

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. 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.

2. A person has fallen overboard and is being picked up with a lifeboat. If the person appears in danger of drowning, the lifeboat should make _____.
- (A) an approach across the wind
 - (B) an approach from windward
 - (C) the most direct approach
 - (D) an approach from leeward

If choice C is selected set score to 1.

3. 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.

4. 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.

5. If one hydraulic pump of an electro-hydraulic steering unit fails, the vessel's steering can initially be maintained by activating which of the following units?

- (A) standby pump
- (B) telemotor
- (C) accumulator
- (D) trick wheel

If choice A is selected set score to 1.

6. What is the expected range of a VHF radio transmission from a vessel to a shore station?

- (A) About 20 miles
- (B) 50 - 100 miles
- (C) 100 - 150 miles
- (D) 150 - 200 miles

If choice A is selected set score to 1.

7. It is necessary to secure the forced ventilation to a compartment where there is a fire to _____.

- (A) extinguish the fire by carbon monoxide smothering
- (B) prevent additional oxygen from reaching the fire
- (C) allow the exhaust fans to remove smoke
- (D) protect fire fighting personnel from smoke

If choice B is selected set score to 1.

8. 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.

9. 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.

10. 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.

11. You are the first vessel to arrive at the scene of a distress. Due to the volume of traffic on the radio, you are unable to communicate with the vessel in distress. Which action should you take?

- (A) Broadcast "Charlie Quebec-Mayday-Quiet".
- (B) Switch to flag hoists.
- (C) Key the microphone three times in quick succession.
- (D) Broadcast "Seelonce Distress".

If choice D is selected set score to 1.

12. 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.

13. 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.

14. A negative metacentric height _____.

- (A) will always cause a vessel to capsize
- (B) should always be immediately corrected
- (C) always results from off-center weights
- (D) All of the above are correct

If choice B is selected set score to 1.

15. In illustration D014SA below, which item number correctly identifies the sea anchor?

- (A) 1
- (B) 12
- (C) 14
- (D) 18

If choice D is selected set score to 1.

16. 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.

17. You see an iceberg that has not been reported. What kind of radio message do you transmit to warn others?

- (A) Routine message
- (B) Safety message
- (C) Distress message
- (D) Urgency message

If choice B is selected set score to 1.

18. 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.

19. 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.

20. 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.

21. 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.

22. 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.

23. 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.

24. 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.

25. A tank 36 ft. by 36 ft. by 6 ft. is filled with water to a depth of 5 ft. If a bulkhead is placed in the center of the tank running fore-and-aft along the 36-foot axis, how will the value of the moment of inertia of the free surface be affected?

- (A) The moment of inertia would be 1/2 the original value.
- (B) The moment of inertia would remain unchanged.
- (C) The moment of inertia would be 1/4 its original value.
- (D) None of the above

If choice C is selected set score to 1.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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.

32. You have carbon tetrachloride as part of the cargo. If a fire breaks out in the general area, what is the major danger from the carbon tetrachloride?

- (A) Phosgene gas may be formed if it comes in contact with hot metal.
- (B) You cannot use water to fight the fire because it will react with the carbon tetrachloride.
- (C) It will explode if exposed to a flame.
- (D) It will burn rapidly once ignited.

If choice A is selected set score to 1.

33. 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.

34. 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.

35. 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.

36. Ventilation systems connected to a compartment in which a fire is burning are normally closed to prevent the rapid spread of the fire by _____.

- (A) spontaneous combustion
- (B) conduction
- (C) radiation
- (D) convection

If choice D is selected set score to 1.

37. The primary reason for placing covers over storage batteries is to _____.

- (A) prevent the accumulation of explosive gases
- (B) protect the hull from leaking electrolyte
- (C) prevent movement of the battery in rough waters
- (D) protect against accidental shorting across terminals

If choice D is selected set score to 1.

38. The spread of fire is prevented by _____.

- (A) removing combustibles from the endangered area
- (B) cooling surfaces adjacent to the fire
- (C) shutting off the oxygen supply
- (D) All of the above

If choice D is selected set score to 1.

39. 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.

40. 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.

41. The outlet at a fire hydrant may be positioned anywhere from horizontal to pointing _____.

- (A) vertically upward
- (B) 45° upward
- (C) vertically downward
- (D) all of the above

If choice C is selected set score to 1.

42. You are fighting a class "B" fire with a portable dry chemical extinguisher. The discharge should be directed _____.

- (A) to bank off a bulkhead onto the fire
- (B) over the top of the fire
- (C) at the seat of the fire, starting at the near edge
- (D) at the main body of the fire

If choice C is selected set score to 1.

43. Recharging a previously used cartridge-operated dry-chemical extinguisher is accomplished by _____.

- (A) recharging the cartridge and refilling it with powder
- (B) authorized fire equipment servicing personnel only
- (C) replacing the propellant cartridge and refilling with powder
- (D) puncturing the cartridge seal after installation

If choice C is selected set score to 1.

44. 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.

45. 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.

46. What is the penalty for failure to enforce, or comply with, the vessel bridge-to-bridge radiotelephone regulations?

- (A) \$5,000 fine and imprisonment for not more than one year, or both
- (B) Civil penalty of no more than \$5,000
- (C) Civil penalty of no more than \$650
- (D) \$1,000 fine or imprisonment for not more than two years

If choice C is selected set score to 1.

47. 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.

- 48.** 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.

- 49.** The color of rockets, shells, or rocket parachute flares used to indicate that the vessel is in distress and requires immediate assistance is _____.
- (A) white
 - (B) green
 - (C) yellow
 - (D) red

If choice D is selected set score to 1.

- 50.** By day, what is the signal meaning, "This is the best place to land"?
- (A) white smoke signal
 - (B) vertical motion of a red flag
 - (C) white star rocket
 - (D) vertical motion of a white flag or the arms

If choice D is selected set score to 1.

- 51.** 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.

- 52.** Limit switches, winches, falls, etc. must be thoroughly inspected at least every _____.
- (A) 2 months
 - (B) 6 months
 - (C) year
 - (D) 4 months

If choice C is selected set score to 1.

53. 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.

54. 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.

55. 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.

56. 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.

57. You have abandoned ship and find yourself aboard a lifeboat in a heavy sea. Your boat is able to make way through the water. To prevent broaching, you should _____.

- (A) place everyone as far forward in the boat as possible to keep the bow heavy
- (B) put the sea on your stern and run as fast as the boat will go
- (C) head the boat into the swells to take them at a 30 to 40 degree angle on either bow and run as slow as possible without losing steerage
- (D) take no action to prevent broaching as this is a recommended maneuver in a heavy sea

If choice C is selected set score to 1.

58. When retrieving the survival craft, the helmsman should instruct the crewman to _____.

- (A) take the life preservers off
- (B) open the doors
- (C) check the fuel level
- (D) check that hooks are fully locked in place

If choice D is selected set score to 1.

59. 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.

60. To launch a liferaft by hand, you should _____.

- (A) throw the liferaft over the side and pull the operating cord
- (B) cut the casing bands, throw the raft over the side and it will inflate by itself
- (C) cut the casing bands, throw the raft over the side and pull the operating cord
- (D) detach the operating cord, throw the liferaft over the side and it will then inflate

If choice A 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. While you are on watch, you learn that a crewman has not been seen on board for the past three hours. Which type of turn is best in this man-overboard situation?

- (A) Scharnow
- (B) Racetrack
- (C) Round
- (D) Single turn of 180°

If choice A is selected set score to 1.

64. 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.

65. 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.

66. You are proceeding to a distress site and expect large numbers of people in the water. Which statement is TRUE?

- (A) You should stop to windward of the survivors in the water and only use the ship's boats to recover the survivors.
- (B) If the survivors are in inflatable rafts you should approach from windward to create a lee for the survivors.
- (C) Survivors in the water should never be permitted alongside due to the possibility of injury from the vessel.
- (D) An inflatable liferaft secured alongside can be an effective boarding station for transfer of survivors from the boats.

If choice D is selected set score to 1.

67. 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.

68. 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.

69. 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

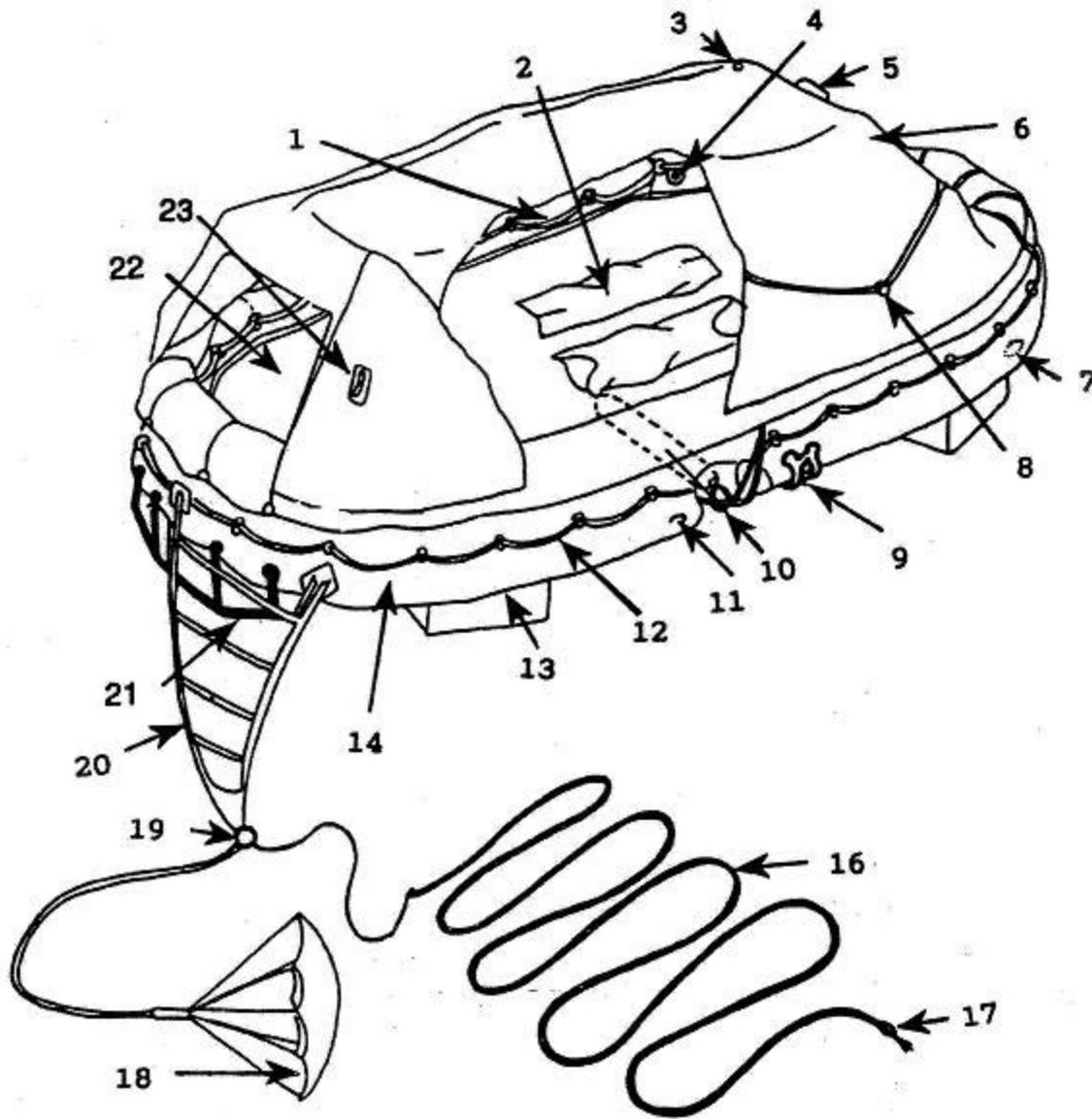
If choice A is selected set score to 1.

70. 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.

D014SA



D033DG

