

U.S.C.G. Merchant Marine Exam

OUPV to Master or Mate Oceans or Near Coastal
Less than 200 GRT

Q158 Navigation and Deck General – Safety
(Sample Examination)

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

1. As an extinguishing agent, foam _____.

- A. extinguishes by cooling oil fires below ignition temperature
- B. conducts electricity
- C. is most effective on burning gases which are flowing
- D. should be directed at the base of the fire

Correct answer: B

2. You are loading at port A, governed by the summer load line mark, for a voyage to port B, governed by the winter mark. The fresh water allowance is 10", and the hydrometer reads 1.020. Which statement is TRUE?

- A. You may not load beyond the summer mark plus 8 inches brackish water allowance.
- B. You may not load beyond the summer mark and must be at the winter mark upon arrival at port B
- C. You may not load beyond the winter mark except for 2 inches brackish water allowance.
- D. You may load to the summer mark plus 2 inches if you will be at the winter mark when entering the winter zone.

Correct answer: D

3. When anchoring in a clay bottom, what is one hazard that may cause the anchor to drag?

- A. The anchor will tend to dig in and come to rest near the vertical.
- B. The anchor may get shod with clay and not develop full holding power.
- C. The flukes may dig in unevenly and capsize the anchor when under stress.
- D. The flukes may not dig in.

Correct answer: B

4. Which term describes the process of lowering a boom to a horizontal position and onto its deck support?

- A. Spotting a boom
- B. Toppling a boom
- C. Cradling a boom
- D. Collaring a boom

Correct answer: C

5. The velocity of the wind, its steady direction, and the amount of time it has blown determines what about a wind driven current?

- A. Its speed
- B. Its deflection
- C. Its density
- D. Its temperature

Correct answer: A

6. Which agency assigns Load lines for U.S. vessels?

- A. The U.S. Coast Guard
- B. The Lloyd's Register of Shipping
- C. The American Bureau of Shipping
- D. The National Cargo Bureau

Correct answer: C

7. A survey of refrigerated cargo, to certify that proper methods of stowage were utilized, can be conducted by which organization?

- A. American Bureau of Shipping
- B. National Cargo Bureau
- C. Occupational Safety and Health Administration
- D. U.S. Coast Guard

Correct answer: B

8. Your vessel has been damaged and is partially flooded. The first step to be taken in attempting to save the vessel is to _____.

- A. calculate the free surface effect and lost buoyancy to determine the vessel's stability
- B. pump out the water inside the vessel
- C. plug the hole(s) in the outer shell
- D. establish flooding boundaries and prevent further spread of flood water

Correct answer: D

9. Deck foam systems, designed to protect cargo areas on tank vessels built after January 1, 1975, must have a supply of foam-producing material to operate the system at its designed rate of foam production for _____.

- A. 15 minutes without recharging
- B. 20 minutes without recharging
- C. 25 minutes without recharging
- D. 30 minutes without recharging

Correct answer: B

10. Which of the following is a characteristic of Methane gas?

- A. It is an ether
- B. It is corrosive to steel
- C. It has a mild, sweet odor
- D. It is unstable

Correct answer: C

11. Stress on the topping lift of a swinging boom can be reduced by _____.

- A. increasing the mechanical advantage of the cargo purchase
- B. rigging a back stay
- C. raising the boom
- D. taking all slack out of the preventer

Correct answer: C

12. A vessel steams 3312 miles on course 282°T from LAT 34°24'S, LONG 18°18'E. What is the latitude and longitude of the point of arrival by Mercator sailing?

- A. LAT 22°39'S, LONG 43°17'W
- B. LAT 22°42'S, LONG 43°14'W
- C. LAT 22°47'S, LONG 43°10'W
- D. LAT 22°55'S, LONG 43°05'W

Correct answer: D

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

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

Correct answer: D

14. Which is characteristic of a "special cargo"?

- A. Periodic inspection is required while in transit to prevent spoilage.
- B. It must be stowed on deck.
- C. The cargo gives off toxic gases when heated.
- D. It is of high value or easily pilferable.

Correct answer: D

15. Which of the following grade classifications is assigned to Camphor oil?

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

Correct answer: C

16. While discharging a tanker, how can the list be controlled?

- A. Using wing tanks near the longitudinal center, discharging as necessary
- B. Using a center tank near the bow, discharging as necessary
- C. By the shoreside personnel
- D. Using the after peak tank, loading as necessary

Correct answer: A

17. On a voyage from Halifax, N.S., to Dakar, West Africa, the Canary Current will _____.

- A. set the vessel to the left
- B. offer resistance in the form of a head current
- C. furnish additional thrust in the form of a fair or following current
- D. set the vessel to the right

Correct answer: D

18. In illustration D033DG below, the lower seam of the strake indicated by the letter B is sometimes riveted. Why is this done?

- A. To serve as a crack arrestor and prevent hull girder failure
- B. To reduce construction costs
- C. To increase the strength in a highly stressed area
- D. To provide the flexibility inherent in a riveted seam

Correct answer: A

19. If your vessel will list with equal readiness to either side, the list is most likely caused by which condition?

- A. Excessive freeboard
- B. Pocketing of free surface
- C. Negative GM
- D. Off center weight

Correct answer: C

20. U.S. regulations require any tankship making a voyage of over 48 hours duration to conduct certain tests not more than 12 hours prior to leaving port. Which of the following must be tested to meet this requirement?

- A. emergency lighting system
- B. watertight door to the shaft alley
- C. means of communication between the bridge and engine room
- D. fire pump relief valve

Correct answer: C

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

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

Correct answer: C

22. When patching holes in the hull, how can pillows, bedding, and other soft materials be used?

- A. As wedges
- B. As shores
- C. As gaskets
- D. As strongbacks

Correct answer: C

23. The galley on your cargo vessel has an area of 2,900 square feet. What will fulfill the requirements for fire protection?

- A. One B-I extinguisher or post 2017 One 10-B:C extinguisher
- B. One B-II extinguisher or post 2017 One 40-B:C extinguisher
- C. One B-II and one C-II extinguisher or post 2017 Two 40-B:C extinguishers
- D. One B-V extinguisher or post 2017 One 160-B extinguisher

Correct answer: C

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

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

Correct answer: B

25. On 7 December your 0350 ZT position is LAT 35°42'N, LONG 17°38'E. You observe Polaris bearing 359.7°pgc. At the time of the observation the helmsman noted that he was heading 016°pgc and 014°psc. The variation is 1°E. What is the deviation for that heading?

- A. 0.3°E
- B. 1.5°E
- C. 0.3°W
- D. 1.5°W

Correct answer: A

26. Which of the following statements is/are TRUE in regard to Ro-Ro vessels' spaces that are "specially suitable for vehicles"?

- A. The spaces shall have designated smoking areas.
- B. The spaces are prohibited from being fitted with fixed CO2 fire extinguishing systems.
- C. The spaces shall be fitted with an approved fire or smoke detecting system.
- D. All of the above

Correct answer: C

27. The Master may require part of the crew to work when needed for which function?

- A. Performing fire, lifeboat or other drills in port or at sea
- B. Performing work necessary for the safety of the vessel, its passengers, crew or cargo
- C. Maneuvering, shifting berth, mooring and unmooring
- D. All of the above

Correct answer: D

28. A thirty pound plate would be which thickness?

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

Correct answer: D

29. Which portable fire extinguisher should be used on a class C fire on board a vessel?

- A. Foam
- B. Water (stored pressure)
- C. Carbon tetrachloride
- D. Carbon dioxide

Correct answer: D

30. What is the mechanical advantage, neglecting friction, of tackle number 12 as shown in illustration D029DG below?

- A. 3.0
- B. 5.5
- C. 6.0
- D. 7.0

Correct answer: D

31. Your vessel is running in a following sea. Which term defines the motion your vessel is experiencing?

- A. Yawing
- B. Heaving to
- C. Pounding
- D. Reduced speed

Correct answer: A

32. Where is a permanently installed system of gas detection required?

- A. Cargo compressor rooms
- B. Air locks
- C. Cargo pump rooms
- D. All of the above

Correct answer: D

33. 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 just off the bow and the victim to leeward
- B. With the wind just off the bow and the victim to windward
- C. With the wind astern and the victim just off the bow
- D. With the wind ahead and the victim just off the bow

Correct answer: A

34. Which is TRUE if passengers are on board when an abandon ship drill is carried out?

- A. The passengers should stay out of the way and do what they want
- B. The passengers should take part in the drill
- C. Passengers should go to their quarters during drills
- D. The passengers should just watch

Correct answer: B

35. 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

36. Which is TRUE of the term coastal current?

- A. It flows in a circular pattern
- B. It flows outside the surf zone
- C. It is generated by waves striking the beach
- D. It is also known as a longshore current

Correct answer: B

37. Sudden unloading of a diesel engine can cause which to occur?

- A. Increased exhaust temperature
- B. Decreased fuel efficiency
- C. Black smoke
- D. The overspeed trip to activate

Correct answer: D

38. If the cause of a sudden severe list or trim is negative initial stability, counter-flooding into empty tanks located high on the vessel, may cause which of the following?

- A. Bring the unit to an upright equilibrium position
- B. Cause the unit to flop to a greater angle
- C. An increase in the righting moment
- D. An increase in the righting arm

Correct answer: B

39. On vessels over 100 gross tons, whose responsibility is it to ensure that all able seamen in the vessel's crew have the documents and qualifications required by law and regulation?

- A. Company's personnel director
- B. Master of the vessel
- C. Owner or operator of the vessel
- D. USCG Officer in Charge of Marine Inspection

Correct answer: B

40. You are planning to anchor in an area where several anchors have been lost due to fouling. What precaution should you take?

- A. Only anchor using both anchors not set in bottom
- B. Use a stern anchor with a scope of 8 or more to 1
- C. Anchor with scope of 8 or more to 1
- D. Fit a crown strap and work wire to the anchor

Correct answer: D

41. You are heading into the sea during rough weather. What may happen if there is too much weight forward in your small boat?

- A. The craft may plunge into the wave
- B. The craft will rise rapidly over the wave
- C. The craft will broach
- D. The craft will list severely

Correct answer: A

42. Which term is used to describe the point that is halfway between the forward and after perpendicular and is a reference point for vessel construction?

- A. Amidships
- B. Half length
- C. Center line
- D. Mid-body

Correct answer: A

43. When a small craft's anchor fouls in a rocky bottom, how should the first attempt to clear it be made?

- A. Hauling vertically on the line
- B. Reversing the angle and direction of pull, with moderate scope
- C. Making the line fast to the bitt and bringing the vessel further forward
- D. Increasing the scope and running slowly in a wide circle with the anchor line taut

Correct answer: B

44. 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

45. 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. If the vessel was on coastwise articles, the record of discharge will be made in the Official Logbook.
- D. An entry should be made in the book and a Certificate of Discharge issued to the seaman.

Correct answer: A

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

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

Correct answer: A

47. On 13 October your vessel's 1722 zone time DR position is LAT 27°36'S, LONG 136°16'E, when an amplitude of the Sun is observed. The Sun's center is on the celestial horizon and bears 266° per standard magnetic compass. Variation in the area is 2°W. The chronometer reads 08h 24m 19s and is 01m 43s fast. What is the deviation of the standard magnetic compass?

- A. 2.3°E
- B. 2.8°W
- C. 4.8°E
- D. 6.8°W

Correct answer: B

48. What does a pyrometer measure on a diesel engine?

- A. Water pressure
- B. Air box pressure
- C. Exhaust temperature
- D. Water temperature

Correct answer: C

49. Which term is used to describe the time interval between successive wave crests?

- A. Frequency
- B. Period
- C. Trough
- D. Epoch

Correct answer: B

50. When a vessel has positive stability, which term is used to describe the distance between the line of force through B and the line of force through G?

- A. Metacentric height
- B. Metacentric radius
- C. Righting moment
- D. Righting arm

Correct answer: D

51. A quick and rapid motion of a vessel in a seaway is an indication of a(n) _____.

- A. small GZ
- B. large GM
- C. high center of gravity
- D. excessive free surface

Correct answer: B

52. What condition will result in the automatic shutdown of a diesel engine?

- A. High lube oil pressure
- B. Low lube oil pressure
- C. Excessive turbo charger speed
- D. High jacket water pressure

Correct answer: B

53. What provides little or no indication that a vessel is dragging anchor?

- A. Changing range to an object abeam
- B. Drift lead with the line tending forward
- C. Changing bearing to a fixed distant object abeam
- D. The cable alternates between slack and heavy tension

Correct answer: A

54. What power source actuates a solenoid valve?

- A. Air pressure
- B. Hydraulic pressure
- C. Mechanical force
- D. Electric current

Correct answer: D

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

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

Correct answer: C

56. Which type of hull damage should be repaired FIRST?

- A. Damage below the waterline
- B. Damage at or just above the waterline
- C. Damage in way of machinery rooms
- D. Damage to interior watertight boundaries

Correct answer: B

57. Where should muster lists be posted?

- A. On the navigating bridge
- B. In the engine room
- C. In crew's accommodation spaces
- D. All of the above

Correct answer: D

58. Which term is given to the process of separating both blocks of a tackle to prepare it for reuse?

- A. Over-hauling
- B. Chockablocking
- C. Out-hauling
- D. Two-blocking

Correct answer: A

59. Which document is NOT required by law to be posted aboard a vessel?

- A. Certificate of Inspection
- B. Official Crew List
- C. Officer's licenses
- D. Muster List

Correct answer: B

60. When can a work vest be substituted for a lifejacket in the total count of the required lifesaving gear?

- A. A work vest may never be counted as a lifejacket.
- B. When it is approved by the Coast Guard
- C. When stowed away from the ring buoys
- D. When working near or over the water

Correct answer: A

61. Which is one of the limitations of foam as an extinguishing agent?

- A. Foam is heavier than oil and sinks below its surface
- B. Foam conducts electricity
- C. Foam cannot be made with salt water
- D. Foam is corrosive to all steel surfaces and is hazardous to firefighters

Correct answer: B

62. Pedestal cranes have limit switches to restrict the movement of which function?

- A. Turntable limits
- B. Slew travel limits
- C. Luff travel limits
- D. All of the above

Correct answer: D

63. How can the accuracy of an azimuth circle be checked?

- A. Sighting a terrestrial range in line and comparing the observed bearing against the charted bearing
- B. Comparing observed azimuths at different altitudes with computed values at the times of observation to see if the difference is constant
- C. Aligning the relative bearing markings so that 000° is on the lubber's line and the line of sight passes over the center of the compass
- D. Ensuring that the alignment marks on the inner face of the circle are in line with those on the repeater on relative bearings of 000° and 090°

Correct answer: B

64. When is a seaman entitled by law to a release from Foreign Articles?

- A. If the seaman has been injured requiring first aid
- B. If the vessel is overloaded
- C. If the Master is intoxicated
- D. If deductions are made from wages

Correct answer: B

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

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

Correct answer: D

66. Which of the following aspects of a flooded space will most adversely affect transverse stability if it is subject to free communication?

- A. On the centerline
- B. Off-center
- C. Completely flooded
- D. Open to the sea above and below the waterline

Correct answer: B

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

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

Correct answer: B

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

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

Correct answer: B

69. What is the mechanical advantage of tackle number 7 as shown in illustration D029DG below?

- A. 0.0
- B. 0.5
- C. 1.0
- D. 2.0

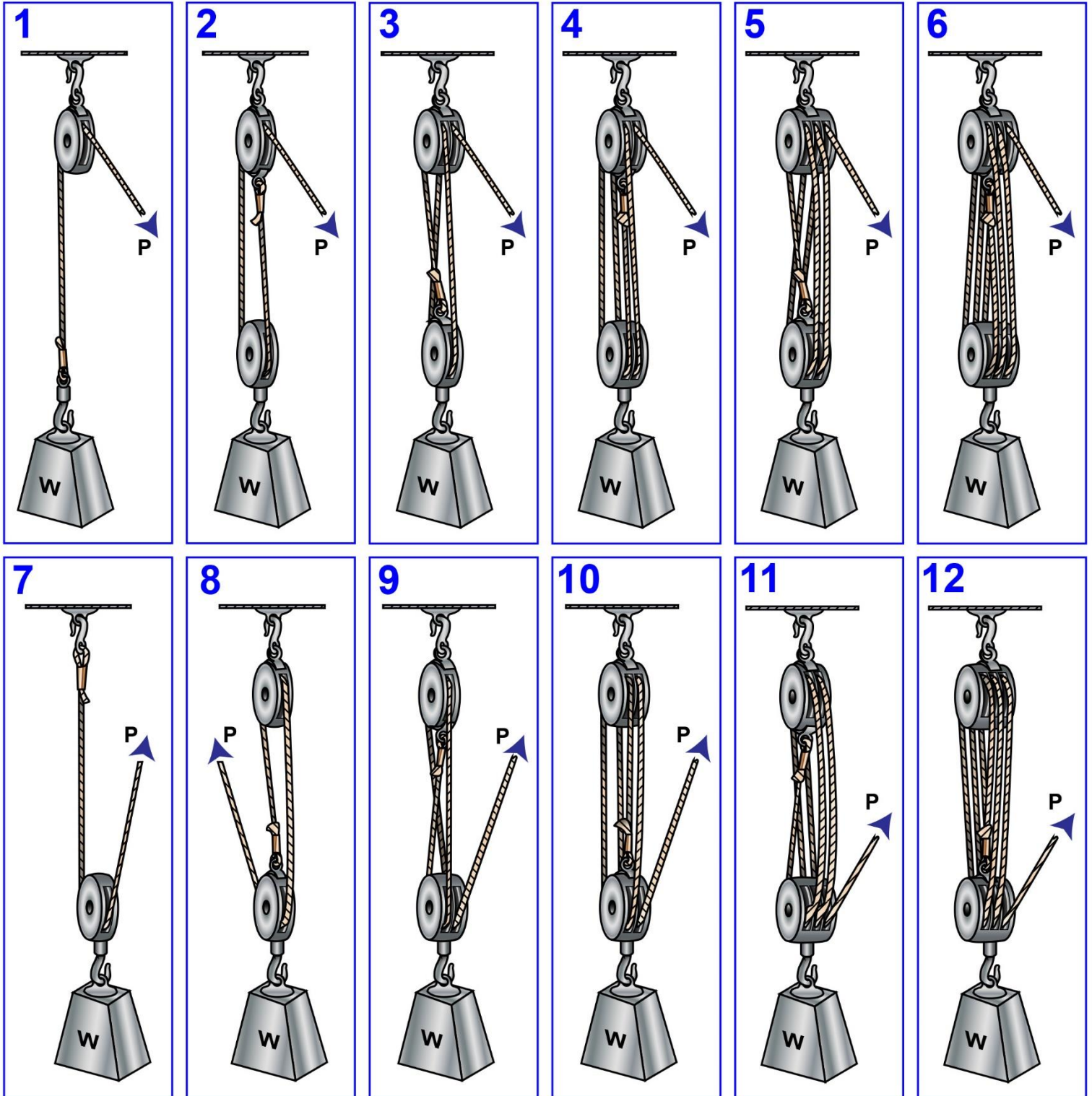
Correct answer: D

70. Annex V to MARPOL 73/78 contains requirements pertaining to the discharge into the marine environment of which item?

- A. Garbage
- B. Noxious liquid substances
- C. Oil
- D. Air pollutants

Correct answer: A

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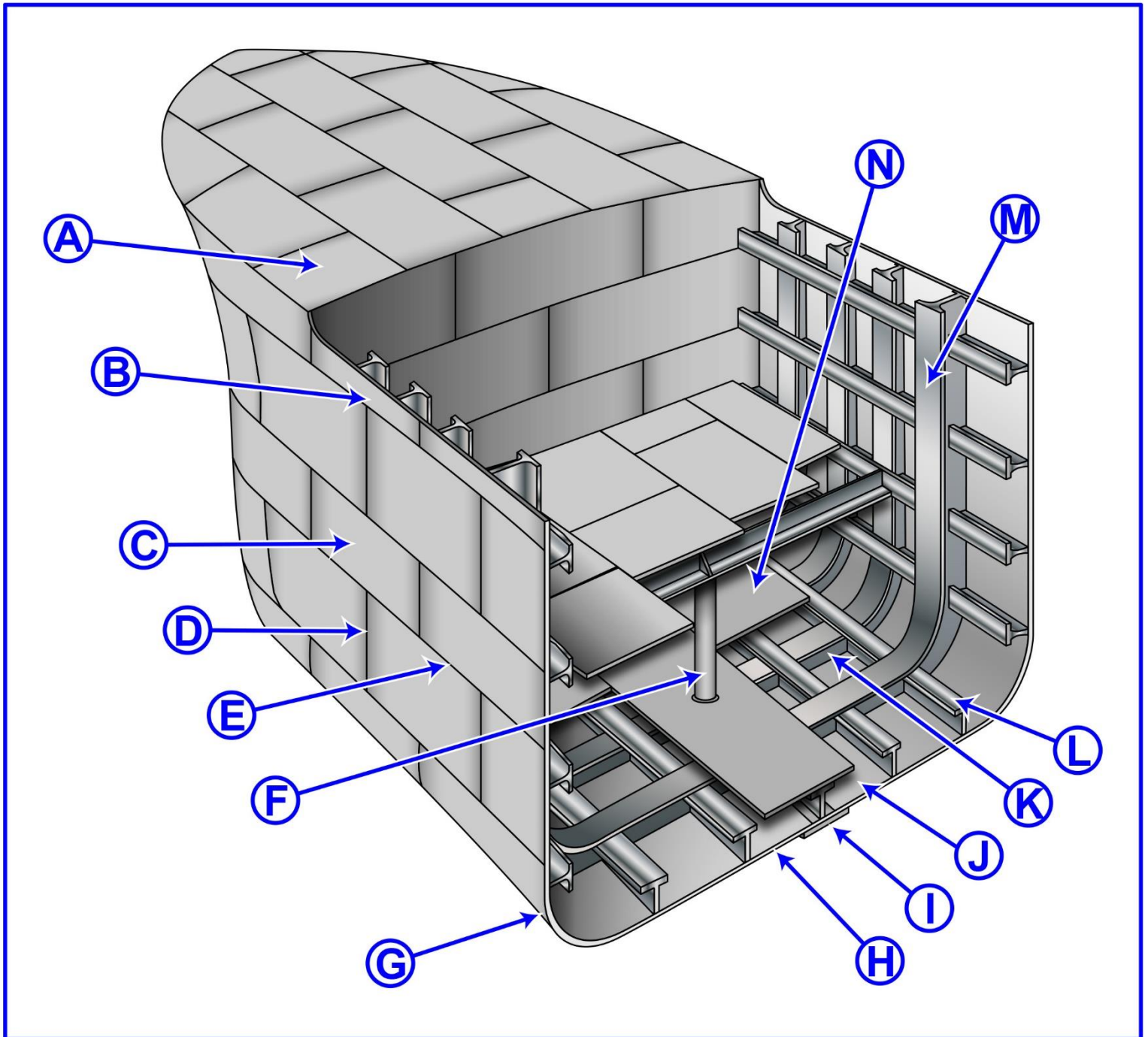


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