

U.S.C.G. Merchant Marine Exam

Master TV to Master Less than 500 Gross Registered Tons
Great Lakes and Inland

Q326 Navigation and Deck General – Safety
(Sample Examination)

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

1. What is the basic principle of the magnetic compass?
- A. Magnetic materials of the same polarity repel each other and those of opposite polarity attract.
 - B. The Earth's magnetic lines of force are parallel to the surface of the Earth.
 - C. The compass needle(s) will, when properly compensated, lie parallel to the isogonic lines of the Earth.
 - D. Magnetic meridians connect points of equal magnetic variation.

Correct answer: A

2. A man who is conscious has fallen overboard is being picked up by a lifeboat. In a mild breeze how should the boat approach the person in the water?
- A. With the wind astern and the victim just off the bow
 - B. With the wind ahead and the victim just off the bow
 - C. With the wind just off the bow and the victim to windward
 - D. With the wind just off the bow and the victim to leeward

Correct answer: D

3. You are 15 feet off a pier and docking a vessel using only a bow breast line and stern breast line. Once the slack is out of both lines you begin to haul in on the bow breast line. What is the effect on the vessel?
- A. The bow and stern come in equally closer toward the pier.
 - B. The bow will come in and the stern will remain the same distance off the pier.
 - C. The bow will come in and the stern will go out.
 - D. The stern will come in and the bow will remain the same distance off the pier.

Correct answer: B

4. Which statement about tunnel bow thrusters fitted to large vessels is TRUE?
- A. Because of their location, most modern installations have as much power as a tug.
 - B. When going astern at slow speed, they provide effective steering control.
 - C. They are fully effective at all drafts.
 - D. They are effective on most vessels at speeds up to 10 knots.

Correct answer: B

5. Which maneuver will return your vessel to a person who has fallen overboard in the shortest time?
- A. A Williamson Turn
 - B. Make two 180° turns
 - C. A single turn with hard rudder
 - D. Put the engine(s) crash astern, no turn

Correct answer: C

6. How often are each EPIRB and SART for lifeboats required to be tested on the vessel?

- A. Weekly
- B. Every 2 weeks
- C. Monthly
- D. Every 3 months

Correct answer: C

7. Which best describes an anchor buoy?

- A. A black ball that is hoisted when the ship anchors
- B. A buoy attached to the scope of an anchor chain
- C. A mark of the number of fathoms in an anchor chain
- D. A buoy attached to the anchor

Correct answer: D

8. A sling is a device used in which operation?

- A. Hoisting personnel aboard a vessel
- B. Hoisting cargo aboard a vessel
- C. Hoisting the anchor
- D. Securing a small boat to a large vessel

Correct answer: B

9. What is a system of reservoirs and connecting tubes in a gyro compass called?

- A. The spider element
- B. The rotor
- C. The mercury ballistics
- D. The gyrotron

Correct answer: C

10. You abandoned ship in the North Atlantic and one of the crew members is hypothermic. During a SAR helicopter extraction which lifting device should be avoided when hoisting this patient to the aircraft?

- A. The rescue net
- B. The rescue litter
- C. The rescue sling
- D. The rescue basket

Correct answer: C

11. Which statement is TRUE regarding the Emergency Position Indicating Radio beacon (EPIRB)?

- A. EPIRBs shall be tested monthly
- B. EPIRBs secured in the emergency locker
- C. EPIRBs are only required to be tested annually
- D. EPIRBs shall be secured inside the wheelhouse

Correct answer: A

12. In ship construction, which is TRUE concerning frame spacing?

- A. Spacing is uniform over the length of the vessel, with the exception of the machinery spaces, where it is reduced due to increased stresses
- B. Spacing is greater at the bow and stern
- C. Spacing is uniform over the length of the vessel
- D. Spacing is reduced at the bow and stern

Correct answer: D

13. A seaman you have just discharged from an Oceanographic Research Vessel has a Continuous Discharge Book. Which statement is TRUE?

- A. The record of entry in the continuous discharge book shall agree with the entry made in the Ship's Articles.
- B. A Certificate of Discharge form should be attached to the book.
- C. An entry should be made in the book and a Certificate of Discharge issued to the seaman.
- D. If the vessel was on coastwise articles, the record of discharge will be made in the Official Logbook.

Correct answer: A

14. Why does a centrifugal bilge pump require priming?

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

Correct answer: C

15. What is the minimum number of fire axes required on a vessel of 900 GT?

- A. 2
- B. 4
- C. 6
- D. 8

Correct answer: C

16. You are docking a vessel in a slip which has its entrance athwart the tide. You land the ship across the end of the pier, stemming the tide, preparatory to breaking the ship around the corner. You have one tug to assist. Where would you generally tie up the tug?

- A. Tie her up on the inshore bow to hold the ship off the end.
- B. Tie her up on the inshore quarter to lift the stern.
- C. Have her on a hawser from the stern.
- D. Tie her up on the offshore bow.

Correct answer: D

17. Which statement is TRUE concerning a motor lifeboat?

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

Correct answer: A

18. Which indicates the holding capability of an anchor?

- A. The shape of the anchor
- B. The stowage of the anchor on board
- C. The anchor's ability to dig in
- D. The size of the vessel and its draft

Correct answer: C

19. Which term is given to the vertical angle between the horizontal and the magnetic line of force?

- A. Vertical angle
- B. Magnetic angle
- C. Magnetic dip
- D. Elevation

Correct answer: C

20. Which condition must be met during a stability test on an inspected vessel?

- A. The vessel must be moored snugly
- B. Each tank must be partially full to show it does not leak
- C. All dunnage, tools, and extraneous items are secured
- D. Water under vessel must be deep enough to prevent grounding

Correct answer: D

21. Which statement about the use of portable electric lights in petroleum product tanks is TRUE?

- A. They can be used only when the compartment is gas free.
- B. They must be explosion-proof, self-contained, battery-fed lamps.
- C. The fixture must be explosion-proof and the line must have a ground wire.
- D. No portable electric equipment of any type is allowed.

Correct answer: B

22. Which is TRUE if the compass error of a magnetic compass has no deviation?

- A. The compass error is constant at any geographical location
- B. The compass error is equal to variation
- C. The compass error is eliminated by adjusting the compass
- D. The compass error equals zero

Correct answer: B

- 23.** You are going astern (single-screw, right-handed propeller) with the anchor down at a scope of twice the depth of the water. As the anchor dredges, how should you expect the vessel to react?
- A. The stern will walk to the same side as the anchor being used
 - B. The stern will walk to port but at a reduced rate
 - C. The stern will walk to port at a faster rate than normal
 - D. The vessel will back in a straight line only if the starboard anchor is deployed

Correct answer: B

- 24.** Instructions to the crew in the use of all the ship's fire-extinguishing and lifesaving equipment shall be completed within which time frame?
- A. Within one week of sailing
 - B. Within one month and repeated quarterly
 - C. Before sailing
 - D. Within any two-month period

Correct answer: D

- 25.** In illustration D033DG below, what is the joint indicated by letter D?
- A. A span
 - B. A seam
 - C. A butt
 - D. A sheet line

Correct answer: C

- 26.** A heated bulkhead has which effect on a hygroscopic commodity?
- A. Causes moisture to accumulate against the bulkhead
 - B. It raises the vapor pressure of the commodity
 - C. It will lower the dew point of the air
 - D. It lowers the vapor pressure of the commodity

Correct answer: B

- 27.** Fire hose stations shall be marked in red letters and figures such as Fire Station No. "1", "2", "3", etc. Which is the minimum height of the letters and figures required by regulation?
- A. 1/2 inch
 - B. 1 inch
 - C. 1-1/2 inches
 - D. 2 inches

Correct answer: D

- 28.** Which statement is TRUE concerning CO₂ cylinders which protect the small space in which they are stored?
- A. The cylinders can NOT contain more than 200 pounds of CO₂
 - B. The cylinders shall have an audible alarm
 - C. The cylinder shall be automatically operated by a heat actuator
 - D. All of the above

Correct answer: C

29. Which item may be substituted for, in the fireman's outfit, on a cargo vessel?

- A. Flame safety lamp
- B. Flashlight
- C. Fire ax
- D. Rigid helmet

Correct answer: A

30. The Officers Competency Certificates Convention of 1936 applies to all of these vessels operating seaward of the boundary line. Which vessel is exempt?

- A. An offshore supply vessel over 200 gross tons
- B. A passenger vessel of 295 gross tons
- C. An uninspected towing vessel of less than 200 gross tons
- D. An inspected towing vessel of 305 gross tons

Correct answer: C

31. A flame screen _____.

- A. prevents the passage of flammable vapors
- B. permits the passage of vapor but not of flame
- C. prevents inert gas from leaving a tank
- D. permits vapors to exit but not enter a tank

Correct answer: B

32. A tug should not come alongside a tank vessel in way of its cargo tanks while it is loading grade A, B, or C cargo without the permission of the _____.

- A. cognizant OCMI
- B. superintendent of the shoreside facility
- C. person in charge of the transfer
- D. local fire department

Correct answer: C

33. You are the credentialed Master of a towing vessel operating between New York and Tampa, FL. If you carry four deckhands onboard, how many must be able seamen?

- A. one
- B. two
- C. three
- D. four

Correct answer: C

- 34.** What is the proper name given to a deck fitting, used to secure line or wire rope, consisting of a single body with two horizontally protruding horns?
- A. A set of bitts
 - B. A bollard
 - C. A cleat
 - D. A capstan

Correct answer: C

- 35.** Which of the following describes the principal purpose of magnetic compass adjustment?
- A. To reduce the magnetic dip as much as possible
 - B. To reduce the variation as much as possible
 - C. To reduce the deviation as much as possible
 - D. To allow the compass bowl to swing freely on its gimbals

Correct answer: C

- 36.** Which term indicates the rise in height of the bottom plating from the plane of the base line?
- A. Sheer
 - B. Camber
 - C. Molded height
 - D. Deadrise

Correct answer: D

- 37.** You are docking a ship with a single-screw tug assisting on your starboard bow. How should the tug be tied up if you are anticipating that she will have to hold your bow off while you stem the current?
- A. The tug would need at least two head lines.
 - B. The tug should put a spring line up, leading astern on the ship.
 - C. The tug should put a stern line up, leading ahead on the ship.
 - D. One head line would be sufficient.

Correct answer: C

- 38.** Where, due to the arrangement of the vessel, lifejackets may become inaccessible, which is TRUE of the required additional lifejackets?
- A. They are only for the people on bridge watch
 - B. The additional lifejackets will be stowed as determined by the OCMI
 - C. They will be stowed in the forward lifeboats
 - D. Required for 50% of the crew of the vessel, not including those assigned to engineering duties

Correct answer: B

- 39.** What is the minimum number of deck officers, able seaman or certificated persons required to command each lifeboat on a vessel in ocean service?
- A. Two
 - B. Three
 - C. Four
 - D. Five

Correct answer: A

- 40.** You are signing on the Purser. He should present a Merchant Mariner Credential with which endorsement?
- A. Purser
 - B. Certificate of Registry
 - C. Steward's Department
 - D. Staff Officer

Correct answer: B

- 41.** During a SAR helicopter evolution the rescue sling is the most widely used method of extraction. Which of the following describes the alternate Double Lift Method used to pick-up incapacitated persons?
- A. A normal rescue sling and a rescue net used to simultaneously extract multiple personnel
 - B. Two normal rescue slings one manned by a helicopter crew member
 - C. A normal rescue sling and a seating belt manned by a helicopter crew member
 - D. A normal rescue sling and a rescue seat used to simultaneously extract multiple personnel

Correct answer: C

- 42.** What is the purpose of a devil's claw?
- A. It acts as a chain stopper
 - B. It will prevent the chain from fouling on deck
 - C. It prevents the windlass from engaging
 - D. It controls the wildcat

Correct answer: A

- 43.** Who must approve the vessel's trim and stability booklet?
- A. United States Coast Guard
 - B. International Maritime Organization
 - C. National Cargo Bureau
 - D. Society of Naval Architects and Marine Engineers

Correct answer: A

- 44.** What should be given, as a minimum, to personnel who are involved in crane cargo handling?
- A. A life preserver for going aloft to work on the crane
 - B. Protective head gear, gloves, and steel-toed safety shoes
 - C. A survival suit for work on the stern or side port
 - D. All of the above

Correct answer: B

45. By what means are indications of the master gyrocompass sent to remote repeaters?

- A. by transmitter
- B. by azimuth motor
- C. by phantom element
- D. by follow-up system

Correct answer: A

46. You are using the anchor to steady the bow while maneuvering. When do you know you have the proper scope of anchor cable out?

- A. If the scope is not more than 5 times the depth of the water
- B. When the anchor is just touching the bottom
- C. When the cable enters the water at an angle between 60° and 85° from the horizontal
- D. When the bow is held in position with the engines coming slowly ahead

Correct answer: D

47. A large vessel is equipped with a controllable pitch propeller. Which statement is TRUE?

- A. When going directly from full ahead to full astern, there is complete steering control.
- B. When the vessel has headway and the propeller is in neutral, there is no effect on rudder control.
- C. When dead in the water, it is often difficult to find the neutral position and slight headway or sternway may result.
- D. When maneuvering in port, full ahead or astern power can usually be obtained without changing shaft RPM.

Correct answer: C

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

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

Correct answer: D

49. What is a wet cargo?

- A. A cargo that contains hygroscopic moisture
- B. A liquid cargo carried in the deep tanks
- C. A canned or bottled liquid such as beer
- D. A cargo particularly susceptible to damage by moisture

Correct answer: C

50. The single turn method of returning to a man overboard should be used ONLY if which condition exists?

- A. The man is reported missing rather than immediately seen as he falls overboard
- B. The vessel is very maneuverable
- C. The conning officer is inexperienced
- D. A boat will be used to recover the man

Correct answer: B

51. Which defines the process of "Block stowage"?

- A. Separation cloths to separate different kinds of cargo
- B. To have the cargo on pallets
- C. Stowing all the cargo for a port in the same area
- D. Using port marks on the cargo

Correct answer: C

52. A vessel's "quarter" is that section which is _____.

- A. abeam
- B. dead astern
- C. on either side of the stern
- D. just aft of the bow

Correct answer: C

53. The moisture equilibrium chart can be used to determine which item?

- A. Absolute moisture content of the air surrounding a hygroscopic cargo when moisture equilibrium exists
- B. Temperature at which moisture equilibrium will occur in a cargo hold containing a hygroscopic cargo
- C. Enthalpy of the air surrounding a hydroscopic cargo which is in moisture equilibrium with the cargo
- D. Dew point temperature that the air surrounding a hygroscopic commodity will have when in moisture equilibrium with that commodity

Correct answer: D

54. When bunkering at anchorage which of the following signals must be displayed?

- A. A red flag by day, red light by night
- B. A red flag by day ONLY
- C. A red light by night ONLY
- D. No signal required at anchorage

Correct answer: B

55. Considering the manning requirements for U.S. vessels (100 gross tons and above), your cargo vessel has a deck crew of 20 men, exclusive of the officers. How many of these men do the manning regulations require to be Able Seamen?

- A. 5
- B. 7
- C. 10
- D. 13

Correct answer: D

- 56.** Your ship is dead in the water with the rudder amidships. As the right-handed screw starts to turn ahead, which way will the bow tend to go?
- A. To starboard
 - B. To port
 - C. As influenced by the tide and sea
 - D. Straight ahead

Correct answer: B

- 57.** On an inspected vessel, which abbreviation refers to the horizontal distance between perpendiculars taken at the forward-most and the after-most points on the waterline at her deepest operating draft?
- A. LLL
 - B. LOA
 - C. LWL
 - D. LBP

Correct answer: D

- 58.** Which statement is TRUE concerning the mechanical gearing of deck machinery such as the windlass or boat hoists?
- A. It shall always be open to view so, if a foreign object gets in the gearing, the operator can immediately stop the machinery
 - B. Be painted a contrasting color from the base color for safety
 - C. Not be operated if there is any crew within 10 feet of the machinery
 - D. Mechanical gearing shall have a guard over any rotating components

Correct answer: D

- 59.** Which topic is NOT required to be discussed at the pre-transfer conference?
- A. Emergency shutdown procedures
 - B. Identity of the product to be transferred
 - C. Estimated time of finishing cargo
 - D. Details of transferring and receiving systems

Correct answer: C

- 60.** Which term describes the process of lowering a boom to a horizontal position and onto its deck support?
- A. Cradling a boom
 - B. Spotting a boom
 - C. Collaring a boom
 - D. Toppling a boom

Correct answer: A

61. You are docking a vessel. Which statement is TRUE?

- A. You should go in with the current
- B. You should pass a mooring line to the dock and let the crew pull the vessel to
- C. You should approach the dock at a 90° angle
- D. You should go in against the current

Correct answer: D

62. Each crewmember has an assigned firefighting station. Where is this assignment listed?

- A. On the firefighting plan
- B. On the muster list
- C. On the Certificate of Inspection
- D. In the shipping articles

Correct answer: B

63. A vessel is to make a voyage between New York and San Juan, Puerto Rico, and return. The crew should be signed on which articles?

- A. Coastwise Articles
- B. No articles are required
- C. Intercoastal Articles
- D. Foreign Articles

Correct answer: A

64. Maritime Administration personnel may be allowed in the pilothouse and on the navigation bridge. Who is responsible for these personnel while in these areas of the vessel?

- A. The Master of the vessel
- B. The most senior person present from the Maritime Administration
- C. The Navigational Officer
- D. The Chief Officer

Correct answer: A

65. Which of the signals listed is required to be displayed during the day while bunkering?

- A. A yellow flag
- B. A red light
- C. A red flag
- D. A red and yellow flag

Correct answer: C

66. What is the purpose of a spreader bar when loading cargo?

- A. It will protect the slings
- B. It will increase the lifting radius
- C. It will increase the lifting capacity
- D. It will protect the upper part of a load

Correct answer: D

67. Which is NOT a part of an anchor?

- A. The crown
- B. The Palm
- C. The devil's claw
- D. The bill

Correct answer: C

68. Which space(s) on your cargo vessel must have a fire detection system?

- A. Any compartment containing explosives
- B. Enclosed spaces which are "specially suitable for vehicles"
- C. Any compartment adjacent to one containing explosives
- D. All of the above

Correct answer: D

69. You are aboard a right-handed single-screw vessel with headway on. The engine is put full astern and the rudder hard left. What will the bow do?

- A. It will swing to the left without increasing or decreasing its swing.
- B. It will swing to the left, and will swing left faster as the vessel loses way.
- C. It will swing to the left, straighten out and then swing to the right as the vessel loses way.
- D. The bow will swing to the right.

Correct answer: C

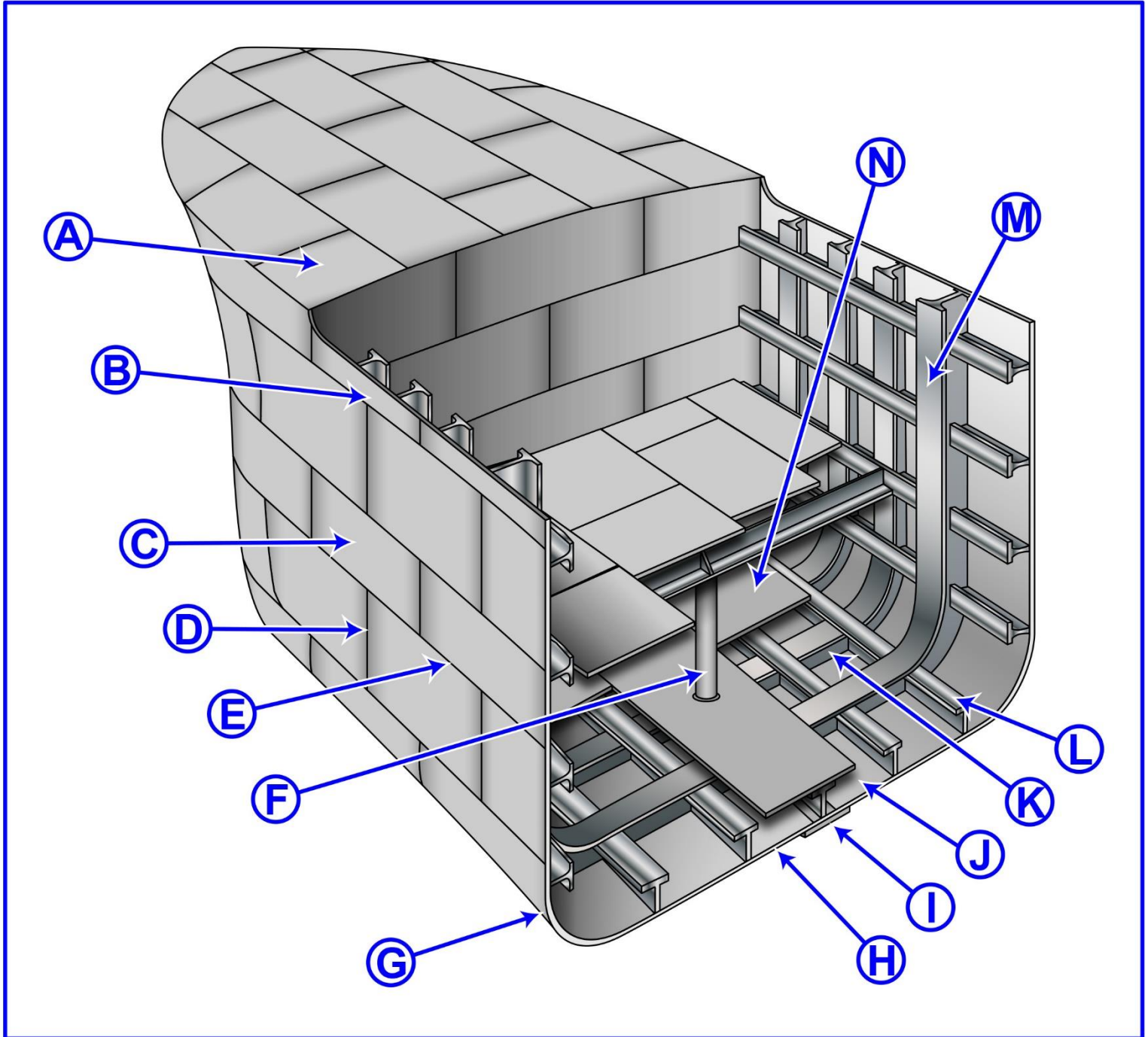
70. Your vessel is anchored in an open roadstead with three shots of chain out on the port anchor. The wind freshens considerably, and the anchor begins to drag. Which action should you take FIRST?

- A. Sheer out to starboard using the rudder, then drop the starboard anchor with about four shots of chain.
- B. Drop the starboard anchor short with about one shot of chain.
- C. Put the engines slow ahead to help the anchor.
- D. Veer out more chain on the port anchor.

Correct answer: D



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