

U.S.C.G. Merchant Marine Exam

Master Less than 100 GRT to Master or Mate
Less than 200 GRT Great Lakes and Inland

Q345 Navigation and Deck General - Safety

(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. Your vessel is proceeding down a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is $229^{\circ}T$, and variation is $6^{\circ}W$. If the heading of your vessel at the time of the sighting is 232° per standard magnetic compass, what is the deviation?
- (A) $9^{\circ}W$
 - (B) $3^{\circ}W$
 - (C) $3^{\circ}E$
 - (D) $9^{\circ}E$

If choice C is selected set score to 1.

2. 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 _____.
- (A) 12 months
 - (B) 15 months
 - (C) 17 months
 - (D) 18 months

If choice C is selected set score to 1.

3. When fruit is carried as refrigerated cargo, the most frequent cause of its being infected at the discharge port is _____.
- (A) carriage at the wrong temperature
 - (B) improper cleaning of the cargo spaces
 - (C) improper precooling of the cargo spaces
 - (D) leaks in the ship's refrigeration system

If choice B is selected set score to 1.

4. 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.

5. 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.

6. Which action(s) is/are included in crane operations?

- (A) Removing booms from stowage
- (B) Pre-operation checks and start-up
- (C) Luff, slew, and hoist operations
- (D) All of the above

If choice D is selected set score to 1.

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

- (A) Exhaust temperature
- (B) Air box pressure
- (C) Water pressure
- (D) Water temperature

If choice A is selected set score to 1.

8. Which statement is FALSE concerning precautions during fueling operations?

- (A) Fuel tanks should be topped off with no room for expansion.
- (B) A fire extinguisher should be kept nearby.
- (C) All engines, motors, fans, etc. should be shut down when fueling.
- (D) All windows, doors, hatches, etc. should be closed.

If choice A is selected set score to 1.

9. Which statement about gyrocompass error is TRUE?

- (A) The amount of the error and the sign will generally be the same on all headings.
- (B) The sign (E or W) of the error will change with different headings of the ship.
- (C) Any error will remain constant unless the compass is stopped and restarted.
- (D) Any error shown by a gyro repeater will be the same as the error of the master compass.

If choice A is selected set score to 1.

10. Progressive flooding is controlled by securing watertight boundaries and _____.

- (A) transferring water ballast
- (B) abandoning ship
- (C) pumping out flooded compartments
- (D) jettisoning cargo

If choice C is selected set score to 1.

11. What is the gyrocompass error resulting from your vessel's movement in OTHER than an east-west direction?

- (A) quadrantal error
- (B) damping error
- (C) speed error
- (D) ballistic deflection

If choice C is selected set score to 1.

12. A system of reservoirs and connecting tubes in a gyro compass is called a _____.

- (A) gyrotron
- (B) mercury ballistic
- (C) rotor
- (D) spider element

If choice B is selected set score to 1.

13. Which statement about the gyrocompass is FALSE?

- (A) It can be used near the Earth's magnetic poles.
- (B) Its accuracy remains the same at all latitudes.
- (C) It seeks the true meridian.
- (D) If an error exists, it is the same on all headings.

If choice B is selected set score to 1.

14. In illustration D033DG below, the structural member indicated by the letter K was fitted in segments between continuous longitudinals. It is known as which type of floor?

- (A) Lightened
- (B) Non-watertight
- (C) Open
- (D) Intercostal

If choice D is selected set score to 1.

15. The galley on your cargo vessel has an area of 2,500 square feet. What would fulfill the minimum requirements for fire protection?

- (A) One B-I extinguisher
- (B) One B-II extinguisher
- (C) One B-II and one C-II extinguisher
- (D) One B-V extinguisher

If choice B is selected set score to 1.

16. The directive force of a gyrocompass _____.

- (A) remains the same at all latitudes
- (B) increases with latitude, being maximum at the geographic poles
- (C) decreases with latitude, being maximum at the geographic equator
- (D) is greatest when a vessel is near the Earth's magnetic equator

If choice C is selected set score to 1.

17. 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.

18. In illustration D041DG below, which symbol is the reference from which the height of the center of gravity is measured?

- (A) 5
- (B) 4
- (C) 3
- (D) 2

If choice D is selected set score to 1.

19. In illustration D041DG below, which of the following is the symbol for the reference from which transverse measurements are made?

- (A) 3
- (B) 5
- (C) 4
- (D) 1

If choice B is selected set score to 1.

20. You must shore up a bulkhead due to solid flooding forward. The bulkhead approximates a rectangle. The center of pressure of the shores on the bulkhead should be located _____.

- (A) approximately one-third of the way up the bulkhead
- (B) approximately halfway up the bulkhead
- (C) evenly over the surface of the bulkhead
- (D) at the bottom of the bulkhead

If choice A is selected set score to 1.

21. 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.

22. All diesel engines are classified as _____.

- (A) vacuum ignition
- (B) external combustion
- (C) four cycle
- (D) compression ignition

If choice D is selected set score to 1.

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

- (A) Specific heat
- (B) Viscosity
- (C) Volatility
- (D) Flash point

If choice C is selected set score to 1.

24. Maritime Administration personnel may be allowed in the pilothouse upon the responsibility of the _____.

- (A) officer in charge of the watch
- (B) Navigator
- (C) Chief Officer
- (D) most senior person present from the Maritime Administration

If choice A is selected set score to 1.

25. 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.

26. 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.

27. 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.

28. Diesel engines obtain combustion air through turbo chargers, blowers, or _____.

- (A) carburetors
- (B) air receivers
- (C) natural aspiration
- (D) air starters

If choice C is selected set score to 1.

29. The Great Lakes Edition of the Notice to Mariners is published _____.

- (A) biweekly by the Commandant, U.S. Coast Guard
- (B) monthly by the Army Corps of Engineers
- (C) monthly by the Naval Oceanographic office
- (D) weekly by the 9th Coast Guard District

If choice D is selected set score to 1.

30. The Master shall insure that the Emergency Position Indicating Radio beacon (EPIRB) is _____.

- (A) tested monthly
- (B) secured in the emergency locker
- (C) tested annually
- (D) secured inside the wheelhouse

If choice A is selected set score to 1.

31. If you are loading fruit in reefer spaces and you notice that the fruit is beginning to mold, you should _____.

- (A) carry the cargo at a cooler temperature than originally planned
- (B) discharge CO₂ into the compartment after loading
- (C) refuse to carry the cargo
- (D) write up exceptions on the cargo

If choice D is selected set score to 1.

32. The boom indicator on a crane will indicate the _____.

- (A) lifting capacity of the boom
- (B) direction of the boom
- (C) length of the boom
- (D) angle of the boom

If choice D is selected set score to 1.

33. The wire rope used for cargo handling on board your vessel has a safe working load of eight tons. It shall be able to withstand a breaking test load of _____.

- (A) 32 tons
- (B) 40 tons
- (C) 48 tons
- (D) 64 tons

If choice B is selected set score to 1.

34. According to U.S. regulations which of the following statements is correct regarding the fuel oil containment around loading manifolds?

- (A) Containment drains are prohibited from leading to a common tank.
- (B) They may be fixed or portable, depending upon the age of the vessel.
- (C) The containment drains must have quick-closing valves to be closed in the event of leakage or failure of any part of the transfer connection.
- (D) All containment drains must lead to a common fixed drain tank.

If choice B is selected set score to 1.

35. What certificate verifies that a liquified gas tanker complies with the requirements with regard to their structure, equipment, fittings, arrangements, and materials?

- (A) Certificate for the Carriage of Noxious Liquid Substances
- (B) International Oil Prevention Certificate
- (C) Cargo Ship Safety Construction
- (D) Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk

If choice C is selected set score to 1.

36. In reference to accidental oil pollution, the most critical time during bunkering is when _____.

- (A) final topping off is occurring
- (B) hoses are being disconnected
- (C) you first start to receive fuel
- (D) hoses are being blown down

If choice A is selected set score to 1.

37. A precaution you should take before bunkering is to _____.

- (A) plug the sounding pipes
- (B) plug the scuppers
- (C) close the lids on the vents
- (D) plug the vents

If choice B is selected set score to 1.

38. You have determined that a cargo space on a freight vessel is 45 feet by 36 feet by 62 feet. How many pounds of carbon dioxide is required for this space?

- (A) 1674
- (B) 2511
- (C) 3348
- (D) 5022

If choice C is selected set score to 1.

39. What is the minimum number of fire pumps required on a cargo vessel of 2,000 GT?

- (A) 1
- (B) 2
- (C) 3
- (D) 4

If choice B is selected set score to 1.

40. On an inspected vessel, when may a stability test may be dispensed with?

- (A) vessel is of a proven design
- (B) projected cost is unreasonable
- (C) Coast Guard does not have a qualified inspector available
- (D) Coast Guard has the approved stability test results of a sister vessel

If choice D is selected set score to 1.

41. 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) LBP
- (C) LWL
- (D) LOA

If choice B is selected set score to 1.

42. The trim and stability booklet must be approved by the _____.

- (A) International Maritime Organization
- (B) National Cargo Bureau
- (C) Society of Naval Architects and Marine Engineers
- (D) United States Coast Guard

If choice D is selected set score to 1.

43. 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.

44. 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.

45. 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.

46. 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.

47. If you reach shore in a liferaft, the first thing to do is _____.

- (A) set the raft back out to sea so someone may spot it
- (B) drag the raft ashore and lash it down for a shelter
- (C) find some wood for a fire
- (D) get the provisions out of the raft

If choice B is selected set score to 1.

48. 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

If choice B is selected set score to 1.

49. The breaking strength of the service lines of the rockets used with an impulse-projected, rocket type line throwing appliances is _____.

- (A) 300 lbs
- (B) 500 lbs
- (C) 1000 lbs
- (D) 1500 lbs

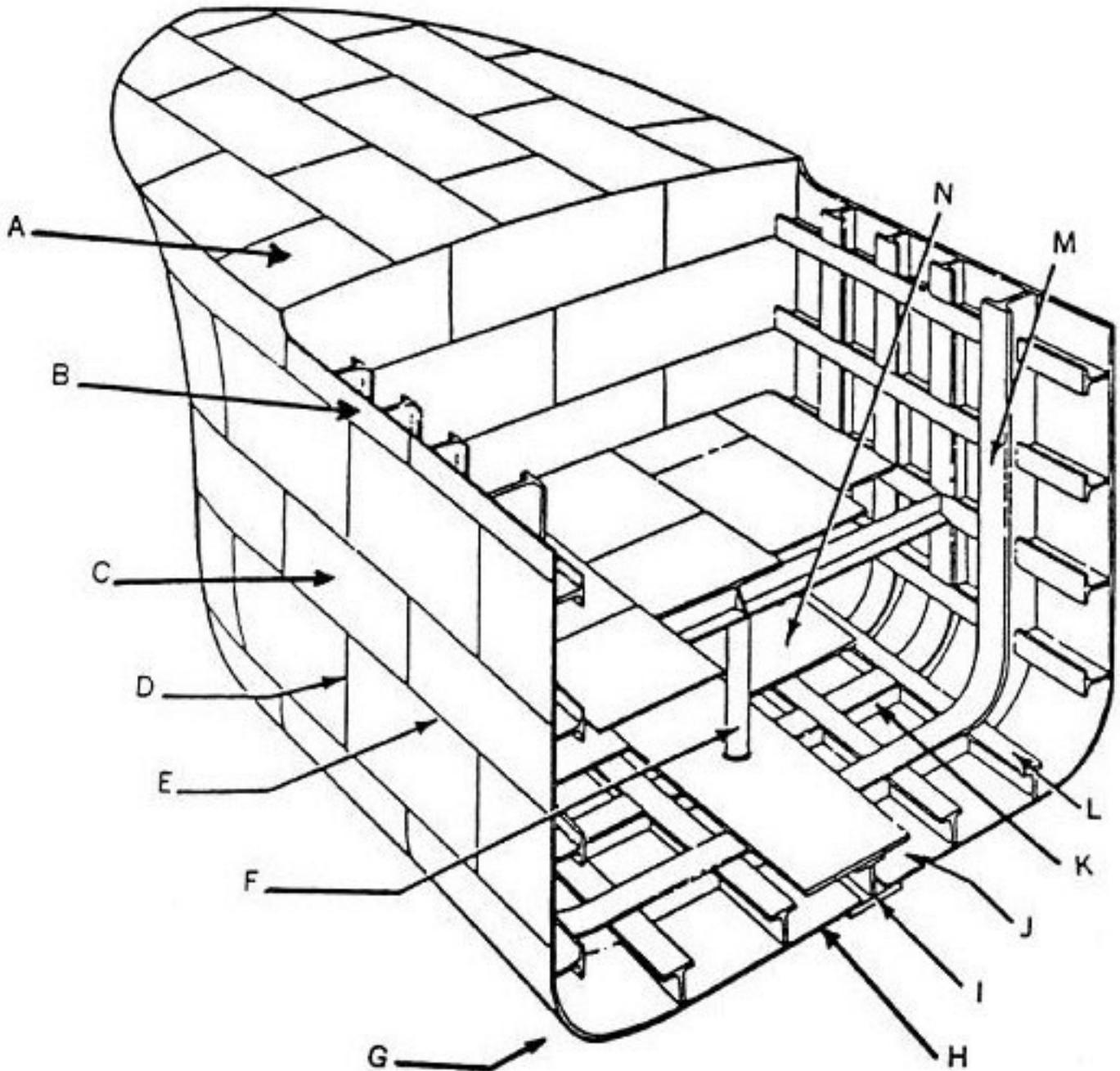
If choice B is selected set score to 1.

50. Your vessel is proceeding up a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is $093^{\circ}T$, and the variation is $6^{\circ}E$. If the heading of your vessel at the time of the sighting is 097° per standard magnetic compass, what is the correct deviation?

- (A) $5^{\circ}E$
- (B) $10^{\circ}E$
- (C) $5^{\circ}W$
- (D) $10^{\circ}W$

If choice D is selected set score to 1.

D033DG



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D041DG



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