

U.S.C.G. Merchant Marine Exam
Master/Chief Mate of Unlimited Tonnage
Q103 Deck Safety
(Sample Examination)

Choose the best answer to the following Multiple-Choice Questions.

1. When attempting to enter a compartment containing a fire, which method of applying water is best?
- A. Sweeping the compartment with a fog stream
 - B. Solid stream directed toward the overhead
 - C. Straight stream directed into the center of the fire
 - D. High-velocity fog stream directed toward the overhead

Correct answer: A

2. Your cargo vessel is transiting pirate waters with a temporary security team onboard. The ship has been attacked and starts sinking. The decision has been made to abandon ship. During the muster, the security force leader is determined to be missing. What initial action should be taken?
- A. Presume the security force leader is staying behind to defend the ship
 - B. Designate a crew member to search for the security force leader
 - C. Designate a security team member to search for the security force leader
 - D. Presume the security force leader was killed in action

Correct answer: B

3. Your vessel is damaged and listing to port. The rolling period is long, and the vessel will occasionally assume a starboard list. Which action should you take FIRST?
- A. Fill an empty double bottom tank on the starboard side
 - B. Transfer all possible movable weights from port to starboard
 - C. Pump out ballast from the port and starboard double bottom tanks
 - D. Press up a slack centerline double bottom tank

Correct answer: D

4. The terms "ceiling" and "margin plate" are associated with which areas of the vessel?
- A. The main deck
 - B. The crew's quarters
 - C. The engine room
 - D. The tank top

Correct answer: D

5. Which type of weld testing can be used to detect internal flaws?
- A. Chemical reaction
 - B. Radiographic
 - C. Magnetic particle
 - D. Dye penetrant

Correct answer: B

Choose the best answer to the following Multiple-Choice Questions.

6. What quality of a diesel fuel is most significant for efficient combustion?

- A. Volatility
- B. Flash point
- C. Specific heat
- D. Viscosity

Correct answer: A

7. If you were being assisted by an icebreaker and he sent you the single letter "Q", what would he be telling you?

- A. That his vessel is healthy
- B. That he is shortening the distance between vessels
- C. That he has his engines in reverse
- D. To shorten the distance between vessels

Correct answer: D

8. Why should all electrical appliances aboard a vessel be grounded and ground fault protected?

- A. To protect personnel from electrical shock
- B. To increase their operating efficiency
- C. To prevent them from falling when the vessel rolls
- D. To prevent unauthorized personnel from operating them

Correct answer: A

9. What does reducing the liquid free surfaces in a vessel reduce?

- A. The rolling period
- B. The metacentric height
- C. Waterplane area
- D. The vessel's draft

Correct answer: A

10. What prevents water running along the shaft of a leaking centrifugal pump from entering the shaft bearing?

- A. Shaft seal
- B. Lantern ring
- C. Drain hole
- D. Water flinger

Correct answer: D

11. Which is the best source of information on the location of the blocks when dry docking a vessel?

- A. The docking diagram
- B. The shell expansion plan
- C. The ship's docking plan
- D. The general arrangement plan

Correct answer: C

Choose the best answer to the following Multiple-Choice Questions.

12. A floating vessel will behave as if all of its weight is acting downward through which point?

- A. The center of gravity
- B. The metacenter
- C. The center of buoyancy
- D. The center of flotation

Correct answer: A

13. When is it recommended that the external flotation bladder on an immersion suit be inflated?

- A. Only after two hours in the water
- B. Only after four hours in the water
- C. Upon entry into the water
- D. Before entry into the water

Correct answer: C

14. Which describes the floors aboard a ship?

- A. The longitudinal angle bars fastened to a surface for strength
- B. The frames to which the tank top and bottom shell are fastened on a double bottomed ship
- C. The longitudinal beams in the extreme bottom of a ship from which the ship's ribs start
- D. The transverse members of the ship's frame which support the decks

Correct answer: B

15. The vessel shown in illustration D025DG has broken down and you are going to take her in tow. The wind is coming from her starboard beam. You are making more leeway than she. Where should you position your vessel when you start running lines?

- A. A
- B. B
- C. C
- D. D

Correct answer: A

16. Your vessel is damaged and on an even keel. There is no trim. The freeboard is reduced to less than 1 foot. The rolling period is very long, and the vessel is sluggish in returning from a roll. Which action would you take FIRST to improve stability?

- A. Pump out the peak tanks simultaneously.
- B. In calm seas lower the lifeboats to the water and keep them alongside.
- C. Rig the jumbo boom and use it to jettison heavy deck cargo.
- D. Press up a centerline double bottom that is now filled to 15% capacity.

Correct answer: B

Choose the best answer to the following Multiple-Choice Questions.

17. While steering by autopilot you notice that the vessel is deviating from the given course and there is no follow up with corrective rudder action to return to the proper heading. The emergency operating procedure should require you to immediately change operation from _____.

- A. "hand" to "gyro"
- B. "control" to "hand"
- C. "gyro" to "hand"
- D. "gyro" to "control"

Correct answer: C

18. Your vessel has grounded on a bar. What should you do?

- A. Run the engine full astern to keep from being set further onto the bar.
- B. Switch to the high suction for condenser circulating water, if it is submerged.
- C. If you cannot get clear immediately, lighten the ship by pumping all ballast overboard.
- D. All of the above

Correct answer: B

19. The rescuer can best provide an airtight seal during mouth-to-mouth resuscitation by pinching the victim's nostrils and _____.

- A. holding the jaw down firmly
- B. cupping a hand around the patient's mouth
- C. applying his mouth tightly over the victim's mouth
- D. keeping the head elevated

Correct answer: C

20. You are fighting a class "B" fire with a portable dry chemical extinguisher. How should the discharge be directed?

- A. Aimed to bank off a bulkhead onto the fire
- B. At the main body of the fire
- C. At the seat of the fire, starting at the near edge
- D. Over the top of the fire

Correct answer: C

21. Which of the following best defines the term "chock"?

- A. A deck fitting used to secure mooring lines
- B. A sharp block of wood used to support hygroscopic cargo
- C. A casting fitted at the side of a deck used as a fairlead
- D. A smoke pipe from the galley stove

Correct answer: C

Choose the best answer to the following Multiple-Choice Questions.

22. How does foam extinguish a fire?

- A. By organic destruction of the burning material
- B. By absorbing the burning material
- C. By smothering the burning material
- D. Through the chemical combination with burning material

Correct answer: C

23. On the vessel's Fire Control Plan, all parts of a fixed fire suppression system are listed EXCEPT?

- A. Instructions for activation of system
- B. Spaces protected by the system
- C. Remote cylinder release(s)
- D. Extinguishing agent cylinder location

Correct answer: A

24. Your vessel has just run aground. Which of the following would be one of the first actions you should take in this situation?

- A. Back the engines full astern
- B. Pump out all double bottoms
- C. Sound all tanks
- D. Apply RPM to one propeller

Correct answer: C

25. How does good housekeeping prevent fires on a vessel?

- A. Allowing better access in an emergency
- B. Eliminating trip hazards
- C. Improving personnel qualifications
- D. Eliminating potential fuel sources

Correct answer: D

26. When evacuating a seaman by helicopter lift, which course should the ship take?

- A. A course that will have the hoist area in the lee of the superstructure.
- B. Downwind so that the apparent wind is close to nil.
- C. A course that will keep a free flow of air, clear of smoke, over the hoist area.
- D. With the wind dead ahead because the helicopter is more maneuverable when going into the wind.

Correct answer: C

Choose the best answer to the following Multiple-Choice Questions.

27. When discharging a portable CO2 fire extinguisher, why must you grasp the hose handle and NOT the discharge horn?

- A. The discharge horn becomes extremely hot
- B. The horn is placed directly in the flames
- C. The discharge horn becomes extremely cold
- D. The horn could come off in your hands

Correct answer: C

28. The distress message of a ship should include considerable information which might facilitate the rescue. Which is TRUE concerning the information?

- A. The message must be sent to a Coast Guard station FIRST
- B. The information is ALWAYS included in the initial distress message and repeated as required
- C. The information should be transmitted as a series of short messages, if time allows
- D. The distress message shall include the vessel's draft

Correct answer: C

29. Which is TRUE of the term negative slip on a vessel?

- A. The ship is moving slower than the theoretical propeller speed
- B. The distance a vessel travels when all propulsion has been stopped
- C. The distance a vessel travels in the same direction when rudder has been applied
- D. The ship is moving faster than the theoretical propeller speed

Correct answer: D

30. A fire in electrical equipment should be extinguished by using which type of extinguishing agent?

- A. CO2
- B. Salt water
- C. Foam
- D. Low-velocity fog

Correct answer: A

31. A well in the uppermost deck of a shelter deck vessel which has only a temporary means of closing for the purpose of gaining an exemption from tonnage measurement is called a(n) _____.

- A. cofferdam
- B. tonnage deck
- C. tonnage opening
- D. exemption space

Correct answer: C

Choose the best answer to the following Multiple-Choice Questions.

32. Which statement is TRUE concerning a motor lifeboat?

- A. It is propelled by engine or hand-propelling gear.
- B. It must be able to maintain a loaded speed of 6 knots.
- C. It has a sufficient fuel capacity, if motorized, for 48 hours of operation.
- D. All of the above

Correct answer: B

33. A vessel's bottom will be subjected to tension when weight is concentrated in which location(s)?

- A. Aft
- B. Amidships
- C. Forward
- D. At both ends of the vessel

Correct answer: B

34. Which term describes the geometric center of the underwater volume of a vessel?

- A. Center of gravity
- B. Tipping center
- C. Center of buoyancy
- D. Center of flotation

Correct answer: C

35. You are the person in charge of a lifeboat when land is sighted. Due to a medical emergency, you have made the decision to beach the lifeboat through the surf. Which of the following is of greatest consideration in making this decision?

- A. if there is a supply of freshwater near the landing area
- B. the likelihood of broaching or capsizing the survival craft
- C. the likelihood of the landing area being inhabited
- D. if the surf appears less rough from the sea

Correct answer: B

36. Where there are multiple accident victims, which type of injury should be the first to receive emergency treatment?

- A. Burns
- B. Eye injuries
- C. Major multiple fractures
- D. Severe shock

Correct answer: D

Choose the best answer to the following Multiple-Choice Questions.

37. The atmosphere in a tank is too rich when it is _____.

- A. capable of supporting combustion
- B. in a noncombustible state which can be relied on to occur naturally on a regular basis
- C. incapable of supporting combustion because the hydrocarbon vapor content makes the atmosphere below the LFL (Lower Flammable Level)
- D. incapable of supporting combustion because the hydrocarbon vapor content makes the atmosphere above the UFL (Upper Flammable Limit)

Correct answer: D

38. If you have to jump in the water when abandoning ship, your legs should be in which position?

- A. Your legs should be held as tightly against your chest as possible
- B. Your legs should be spread apart as far as possible
- C. Your legs should be extended straight down and crossed at the ankles
- D. Your legs should be in a kneeling position

Correct answer: C

39. Which is TRUE of a distress signal?

- A. It shall consist of 5 or more short blasts of the fog signal apparatus
- B. It shall consist of the raising and lowering of a large white flag
- C. It is used to indicate doubt about another vessel's intentions
- D. It may be used individually or in conjunction with other distress signals

Correct answer: D

40. You are involved in an emergency landing of a helicopter on the water. When should you inflate your life jacket?

- A. After reaching the water, but prior to exiting the helicopter
- B. After exiting clear of the helicopter
- C. Prior to reaching the water
- D. Upon entering the helicopter

Correct answer: B

41. Blocks and falls used as lifeboat gear must be designed with which minimum safety factor?

- A. 6, based on the weight of a fully-loaded survival craft
- B. 5, based on the maximum allowable stress
- C. 8, based on the normal working load of a survival craft
- D. 4, based on the breaking strength of the wire

Correct answer: A

Choose the best answer to the following Multiple-Choice Questions.

42. What is a wobbling tail shaft an indication of?

- A. Shallow water
- B. A tight tail shaft gland
- C. A worn stern bearing or misalignment
- D. An engine that is misfiring

Correct answer: C

43. Inflatable liferafts shall be serviced at an approved servicing facility every 12 months or not later than the next vessel inspection for certification. However, the total elapsed time between servicing cannot exceed which time frame?

- A. 12 months
- B. 15 months
- C. 17 months
- D. 18 months

Correct answer: C

44. When a vessel is stationary and in a hogging condition, the main deck is under which type of stress?

- A. Compression
- B. Racking
- C. Shear
- D. Tension

Correct answer: D

45. What is the purpose of the inclining experiment?

- A. To determine the location of the metacenter
- B. To verify data in the vessel's operating manual
- C. To determine the lightweight center of gravity location
- D. To verify the vessel's hydrostatic data

Correct answer: C

46. Which term is given to the maximum length allowed between main, transverse bulkheads on a vessel?

- A. Factor of subdivision
- B. Floodable length
- C. Permissible length
- D. Compartment standard

Correct answer: C

Choose the best answer to the following Multiple-Choice Questions.

47. On the fire control plans, in illustration D039SA below, the CO2 bottle room is designated by which symbol?

- A. 42
- B. 9
- C. 8
- D. 7

Correct answer: A

48. What is the purpose of rigging frapping lines on lifeboat falls?

- A. To give the occupants a safety line when the boat is being lowered from the embarkation level
- B. To reduce the violent swing of the lifeboat at the embarkation level when the tricing pendants are released
- C. To bring the lifeboat close alongside the rail in the embarkation position in order for passengers and crew to board
- D. To secure the lifeboat in the davits when in the stowed position

Correct answer: B

49. When a rescue vessel approaches a survival craft in heavy seas, which action should the person in charge of the survival craft take?

- A. Transfer only those personnel who are not seasick
- B. Transfer all personnel immediately
- C. Tie up to the rescue vessel
- D. Wait for calmer weather before transferring personnel

Correct answer: D

50. How would the exhaust of a properly operating diesel engine appear?

- A. Light blue haze
- B. Perfectly clear
- C. Light gray haze
- D. Light brown haze

Correct answer: B

51. In illustration D033DG below, what is the joint indicated by letter D?

- A. A seam
- B. A butt
- C. A span
- D. A sheet line

Correct answer: B

Choose the best answer to the following Multiple-Choice Questions.

52. What is the objective of shoring a damaged bulkhead?

- A. To support and hold the area in the damaged position
- B. To make a watertight seal at the damaged area
- C. To force the warped, bulged, or deformed sections back into place
- D. To withstand subsequent additional damage

Correct answer: A

53. On the all-purpose nozzle, what is the position of the nozzle valve when the handle is all the way forward?

- A. spray
- B. solid stream
- C. shut
- D. fog

Correct answer: C

54. The center of volume of the immersed portion of the hull is given which term?

- A. Center of gravity
- B. Center of buoyancy
- C. Center of flotation
- D. Tipping center

Correct answer: B

55. What is the difference between the starboard and port drafts due to the wind or seas called?

- A. Trim
- B. Flotation
- C. List
- D. Heel

Correct answer: D

56. In illustration D039SA below, which fire control plan symbol(s) represents the agent or device best suited for extinguishing a class "B" fire?

- A. 26
- B. 47
- C. 16 and 36
- D. 16 and 47

Correct answer: C

57. A vessel having continuous closely spaced transverse strength members is _____.

- A. cellular framed
- B. web framed
- C. longitudinally framed
- D. transversely framed

Correct answer: D

Choose the best answer to the following Multiple-Choice Questions.

58. All personnel on board a vessel should be familiar with the rescue boat's _____.

- A. fuel consumption rates
- B. maintenance schedules
- C. boarding and operating procedure
- D. navigational systems

Correct answer: C

59. A situation has occurred where it becomes necessary for you to be towed. What action should be taken to prevent your vessel from yawing?

- A. Shift weight to the center of the boat
- B. Shift weight to the bow
- C. Throw excess weight overboard
- D. Shift weight to the stern

Correct answer: D

60. Heave is motion along which axis?

- A. The vessel's centerline axis
- B. The vessel's transverse axis
- C. The vessel's longitudinal axis
- D. The vessel's vertical axis

Correct answer: D

61. Which action should you take after sending a false distress alert on VHF?

- A. Send a DSC cancellation message on Ch-70.
- B. Make a voice announcement to cancel the alert on Ch-16.
- C. Make a voice announcement to cancel the alert on Ch-22A.
- D. Make a voice announcement to cancel the alert on Ch-13.

Correct answer: B

62. How does bleeding from a vein appear?

- A. Dark red and spurting
- B. Dark red and has a steady flow
- C. Bright red and spurting
- D. Bright red and slow

Correct answer: B

Choose the best answer to the following Multiple-Choice Questions.

63. When water is used to fight a fire on board a ship, the effect of the weight of the water must be taken into account. How much sea water will increase the weight displacement by one ton?

- A. 64 cubic feet
- B. 35 cubic feet
- C. 100 gallons
- D. 500 liters

Correct answer: B

64. What is the spoken emergency signal for a distress signal over a VHF radio?

- A. Pan
- B. Red Alert
- C. Security
- D. Mayday

Correct answer: D

65. When the height of the metacenter is greater than the height of the center of gravity, the upright equilibrium position is stable and stability is _____.

- A. unstable
- B. positive
- C. neutral
- D. negative

Correct answer: B

66. When flammable liquids are handled in a compartment on a vessel, which is TRUE concerning the ventilation for that area?

- A. It should be operated continuously while vapors may be present
- B. It should be available on standby for immediate use
- C. It should be shut down if an explosive mixture is present
- D. It should be only operated intermittently to remove vapors

Correct answer: A

67. Which statement concerning the sources of drinking water is FALSE?

- A. Fresh water may be collected from condensation inside the liferaft.
- B. Lifeboat covers or canopies should be washed with rain before drinking water is collected.
- C. Seawater should never be consumed.
- D. Fresh water may be obtained from fish.

Correct answer: D

Choose the best answer to the following Multiple-Choice Questions.

68. What term indicates the immersed body of the vessel aft of the parallel mid-body?

- A. Stern
- B. Run
- C. Counter
- D. Flow

Correct answer: B

69. When evacuating a seaman by helicopter lift, the vessel should be which of the following?

- A. Underway on a course to provide no apparent wind
- B. Stopped with the wind dead ahead
- C. Stopped with the wind on the beam
- D. Underway with the wind 30° on the bow

Correct answer: D

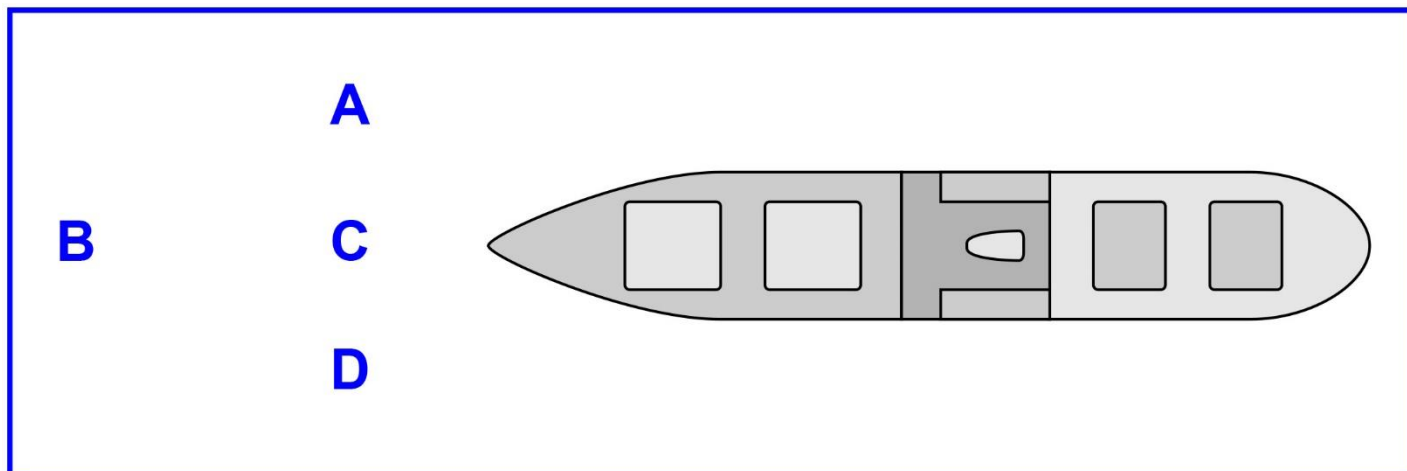
70. How should latitude 54°18.9'N be written when preparing an AMVER report?

- A. 0543N
- B. 5419N
- C. 54.3N
- D. 54°N

Correct answer: B

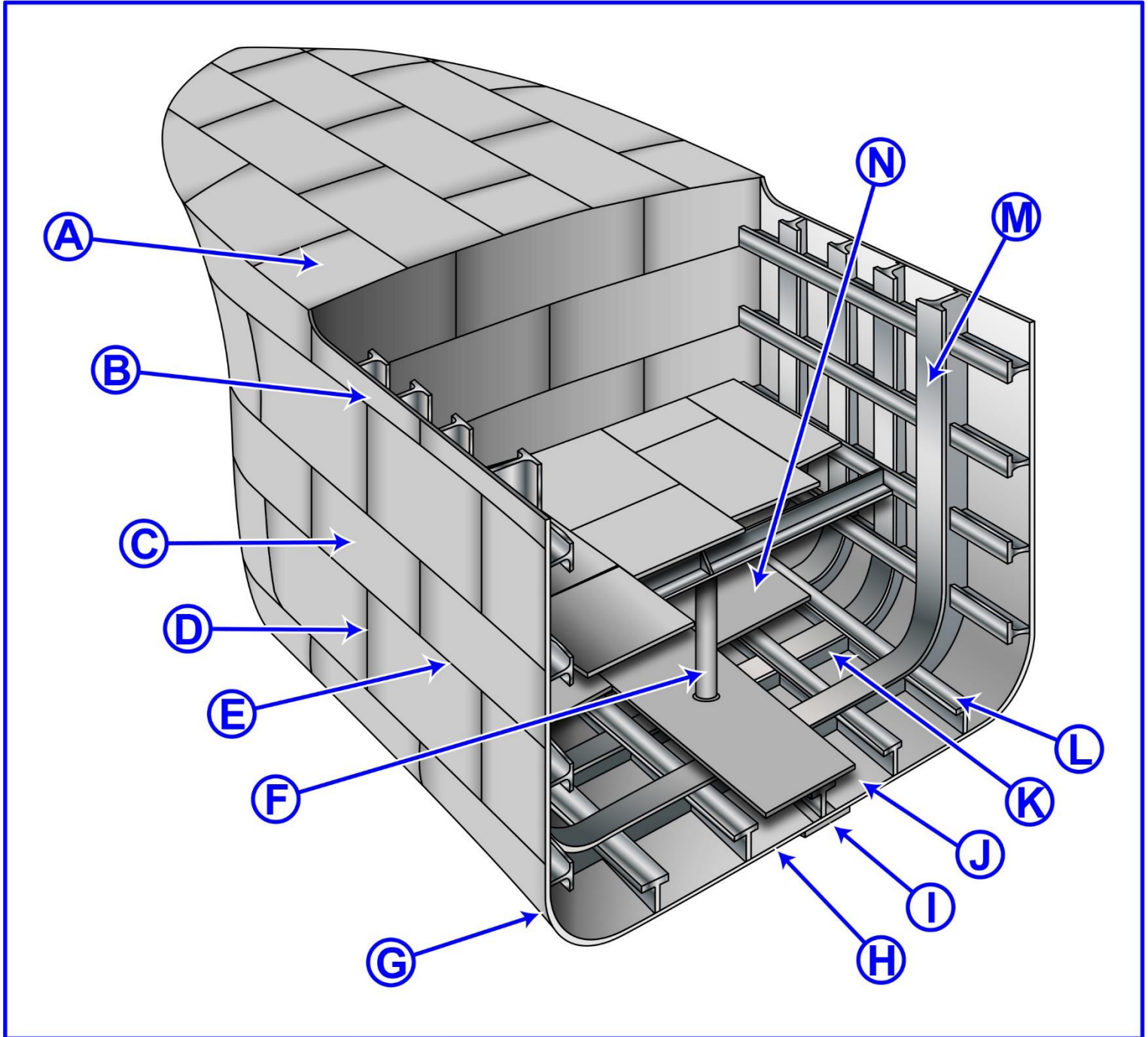


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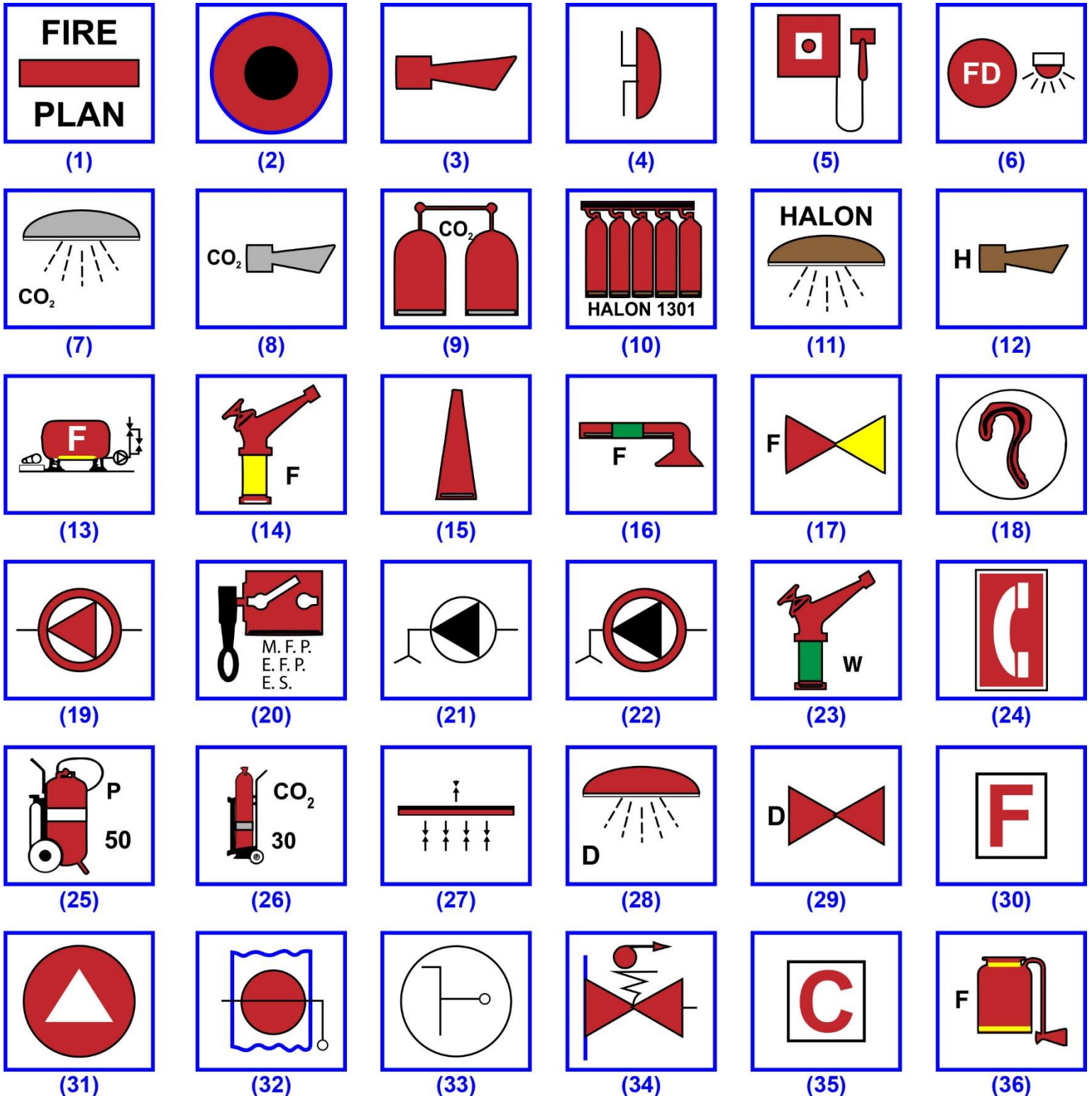
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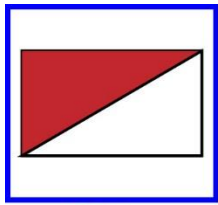


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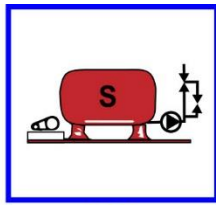
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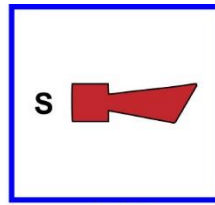
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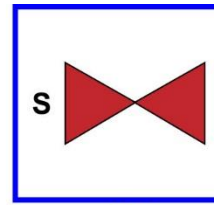
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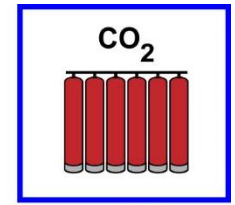
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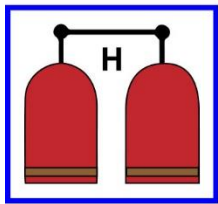
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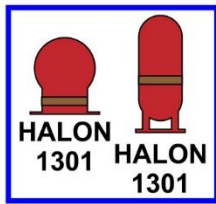
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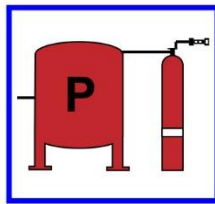
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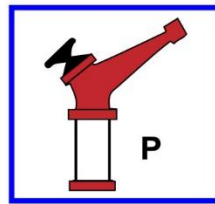
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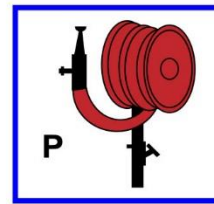
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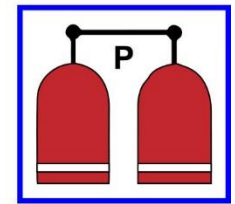
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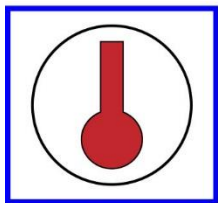
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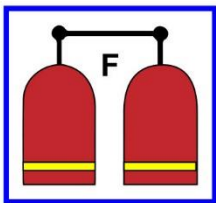
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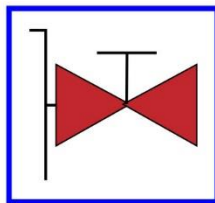
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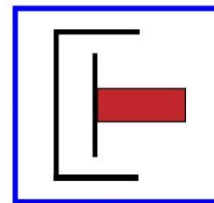
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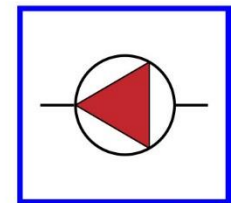
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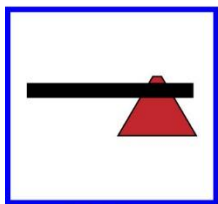
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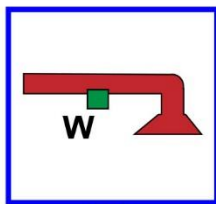
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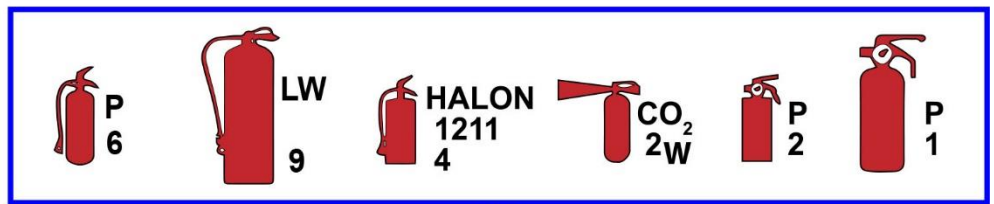
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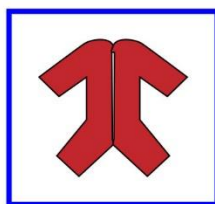
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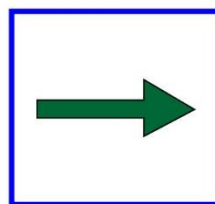
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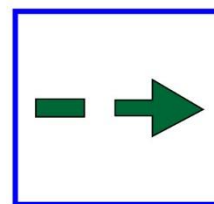
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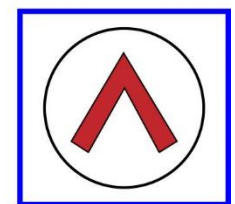
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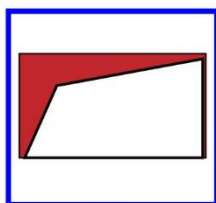
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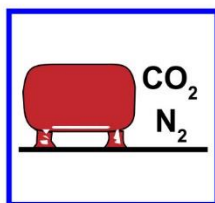
(63)



(64)



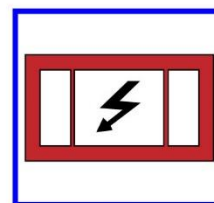
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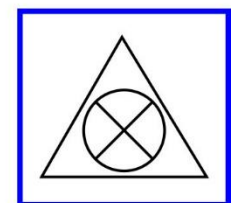
(66)



(67)



(68)



(69)

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