

U.S.C.G. Merchant Marine Exam

Master Less than 500-1600 Gross Registered Tons

Q321 Deck Safety

(Sample Examination)

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

1. Which of the following when removed will extinguish a fire?

- A. Sodium
- B. Oxygen
- C. Carbon dioxide
- D. Nitrogen

Correct answer: B

2. Which formula can be used to calculate metacentric height?

- A. $KM + GM$
- B. $KM - GM$
- C. $KM - KG$
- D. $KB + BM$

Correct answer: C

3. Which technique could be used to give a more comfortable roll to a stiff vessel?

- A. Add weight near the centerline of the lower hold
- B. Ballast the peak tanks
- C. Concentrate weights on upper decks
- D. Move weights lower in the ship

Correct answer: C

4. Which are the two points that act together to trim a ship?

- A. LCG and LCB
- B. LCF and LCB
- C. VCG and LCG
- D. Metacenter and LCG

Correct answer: A

5. Preventer bars are fitted on lifeboat releasing gear to prevent what from happening?

- A. The operation of the release lever until the boat is waterborne
- B. Accidental unhooking when the falls become slack
- C. The falls from unhooking if the releasing gear is operated accidentally
- D. The falls from rehooking after they have been released

Correct answer: B

6. What is the effect of heated intake air on a diesel engine that is at normal operating temperature?

- A. Increases engine life
- B. Reduces engine horsepower
- C. Increases efficiency
- D. Increases engine horsepower

Correct answer: B

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

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

Correct answer: A

8. Your cargo vessel's Certification of Inspection expires 30 April 2002. One of your inflatable liferafts was last serviced in January 2002. The raft must be reinspected no later than which date?

- A. June 2003
- B. January 2003
- C. April 2004
- D. January 2007

Correct answer: B

9. To reduce the number of strakes at the bow, two strakes are tapered and joined at their ends by a single plate. What is the name of this plate?

- A. Joiner
- B. Lap strake
- C. Stealer plate
- D. Cover plate

Correct answer: C

10. Overspeed of the diesel engine driving an electric generator could cause which situation to occur?

- A. Low exhaust temperatures
- B. A low voltage trip
- C. A reverse power trip
- D. Damage to the generator

Correct answer: D

11. What size bilge pump is required for a lifeboat which has a capacity of 675 cubic feet?

- A. 1
- B. 2
- C. 3
- D. 4

Correct answer: B

12. In illustration D012SA below, what will be released when pulling on line number 5?

- A. Frapping line
- B. Gripes
- C. Lifeboat
- D. Tricing pendant

Correct answer: D

13. 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, which action should you take?

- A. Compare the rate of drift between the ships
- B. Have traveling lizards rigged to guide the towline while it is paid-out
- C. Install chafing gear on the towline
- D. Secure the bitter end of the towing hawser to prevent loss if the tow is slipped

Correct answer: A

14. Oil fires are best extinguished by _____.

- A. cooling below the ignition temperature
- B. removing the fuel
- C. cutting off the supply of oxygen
- D. spraying with water

Correct answer: C

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

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

Correct answer: A

16. The gross weight of a fully charged CO₂ cylinder is 80 lbs. When the bottle is empty it weighs 60 lbs. What is the minimum acceptable gross weight of the CO₂ bottle before it should be recharged by the manufacturer?

- A. 55 lbs.
- B. 68 lbs.
- C. 78 lbs.
- D. 82 lbs.

Correct answer: C

17. The steering oar in a lifeboat is usually referred to as the _____.

- A. bumpkin oar
- B. sweep oar
- C. becket oar
- D. stroke oar

Correct answer: B

18. Which advantage does dry chemical have over carbon dioxide (CO₂) in firefighting?

- A. Compatible with all foam agents
- B. Cleaner
- C. More protective against re-flash
- D. All of the above

Correct answer: C

19. Which class of fire is an oil fire classified?

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

Correct answer: B

20. Which of the following defines the difference between the free-floating displacement and the KB of a grounded vessel?

- A. Transverse stability
- B. Inclining moment
- C. Grounding force
- D. Reserve buoyancy

Correct answer: C

21. Which statement is TRUE concerning an inflatable liferaft?

- A. The floor may be inflated for insulation from cold water.
- B. Crew members can jump into the raft without damaging it.
- C. The raft may be boarded before it is fully inflated.
- D. All of the above

Correct answer: D

22. Which item is of the most use in getting a lifeboat away from a moving ship?

- A. Fleming Gear
- B. The falls
- C. Boat hook
- D. Sea painter

Correct answer: D

23. Which distress signal is required for a liferaft in ocean service and could be effectively used to attract the attention of aircraft at night?

- A. The water light
- B. Smoke marker
- C. Red flares
- D. Orange dye marker

Correct answer: C

24. What is the SAFEST action to take with an accumulation of oily rags?

- A. The rags should be cleaned thoroughly for reuse
- B. The rags should be discarded as soon as possible
- C. The rags should be stored in a locker out of direct sunlight
- D. The rags should be kept in nonmetal containers

Correct answer: B

25. Which term describes the strengthening of damaged bulkheads by using wood or steel?

- A. Blocking
- B. Bracing
- C. Shoring
- D. Battening

Correct answer: C

26. An "ABC" dry chemical fire extinguisher would be LEAST effective against a fire in which situation?

- A. A trash can with contents on fire
- B. A burning mattress
- C. Burning spilled liquids such as oil or paint
- D. High voltage electrical gear burning

Correct answer: B

27. In vessel construction, which is TRUE of the garboard strake?

- A. It is located next to and parallel to the keel
- B. It is located next to and parallel to the gunwale
- C. It is another term for the bilge keel
- D. It is another term for the rub rail

Correct answer: A

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

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

Correct answer: D

29. An inflatable liferaft can be launched by _____.

- A. throwing the entire container overboard and then pulling on the operating cord to inflate the raft
- B. the float-free method ONLY
- C. removing the securing straps
- D. breaking the weak link on the painter

Correct answer: A

30. In the event of a fire, the doors to a stair tower must be closed to prevent the spread of fire by which method?

- A. Radiation
- B. Ventilation
- C. Conduction
- D. Convection

Correct answer: D

31. How should the number "1" be pronounced when spoken on the radiotelephone?

- A. NEW-MAL-WON
- B. NUM-EV-WUN
- C. OO-NO
- D. OO-NAH-WUN

Correct answer: D

32. Which visual distress signal is acceptable for daylight use only?

- A. Self-contained rocket-propelled parachute red flare
- B. Hand-held red flare
- C. Hand-held orange smoke distress flare
- D. Red aerial pyrotechnic flare

Correct answer: C

33. A person who observes an individual fall overboard should do which of the following?

- A. Immediately jump into the water to assist the individual
- B. Go to the control room for the distress flares
- C. Call for help and keep the individual in sight
- D. Run to the radio room to send an emergency message

Correct answer: C

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

- A. A keel
- B. Strikes
- C. Sea anchor
- D. Water pockets

Correct answer: D

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

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

Correct answer: D

36. You are picking up a conscious person that has fallen overboard in one of the vessels motorboats. Recovery is easier in a light breeze if you approach from which direction?

- A. Windward with the victim to leeward
- B. Leeward with the victim to windward
- C. Approach with the wind on your starboard side
- D. Approach with the wind on your port side

Correct answer: A

37. When electrical equipment is involved in a fire, where should the stream of dry chemicals be directed?

- A. Shot off a flat surface onto the flames
- B. Aimed at the source of the flames
- C. Fogged above the equipment
- D. Used to shield against electrical shock

Correct answer: B

38. When a helicopter is lifting personnel from an enclosed lifeboat, what should the other individuals in the boat do?

- A. Remove their life preservers to prepare for their transfer to the helicopter
- B. Remain seated inside to provide body weight for stability
- C. Stand on the outside of the boat to assist the person being lifted
- D. Enter the water in case the person being lifted slips from the sling

Correct answer: B

39. How should you warm up a diesel engine that has not been run for some time?

- A. Bring it up to top speed immediately and run until warmed up.
- B. Inject ether into the air intake to shorten warm up time.
- C. Idle for a brief period of time and then warm up at half speed.
- D. Run it at minimum speed until warmed to operating temperature.

Correct answer: C

40. When is it recommended that seawater be used for drinking?

- A. Under no conditions should seawater be drunk
- B. If gathered during or immediately after a hard rain
- C. After mixing with an equal quantity of fresh water
- D. Only at a maximum rate of two ounces per day

Correct answer: A

41. When supplemented by a comparable signal on the general alarm, what is the signal for boat stations or boat drill?

- A. More than six short blasts followed by one long blast of the whistle
- B. A continuous blast of the whistle for a period of not less than 10 seconds
- C. Three short blasts of the whistle
- D. One long blast followed by three short blasts of the whistle

Correct answer: A

42. In general, how often are sanitary inspections of passenger and crew quarters made aboard passenger vessels in river service?

- A. Once each day
- B. Once each week
- C. Once each month
- D. Once each trip

Correct answer: C

43. Where a propeller shaft passes through the hull, which device prevents water from entering the hull?

- A. Stop-water
- B. Sea cock
- C. Propeller boss
- D. Stuffing box

Correct answer: D

44. In which location are lifejackets required to be stowed?

- A. Locked watertight containers
- B. In the forepeaks
- C. In the pumproom
- D. Readily accessible spaces

Correct answer: D

45. What shall be conducted during a fire and boat drill?

- A. All lifeboat equipment shall be examined.
- B. Fire pumps shall be started and all exterior outlets opened.
- C. All watertight doors in the vicinity of the drill shall be operated.
- D. All of the above

Correct answer: C

46. With what other stations may portable survival craft transceivers communicate?

- A. Communication is permitted between survival craft and ship.
- B. Communication is permitted between survival craft and rescue unit.
- C. Communication is permitted between survival craft.
- D. All of the above

Correct answer: D

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

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

Correct answer: A

48. Which defines the "margin plate"?

- A. The outboard strake of plating on each side of an inner bottom
- B. The plate which sits atop the center vertical keel
- C. The uppermost continuous strake of plating on the shell of a vessel
- D. The outer strake of plating on each side of the main deck of a vessel

Correct answer: A

49. Small hull leaks can be temporarily repaired by _____.

- A. seizing
- B. parbuckling
- C. parceling
- D. caulking

Correct answer: D

50. What is the purpose of a check valve?

- A. Permits flow in one direction only
- B. Passes liquid but not air
- C. Regulates liquid flow
- D. Passes air but not liquid

Correct answer: A

51. You must shore up the collision bulkhead due to solid flooding forward. The bulkhead approximates an inverted triangle. Where should the center of pressure of the shores on the bulkhead be located?

- A. Approximately two-thirds of the way up the bulkhead
- B. Approximately halfway up the bulkhead
- C. At the bottom of the bulkhead
- D. Evenly over the surface of the bulkhead

Correct answer: B

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

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

Correct answer: A

53. You are calling another vessel by radiotelephone using the International Code of Signals. He responds with the words "Alpha Sierra". What does this indicate?

- A. You should proceed with your message
- B. He cannot accept traffic immediately
- C. You should send your message in plain language
- D. You should send your message in International Code

Correct answer: B

54. How should the letter "W" be pronounced when spoken on the radiotelephone?

- A. WI NE
- B. WOO LF
- C. DUB A U
- D. WISS KEY

Correct answer: D

55. Why does a centrifugal bilge pump require priming?

- A. Head pressure must equal discharge pressure
- B. Lack of ability to lift liquid to the impellers
- C. To overcome resistance of water in the discharge line
- D. To lubricate shaft seals

Correct answer: B

56. When the handle of an all-purpose nozzle is in the vertical position and without an applicator, the all-purpose nozzle will _____.

- A. produce high-velocity fog
- B. shut off the water
- C. produce low-velocity fog
- D. produce a straight stream

Correct answer: A

57. When using the lifeboat compass, you must be careful to _____.

- A. apply the correction for compass error
- B. set it on the centerline of the boat
- C. keep metal objects away from it
- D. All of the above

Correct answer: D

58. You are underway in mid-ocean when you hear a distress message. The position of the sender is 150 miles away. No other vessel has acknowledged the distress. Your maximum speed is 5 knots and due to the seriousness of the distress, you cannot arrive on scene to provide effective assistance. What action should you take?

- A. Send an urgency message about the distress.
- B. Transmit a message as though your vessel was in distress.
- C. Use the signal MAYDAY RELAY and transmit the distress message.
- D. Do not acknowledge the distress message.

Correct answer: C

59. When water pressure of 100 psi is used in conjunction with an inline proportioner for the production of the mechanical foam, how long will a 5-gallon can of liquid foam last?

- A. 1-1/2 minutes
- B. 2-1/2 minutes
- C. 5 minutes
- D. 15 minutes

Correct answer: A

60. What will happen if cargo is shifted from the lower hold to the main deck on the vessel?

- A. The GM will increase
- B. The center of gravity will move upwards
- C. The center of buoyancy will move downward
- D. The center of buoyancy will move up

Correct answer: B

61. While underway in thick fog you are on watch and hear the cry "man overboard". Which type of maneuver should you make?

- A. figure eight turn
- B. Racetrack turn
- C. Williamson turn
- D. Round turn

Correct answer: C

62. If you wear extra clothing when entering the water after abandoning ship it will accomplish which of the following?

- A. Help preserve body heat
- B. Reduce your body heat
- C. Make you more buoyant
- D. Make it more difficult to breathe

Correct answer: A

63. Which is TRUE concerning a fuel-air mixture below the lower flammable limit?

- A. The mixture is too rich to burn
- B. The mixture is too cool to burn
- C. The mixture is too lean to burn
- D. The mixture is too dense to burn

Correct answer: C

64. Fire may be spread by which means?

- A. Conduction of heat to adjacent surfaces
- B. Convection
- C. Direct radiation
- D. All of the above

Correct answer: D

65. Which term indicates the rise in height of the bottom plating from the plane of the base line?

- A. Camber
- B. Molded height
- C. Sheer
- D. Deadrise

Correct answer: D

66. A thirty pound plate would be which thickness?

- A. 3/8" thick
- B. 3/4" thick
- C. 1/2" thick
- D. 1" thick

Correct answer: B

67. The capacity of any liferaft on board a vessel can be determined by _____.

- A. examining the Certificate of Inspection
- B. examining the plate on the outside of the raft container
- C. referring to the Muster List ("Station Bill")
- D. referring to the shipping articles

Correct answer: B

68. A deck-stowed 40-foot container is giving off smoke, and one end is discolored from heat. The cargo is valuable and easily damaged by water. You want to extinguish the fire without further damage if possible. What action should you take?

- A. Pierce the container and discharge 6 or more portable CO₂'s then add more CO₂ hourly.
- B. Connect a portable line from the ship's fixed system and discharge CO₂ into the container.
- C. Cool the exterior of the container with water and close all vents; then keep it cooled until it can be off-loaded.
- D. Flood the container with water and disregard any cargo damage as the fire threatens the entire vessel.

Correct answer: A

69. What is the color of the signal flare sent up by a submarine indicating that a torpedo has been fired in a training exercise?

- A. Yellow
- B. White
- C. Red
- D. Green

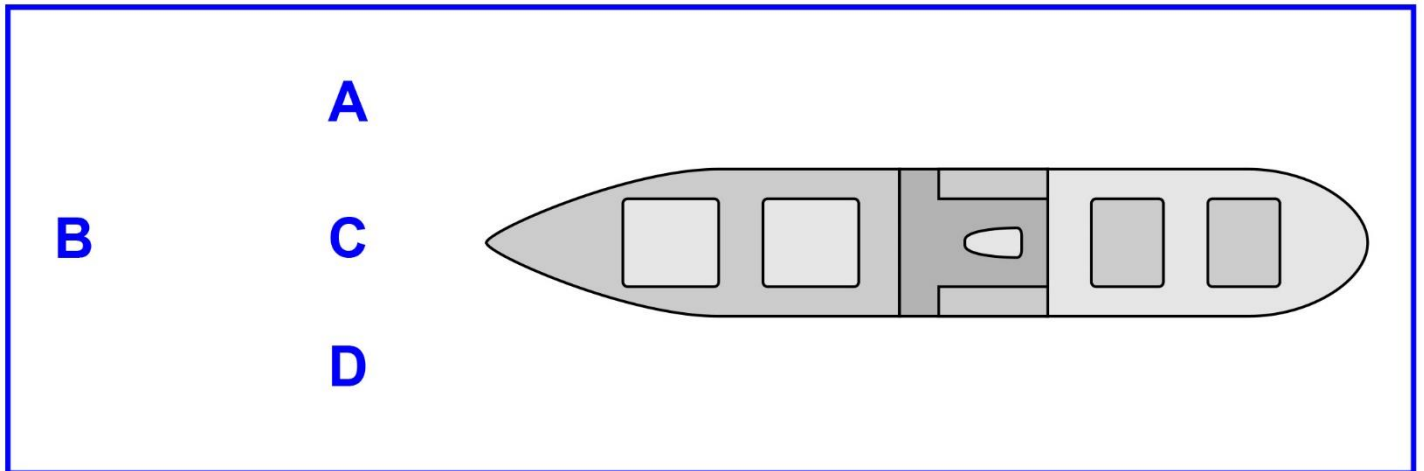
Correct answer: D

70. Which statement about damage control is TRUE?

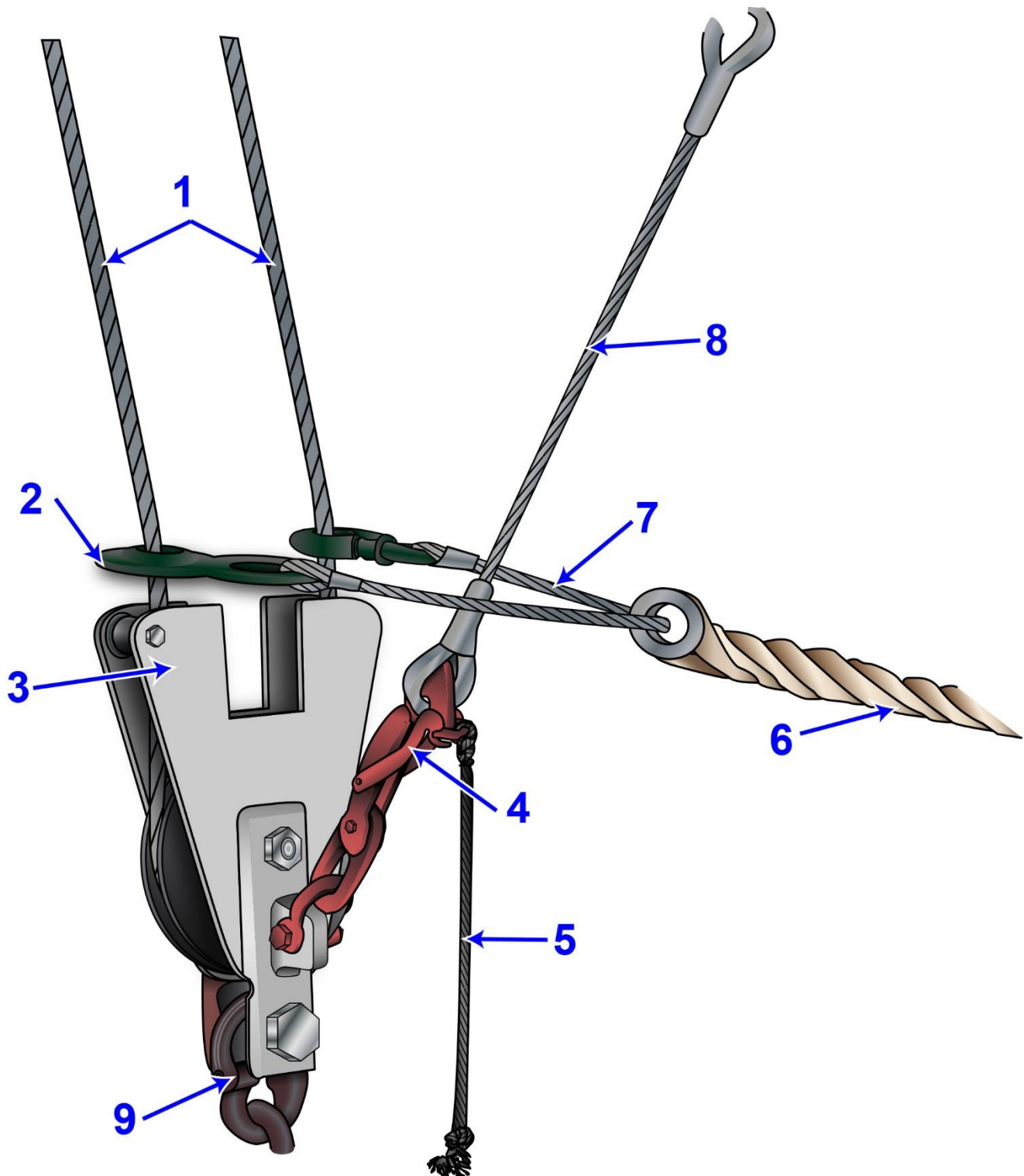
- A. Water flowing over the fo'c'sle bulwark is more dangerous than a hole in the hull at the waterline.
- B. The amount of water entering a ship through a hole varies inversely to the area of the hole.
- C. Water flowing into a lower compartment on a ship is more dangerous than water on deck or flowing into an upper compartment.
- D. A hole in the hull at the waterline is more dangerous than a hole below the inner bottom.

Correct answer: D

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