is considered the minimum usable residual pressure needed to reduce the risk of damage to underground water mains or pumps? p. 501

A.) 30 psi (207 kPa)
*B.) 20 psi (138 kPa)
C.) 40 psi (276 kPa)
D.) 10 psi (69 kPa)

49. What should the flow of the water be when using a four-way hydrant valve? p. 525

A.) Hydrant to supply line to supply engine
B.) Supply line to supply engine to hydrant
*C.) Hydrant to supply engine to supply line
D.) Supply engine to hydrant to supply line

50. Where should the foot be placed when performing the one-fire fighter foot-tilt method of coupling fire hose? p. 508

A.) Behind the female coupling
B.) On the female coupling
*C.) Behind the male coupling
D.) On the male coupling

51. What is often the water supply for the initial attack? p. 488

A.) Hydrant
B.) Lake
C.) Pool
*D.) Tanker

52. Where should the strainer be placed when setting up the portable tank? p. 491

A.) On the engine's outlet
B.) Near the opening of the tank
*C.) On the end of the suction hose
D.) On the tank's dump valve

53. What is the amount of pressure that remains in the system when water is flowing? p. 501

A.) Operating
B.) Static
*C.) Residual
D.) Elevated

54. What would be observed if the dry-barrel hydrant is still draining after operations are completed? p. 497

*A.) Suction felt at the opening
B.) Gurgling sound along the shaft
C.) Spongy feel to the ground
D.) Clicking noise near the stem nut

55. What is being referred to when the nominal hose size is given? p. 504

A.) Outside diameter of the hose when it is filled with water
*B.) Inside diameter of the hose when it is filled with water
C.) Inside diameter of the hose when it is empty
D.) Outside diameter of the hose when it is empty

56. What is the last line of defense when a burst hose line needs to be shut down? p. 542

*A.) Shut down with a hose clamp
B.) Shut down at the fire hydrant
C.) Shut down at the pump
D.) Shut down at a control valve

57. Which hose load has fewer sharp bends? p. 531

*A.) Horseshoe
B.) Flat
C.) Accordion
D.) Layered

58. What is normally the longest that a soft suction hose will be? p. 512

*A.) 25 feet (7.6 m)
B.) 50 feet (15 m)
C.) 100 feet (30 m)
D.) 10 feet (3 m)

59. What is the end of the hose bed closest to the cab called? p. 531

A.) Bottom
B.) Top
*C.) Front
D.) Rear

60. What is the initial pressure reading on the first hydrant when testing the hydrant flow recorded as? p. 502

A.) Pitot pressure
B.) Operating pressure
C.) Residual pressure
*D.) Static pressure

61. How should the couplings be positioned when performing the self-locking twin-donut hose roll? p. 518

A.) Opposite ends from each other
B.) Approximately 3 feet (0.9 m) from each other
*C.) Alongside each other
D.) Connect them together

62. How should the couplings be positioned when the rolling is completed for the self-locking twin-donut hose roll? p. 519

*A.) On top of the rolls
B.) Under the rolls
C.) Inside of the rolls
D.) One on top and one under the rolls

63. Which type of lugs largely replaced pin lugs? p. 507

*A.) Rocker lugs
B.) Higbee lugs
C.) Recessed lugs
D.) Pike lugs

64. What is a hose appliance that combines two hose lines into one? p. 515

A.) Water thief
B.) Gated wye
*C.) Siamese connection
D.) Wye

65. How far toward the male coupling end should you move from the midpoint when making the single-donut hose roll? p. 518

A.) 6 feet (1.8 m)
B.) 3 feet (0.9 m)
*C.) 5 feet (1.5 m)
D.) 4 feet (1.2 m)

66. Which part of the water supply system delivers water to users and hydrants? p. 494

A.) Grids
B.) Secondary mains
C.) Primary mains
*D.) Distributors

67. What is decreased due to friction loss? p. 504

A.) Speed
*B.) Pressure
C.) Volume
D.) Viscosity

68. Which is considered the most important in terms of water hammer issues? p. 504

A.) Close the backflow preventer slowly
*B.) Close the shut-off valve slowly
C.) Open fire hydrant valves slowly
D.) Open the valves on the fire engine slowly

69. What is used to protect a hose line when it is being hoisted over the edge of a roof? p. 517

A.) Hose clamp
*B.) Hose roller
C.) Hose adaptor
D.) Hose jacket

70. What is the second step taken when connecting a supply line to the fire department connection? p. 540

A.) Remove the supply hose line
B.) Attach the hose to the connection
C.) Check for debris in the connection
*D.) Remove the caps on the standpipe inlet

71. Where should the coupling be placed to start the flat hose load? p. 531

A.) Left-hand side of the hose compartment
B.) Back end of the hose compartment
*C.) Front end of the hose compartment
D.) Right-hand side of the hose compartment

72. What part of the double-jacket hose provides most of the strength? p. 505

A.) Outermost layer
*B.) Innermost layer
C.) Middle layer
D.) All layers together

73. What can be used to tighten couplings until leaking stops when this is a problem? p. 506

A.) Vice-grip pliers
*B.) Spanner wrench
C.) Lug wrench
D.) Flat-head screwdriver

74. What should always be worn when handling hose? p. 506

A.) Turnout coat
*B.) Gloves
C.) Helmet
D.) Boots

75. What should be used if the threads on the discharge ports on the hydrant need to be cleaned during an inspection? p. 500

A.) Soft cloth
B.) Box cutter
*C.) Steel brush
D.) Microfiber towel

76. What will the water source depend upon? p. 492

A.) Taxation level in the area
B.) Demand of the area
C.) Political influence in the area
*D.) Geographic features of the area

77. Where is the gauge placed to determine the volume of water flowing? p. 501

A.) Top edge of the stream
B.) Bottom edge of the stream
*C.) Center of the stream
D.) End of the stream

78. What is considered the primary weapon for fighting fire? p. 488

*A.) Hose line
B.) Tanker
C.) Forcible entry tools
D.) Fire extinguishing agent

79. Where is the hose placed when performing the working hose drag? p. 537

A.) Under the arm
B.) Crook of the elbow
C.) In the hand
*D.) Over the shoulder

80. What should be used to push the remaining unseated portions of the gasket into the coupling? p. 507

A.) Flange
B.) Forefinger
*C.) Thumb
D.) Wrench

81. What is the maximum interval between visual inspections of hose that should be allowed? p. 513

A.) One week
*B.) One quarter
C.) One month
D.) One year

82. What is the minimum number of directions that the grid arrangement provides water flow to a hydrant? p. 494

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

83. What determines how supply hose will be loaded? p. 528

A.) Dimensions of the apparatus hose bed
B.) The diameter of the hose line
C.) How much supply hose there is
*D.) How it will be laid out at the fire scene

84. What is the general rule of thumb for the pressure that the sprinkler system should be fed? p. 540

*A.) 150 psi (1034 kPa)
B.) 200 psi (1379 kPa)
C.) 250 psi (1723 kPa)
D.) 300 psi (2068 kPa)

85. Which type of hose roll is used for general handling and transporting of hose, as well as for tack storage? p. 518

*A.) Straight
B.) Twin-donut
C.) Single-donut
D.) Self-locking

86. What should be picked up when performing the one-fire fighter knee-press method of uncoupling fire hose? p. 508

A.) Make coupling end
B.) Center of the fire hose
*C.) Female coupling end
D.) Connector lug

87. At what height should the coupling be when performing the shoulder carry? p. 539

A.) Knee
B.) Waist
C.) Abdomen
*D.) Chest

88. Which type of valves are found on hydrants and on sprinkler systems? p. 517

A.) OS&Y
B.) Butterfly
*C.) Gate
D.) Ball

89. In what amount of time can a tanker offload as much as 3000 gallons (13,638 L) of water into the portable tank? p. 490

A.) 2 minutes
B.) 4 minutes
C.) 3 minutes
*D.) 1 minute

90. How are the Storz-type couplings turned when connecting them? p. 508

A.) Counterclockwise one-half of a turn
*B.) Clockwise one-third of a turn
C.) Clockwise one-half of a turn
D.) Counterclockwise one-third of a turn

91. Which kind of deliver system do most municipal water supply systems use? p. 494

A.) Gravity-feed
*B.) Combination pump-and-gravity-feed
C.) Pump-feed
D.) Main-and-secondary-pump-feed

92. What should be used when unloading a hose from a hose bed? p. 544

A.) Apparatus bay
*B.) Parking lot
C.) Side street
D.) Empty field

93. What is the attack engine supplied from initially when using a four-way hydrant valve? p. 525

A.) Tanker
*B.) Hydrant
C.) Engine
D.) Static source

94. Where should a pressure gauge be placed when measuring static pressure in a water distribution system? p. 500

A.) Shut off valve
B.) Stem nut
*C.) Hydrant port
D.) Hydrant valve

95. What does the shut-off valve control? p. 495

A.) Water flow to the secondary mains
B.) Water flow to the primary mains
*C.) Water flow to individual customers
D.) Water flow to the section of the grid

96. Within what distance from the road must the static water source be for the fire engine to be able to draft the water directly into the pump with a hard suction hose? p. 489

A.) 30 feet (9 m)
B.) 10 feet (3 m)
C.) 40 feet (12 m)
*D.) 20 feet (6 m)

97. What is the first place the supply line is connected when performing a reverse hose lay? p. 528

A.) Inlet of the hydrant
B.) Discharge side of the supply engine
C.) Discharge side of the hydrant
*D.) Inlet of the attack engine

98. What can rupture on the hose in freezing weather? p. 513

*A.) Inner liner
B.) Female coupling
C.) Hose jacket
D.) Male coupling

99. What are the first factors to check when inspecting hydrants? p. 497

A.) Total height access
*B.) Visibility and accessibility
C.) Exterior signs of damage
D.) Adequate water flow

100. What will occur when the threads in the couplings are aligned when using a two-fire fighter method for coupling fire hose. p. 508

A.) It rotates
*B.) It clicks
C.) It sinks
D.) It shifts