

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

Choose the best answer to the following Multiple Choice Questions.

1. Besides general arrangement plans, what other mediums may be utilized to provide fire control details to officers during fire and emergencies?

- (A) Microfilm
- (B) Blueprint
- (C) Booklet Form
- (D) None of the above

If choice C is selected set score to 1.

2. A fire in a pile of canvas is classified as class _____.

- (A) A
- (B) B
- (C) C
- (D) D

If choice A is selected set score to 1.

3. When a man who is conscious has fallen overboard is being picked up by a lifeboat, the boat should approach with the wind _____.

- (A) ahead and the victim just off the bow
- (B) just off the bow and the victim to leeward
- (C) just off the bow and the victim to windward
- (D) astern and the victim just off the bow

If choice B is selected set score to 1.

4. Which type of weld testing can be used to detect internal flaws?

- (A) Dye penetrant
- (B) Chemical reaction
- (C) Radiographic
- (D) Magnetic particle

If choice C is selected set score to 1.

5. The horizontal port or starboard movement of a vessel is called _____.

- (A) heave
- (B) surge
- (C) yaw
- (D) sway

If choice D is selected set score to 1.

6. You are on watch and see a man fall overboard. Which man overboard turn should NOT be used in this situation?

- (A) Racetrack
- (B) Scharnow
- (C) Single turn
- (D) Williamson

If choice B is selected set score to 1.

7. You have abandoned ship and are in charge of a liferaft. How much water per day should you permit each occupant to drink after the first 24 hours?

- (A) 1 pint
- (B) 1 can
- (C) 1 quart
- (D) 1 gallon

If choice A is selected set score to 1.

8. What would a signal indicating Greenwich mean time would be preceded with?

- (A) a code hoist to indicate Greenwich mean time to follow
- (B) the letters GT
- (C) the letter Z
- (D) the letter G

If choice C is selected set score to 1.

9. In illustration D033DG below, what is the strake of shell plating indicated by letter H known as?

- (A) bilge strake
- (B) garboard strake
- (C) sheer strake
- (D) outboard keel plate

If choice B is selected set score to 1.

10. The normal tendency for a loaded tanker is to _____.

- (A) be very tender
- (B) have a permanent list
- (C) hog
- (D) sag

If choice D is selected set score to 1.

11. What is the purpose of a vent header?

- (A) Combines individual vent lines into a main
- (B) Prevents passage of flame into fuel tanks
- (C) Catches overflow
- (D) Prevents entry of water into vent systems

If choice A is selected set score to 1.

12. The enclosed area defined as the intersection of the surface of the water and the hull of a vessel is the _____.

- (A) amidships plane
- (B) longitudinal reference plane
- (C) waterplane
- (D) baseline

If choice C is selected set score to 1.

13. A large basin cut into the shore, closed off by a caisson, and used for dry docking of ships is known as a _____.

- (A) caisson dock
- (B) graving dock
- (C) slipway
- (D) ground warp

If choice B is selected set score to 1.

14. The ceiling is _____.

- (A) a wooden protection placed over the tank top
- (B) material driven into seams or cracks to prevent leaking
- (C) the overhead in berthing compartments
- (D) None of the above are correct

If choice A is selected set score to 1.

15. An emergency sea anchor may be constructed by using _____.

- (A) a boat bucket
- (B) an air tank filled with water
- (C) an oar and canvas weighted down
- (D) All of the above

If choice D is selected set score to 1.

16. When using the term "limber system" one is referring to a _____.

- (A) cleaning system
- (B) strengthening system
- (C) drainage system
- (D) weight reduction system

If choice C is selected set score to 1.

17. What is the purpose of a striker plate?

- (A) Absorbs machinery vibration
- (B) Provides surface for applying force on machinery
- (C) Prevents valve stem over-travel
- (D) Provides landing surface for the sounding bob

If choice D is selected set score to 1.

18. Which will be a result of removing on-deck containers?

- (A) KG will increase
- (B) Metacentric height will increase
- (C) KB will increase
- (D) Reserve buoyancy will decrease

If choice B is selected set score to 1.

19. The correction to KG for transverse free surface effects may be found by dividing the vessel's displacement into the _____.

- (A) sum of the transverse free surface moments of the vessel
- (B) sum of the vertical moments of the vessel
- (C) transverse baseline of the vessel
- (D) transverse free surface correction for the vessel

If choice A is selected set score to 1.

20. The distance between the waterline of a vessel and the main deck is called _____.

- (A) freeboard
- (B) camber
- (C) buoyancy
- (D) draft

If choice A is selected set score to 1.

21. The weight of the liquid displaced by a vessel floating in sea water is equal to the _____.

- (A) reserve buoyancy
- (B) total weight of the vessel
- (C) weight required to sink the vessel
- (D) displaced volume

If choice B is selected set score to 1.

22. You must evacuate a seaman by helicopter lift. Which statement is TRUE?

- (A) The hoist line should be slack before the basket or stretcher is hooked on.
- (B) The tending line of the litter basket should be secured to the ship beyond the radius of the helicopter blades.
- (C) The ship should be stopped with the wind off the beam while the helicopter is hovering overhead.
- (D) The basket or stretcher must not be allowed to touch the deck.

If choice A is selected set score to 1.

23. With no environmental forces acting on the vessel, the center of gravity of an inclined vessel is vertically aligned with the _____.

- (A) center of flotation
- (B) metacenter
- (C) original vertical centerline
- (D) longitudinal centerline

If choice B is selected set score to 1.

24. The brickwork surrounding the firebox of a boiler is known as _____.

- (A) the water wall
- (B) refractory
- (C) the screen wall
- (D) fire plate

If choice B is selected set score to 1.

25. The forward draft of your ship is 27'-11" and the after draft is 29'-03". The draft amidships is 28'-05". Your vessel is _____.

- (A) listed
- (B) hogged
- (C) sagged
- (D) trimmed by the head

If choice B is selected set score to 1.

26. The wooden planking that protects the tank top from cargo loading is called _____.

- (A) toms
- (B) ceiling
- (C) frames
- (D) shores

If choice B is selected set score to 1.

27. Transverse frames are more widely spaced on a ship that is designed with the _____.

- (A) longitudinal system of framing
- (B) transverse system of framing
- (C) isometric system of framing
- (D) centerline system of framing

If choice A is selected set score to 1.

28. Which is NOT an advantage of the flush method of welded shell plating?

- (A) Reduces weight
- (B) Reduces plate stress
- (C) Keeps practically 100% of tensile strength at the joints
- (D) Reduces frictional resistance

If choice B is selected set score to 1.

29. The term that indicates how many tons of cargo a vessel can carry is _____.

- (A) bale cubic
- (B) deadweight
- (C) loaded displacement
- (D) gross tonnage

If choice B is selected set score to 1.

30. Signs of racking stresses generally appear at the _____.

- (A) bow and stern shell frames and plating
- (B) junction of the frames with the beams and floors
- (C) thrust bearing of the main shaft
- (D) garboard strake, at each side of the keel

If choice B is selected set score to 1.

31. Your ship of 12,000 tons displacement has a center of gravity of 21.5 feet above the keel. You run aground and estimate the weight aground is 2500 tons. The virtual rise in the center of gravity is _____.

- (A) 1.26 feet
- (B) 3.80 feet
- (C) 4.80 feet
- (D) 5.66 feet

If choice D is selected set score to 1.

32. If help has not arrived in 10-12 hours after abandoning a vessel in a rescue boat, you should _____.

- (A) go in one direction until the fuel runs out
- (B) shut down the engines if installed and put out the sea anchor
- (C) steer a course for the nearest land
- (D) steer a course for the nearest sea lane

If choice B is selected set score to 1.

33. The purpose of the inclining experiment is to _____.

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

If choice A is selected set score to 1.

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

If choice C is selected set score to 1.

35. The greatest effect on stability occurs from loose liquids flowing _____.

- (A) from fore to aft in the tanks of a vessel
- (B) from side to side in the tanks of the vessel
- (C) in and out of a vessel that is holed in a wing tank
- (D) in and out of a vessel that is holed in a peak tank

If choice C is selected set score to 1.

36. A situation has occurred in which your vessel must be towed. When the towing vessel passes the towing line to you, you should secure the line _____.

- (A) to the forward part of the deckhouse
- (B) to the forward-most bitts
- (C) to the base of the foremast
- (D) at the stern

If choice B is selected set score to 1.

37. Free communication will adversely affect transverse stability only when the flooded space is _____.

- (A) completely flooded
- (B) open to the sea above and below the waterline
- (C) off-center
- (D) on the centerline

If choice C is selected set score to 1.

38. For the purpose of training and drills, if reasonable and practicable, how frequently should rescue boats be launched with their assigned crew?

- (A) once a year
- (B) once a week
- (C) once a month
- (D) twice a year

If choice C is selected set score to 1.

39. You are approaching a ship that is broken down and are preparing to take her in tow. BEFORE positioning your vessel to pass the towline, you must _____.

- (A) compare the rate of drift between the ships
- (B) install chafing gear on the towline
- (C) secure the bitter end of the towing hawser to prevent loss if the tow is slipped
- (D) have traveling lizards rigged to guide the towline while it is paid-out

If choice A is selected set score to 1.

40. 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) "gyro" to "hand"
- (B) "gyro" to "control"
- (C) "hand" to "gyro"
- (D) "control" to "hand"

If choice A is selected set score to 1.

41. What is the MOST important consideration when determining how to fight an electrical fire?

- (A) Whether the fire is in machinery or passenger spaces
- (B) Maintaining electrical power
- (C) The amount of toxic fumes created by the extinguisher
- (D) Danger of shock to personnel

If choice D is selected set score to 1.

42. Fire in an engine compartment is best extinguished with carbon dioxide gas (CO₂) and by _____.

- (A) closing the compartment except for the ventilators
- (B) leaving the compartment open to the air
- (C) increasing the air flow to the compartment by blowers
- (D) completely closing the compartment

If choice D is selected set score to 1.

43. Your vessel has gone aground in waters where the tide is falling. The BEST action you can take is to _____.

- (A) shift the vessel's load aft and repeatedly surge the engine(s) astern
- (B) shift the vessel's load forward and wait until the next high tide
- (C) slowly bring the engine(s) to full speed astern
- (D) set out a kedge anchor

If choice D is selected set score to 1.

44. A rescue helicopter's hoist area should have a radius of at least _____.

- (A) 50 feet of clear deck
- (B) 10 feet of clear deck
- (C) 6 feet of clear deck
- (D) 25 feet of clear deck

If choice A is selected set score to 1.

45. You are at sea and have received a General Emergency message announcing the outbreak of war in Europe. You are directed to comply with the instructions in NGA (NIMA) PUB 117, Chapter Eight. Which statement is TRUE?

- (A) If on a coastwise voyage along the east coast of the U.S., you should put into the nearest port.
- (B) You should only enter a port in the danger zone during hours of darkness.
- (C) You should attempt to submit an AMVER report to NSA.
- (D) When over 200 hundred miles from a port in the danger zone, you should not darken ship.

If choice C is selected set score to 1.

46. What type of stern tube bearing has the least friction?

- (A) Bronze bushings
- (B) Lignum vitae
- (C) Oil-lubricated bearings
- (D) Hard rubber

If choice C is selected set score to 1.

47. In a water-tube marine type boiler, after the steam leaves the generating tubes, in what part of the boiler is temperature of the steam increased?

- (A) Superheater
- (B) Economizer
- (C) Mud drum
- (D) Firebox

If choice A is selected set score to 1.

48. The quickest method to stop a small diesel engine whose throttle or governor has become stuck open is to _____.

- (A) drain the fuel tank
- (B) turn off the ignition switch
- (C) apply the shaft brake
- (D) close the fuel supply valve

If choice D is selected set score to 1.

49. How should you FIRST treat a simple fracture?

- (A) applying a tourniquet
- (B) preventing further movement of the bone
- (C) attempting to set the fracture
- (D) alternately applying hot and cold compresses

If choice B is selected set score to 1.

50. While carrying out artificial respiration how should rescuers be changed out?

- (A) at ten-minute intervals
- (B) by not stopping the respiration for more than 5 minutes
- (C) only with the help of two other people
- (D) without losing the rhythm of respiration

If choice D is selected set score to 1.

51. What is the FIRST thing the rescuer must do if the patient vomits during mouth-to-mouth resuscitation?

- (A) turn the patient's body to the side, sweep out the mouth and resume mouth-to-mouth ventilation
- (B) pause for a moment until the patient appears quiet again, then resume ventilation mouth-to-mouth
- (C) switch to mouth-to-nose ventilation
- (D) ignore it and continue mouth-to-mouth ventilation

If choice A is selected set score to 1.

52. Normally It is desirable to have screens on the vents of potable water tanks to _____.

- (A) prevent backups
- (B) prevent explosions
- (C) filter the incoming air
- (D) stop insects from entering

If choice D is selected set score to 1.

53. What should you do if you have transmitted a distress call a number of times on channel 16 and have received no reply?

- (A) Repeat the message using any other channel on which you might attract attention.
- (B) Report the problem to the head electrician.
- (C) Key the microphone several times before transmitting again.
- (D) Turn up the volume on the receiver before transmitting again.

If choice A is selected set score to 1.

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

- (A) Red Alert
- (B) Pan
- (C) Security
- (D) Mayday

If choice D is selected set score to 1.

- 55.** You are underway in mid-ocean, when you hear a distress message over the VHF radio. The position of the sender is 20 miles away. What action should you take?
- (A) Do not acknowledge because you are too far away to take action.
 - (B) Do not acknowledge receipt until other ships nearer to the distress have acknowledged.
 - (C) Immediately acknowledge receipt of the distress message.
 - (D) Defer acknowledgment for a short interval so that a coast station may acknowledge receipt.

If choice C is selected set score to 1.

- 56.** How long must GMDSS Radio Logs be retained by the licensee when they relate to a distress situation or disaster?
- (A) 3 years
 - (B) 6 months
 - (C) 1 year
 - (D) 2 years

If choice A is selected set score to 1.

- 57.** The governor brake on a lifeboat winch shall be capable of controlling the speed of lowering a fully equipped lifeboat from a cargo ship at _____.
- (A) not more than 120 feet per minute
 - (B) not less than 120 feet per minute
 - (C) a safe speed only specified
 - (D) not more than 90 feet per minute

If choice A is selected set score to 1.

- 58.** The service use of pyrotechnic distress signals measured from the date of manufacture shall be limited to a period of _____.
- (A) 24 months
 - (B) 36 months
 - (C) 42 months
 - (D) 60 months

If choice C is selected set score to 1.

- 59.** What could be a result of insufficient lubrication of lifeboat winches and davits?
- (A) Corroding of sheaves on the davits so they will not rotate
 - (B) Moisture accumulation in winch motor damaging the electrical wiring
 - (C) Freezing of gears in cold weather
 - (D) All of the above

If choice D is selected set score to 1.

60. What is placed on the underside of an inflatable liferaft to help prevent it from being skidded by the wind or overturned?

- (A) Strikes
- (B) Sea anchor
- (C) A keel
- (D) Ballast bags

If choice D is selected set score to 1.

61. Number 3 lifeboat would be _____.

- (A) the forward boat on the starboard side
- (B) behind boat number 2 on the port side
- (C) behind boat number 1 on the starboard side
- (D) behind boat number 1 on the port side

If choice C is selected set score to 1.

62. To disengage a survival craft suspended from the cable above the water, you must pull the safety pin and _____.

- (A) pull the hook release handle and use the ratchet bar
- (B) pull the hook release handle
- (C) use the ratchet bar and depress the retainer
- (D) pull the hook release handle and depress the retainer

If choice A is selected set score to 1.

63. The minimum concentration of a vapor in air which can form an explosive mixture is called the _____.

- (A) threshold limit value (TLV)
- (B) lower explosive limit (LEL)
- (C) auto-ignition point
- (D) flash point

If choice B is selected set score to 1.

64. A fire starting by spontaneous combustion can be expected in which condition?

- (A) Oily rags are stowed in a metal pail.
- (B) Inert cargoes such as pig iron are loaded in a wet condition.
- (C) Clean mattresses are stored in contact with an electric light bulb.
- (D) Paints, varnish, or other liquid flammables are stowed in a dry stores locker.

If choice A is selected set score to 1.

65. A fire hose with a nozzle attached must be connected to each hydrant except when exposed to heavy weather or when the _____.

- (A) fire hose might be damaged by cargo operations
- (B) vessel is in port
- (C) fire pumps are used for purposes other than supplying water to the fire main
- (D) fire-main system is not charged

If choice A is selected set score to 1.

66. An "ABC" dry chemical fire extinguisher would be LEAST effective against a fire in _____.

- (A) high voltage electrical gear
- (B) a trash can
- (C) a mattress
- (D) spilled liquids such as oil or paint

If choice C is selected set score to 1.

67. In weighing CO₂ cylinders, they must be recharged if weight loss exceeds _____.

- (A) 15% of weight of full bottle
- (B) 10% of weight of charge
- (C) 10% of weight of full bottle
- (D) 20% of weight of charge

If choice B is selected set score to 1.

68. Carbon dioxide as a fire fighting agent has which advantage over other agents?

- (A) It is cheaper.
- (B) It is safer for personnel.
- (C) It is most effective on a per unit basis.
- (D) It causes minimal damage.

If choice D is selected set score to 1.

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

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

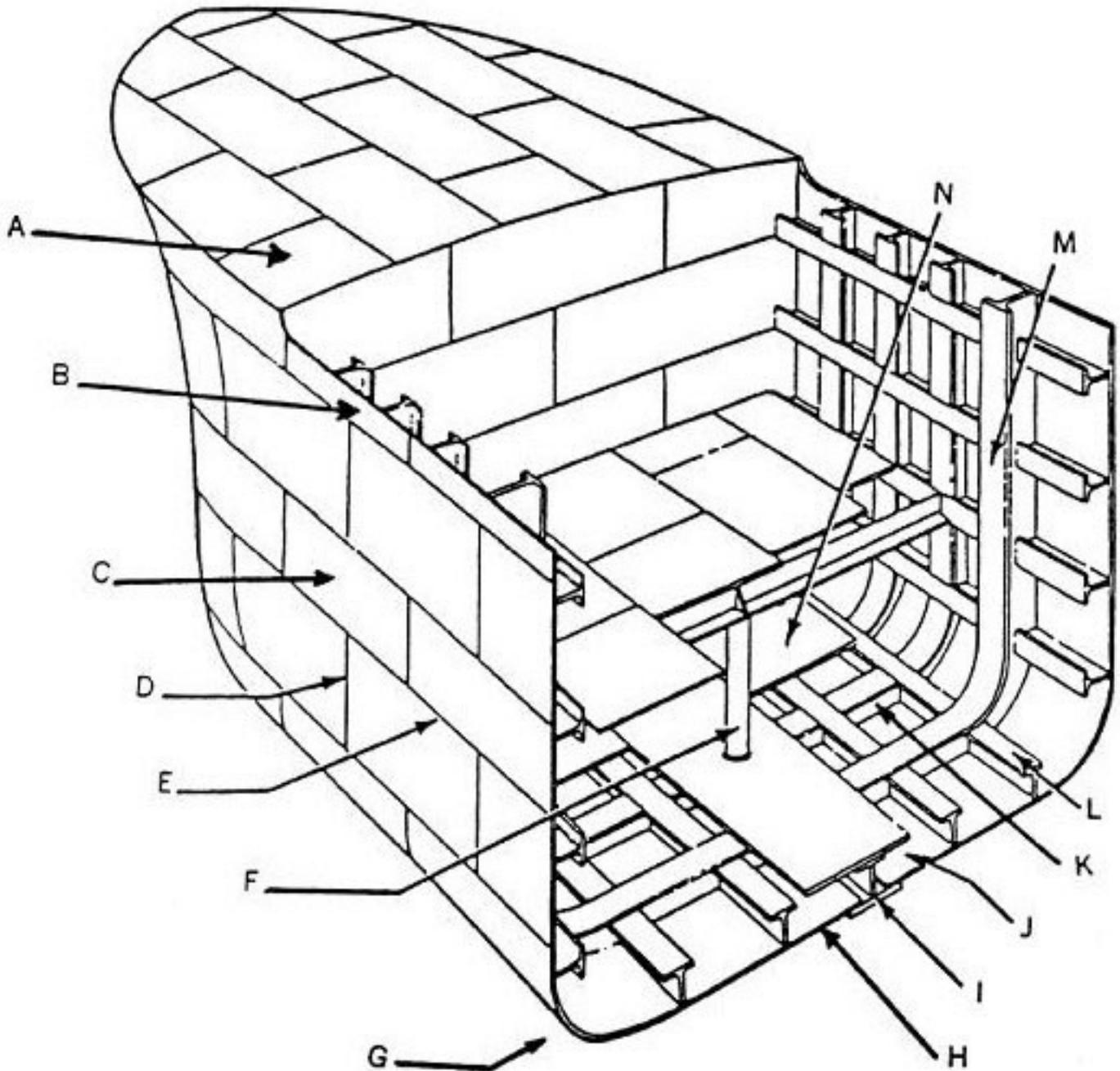
If choice B is selected set score to 1.

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

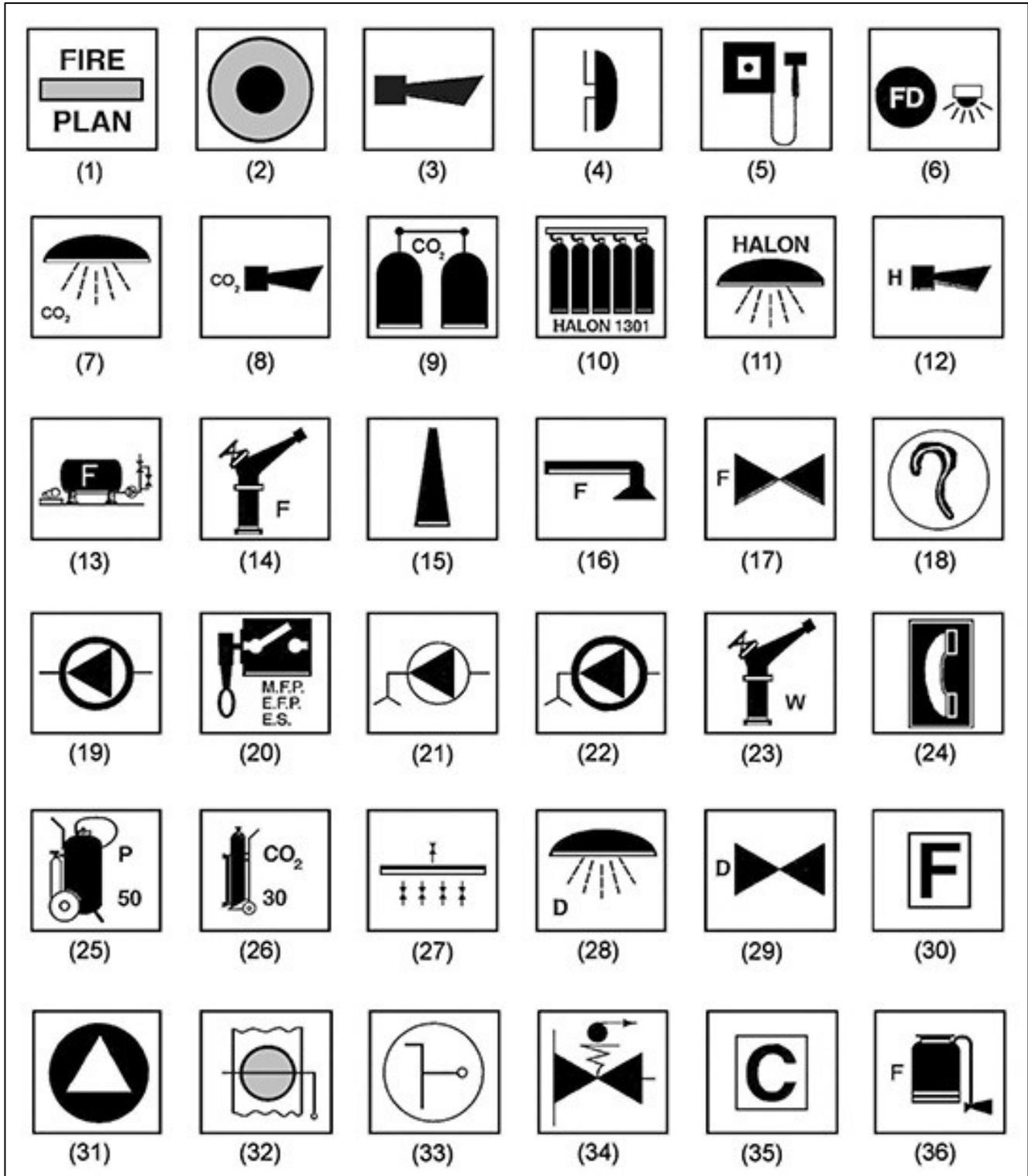
- (A) 47
- (B) 26
- (C) 16 and 36
- (D) 16 and 47

If choice C is selected set score to 1.

D033DG



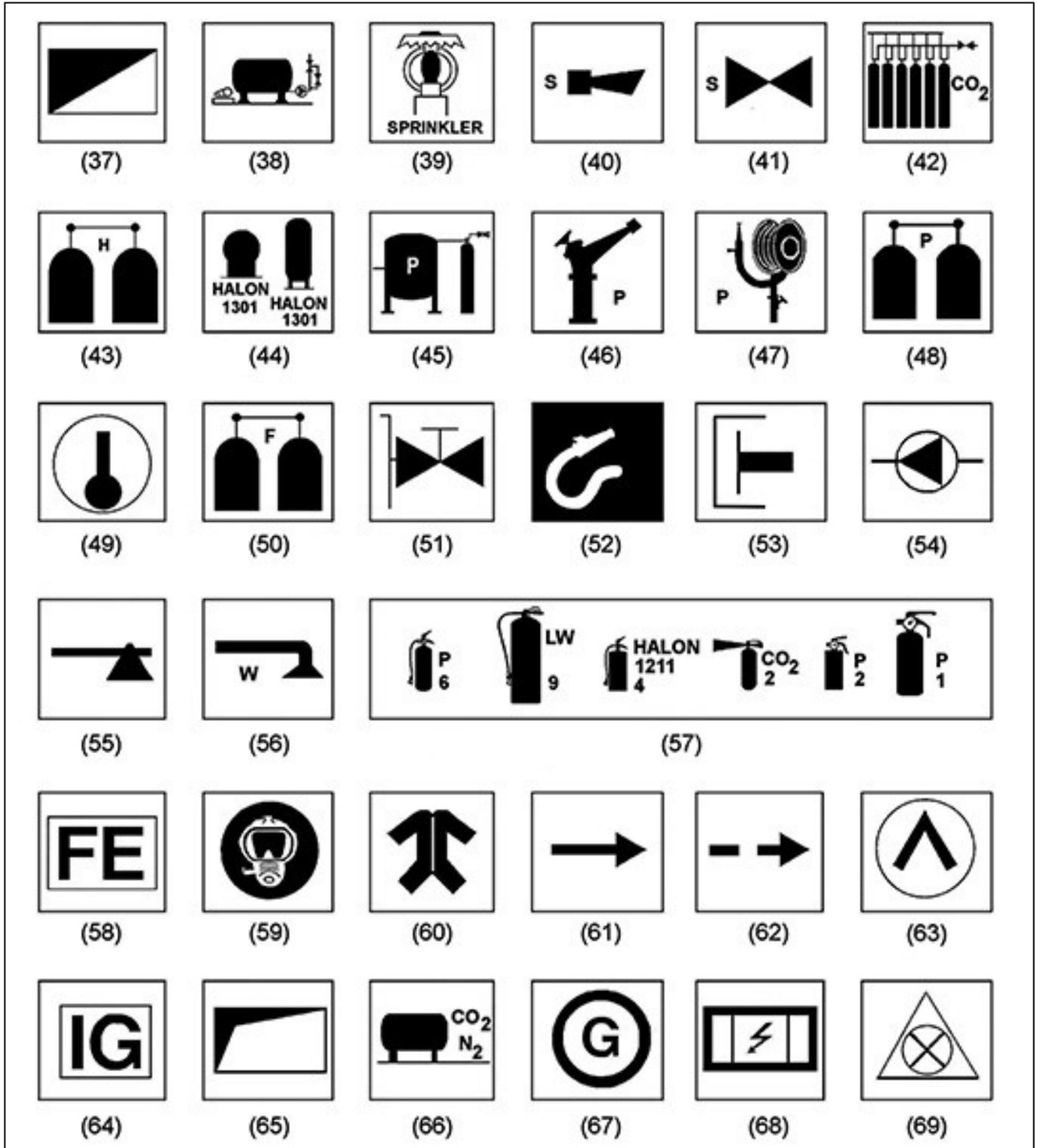
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