

U.S.C.G. Merchant Marine Exam

Master Less than 500-1600 Gross Registered Tons

Q121 Deck Safety

(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. After an accident the victim may go into shock and die. What should be done to help prevent shock?

- (A) Keep the person lying down and at a comfortable temperature.
- (B) Give the person a stimulant to increase blood flow.
- (C) Slightly elevate the head and feet.
- (D) Keep the person awake.

If choice A is selected set score to 1.

2. A magnesium fire is classified as class _____.

- (A) A
- (B) B
- (C) C
- (D) D

If choice D is selected set score to 1.

3. Which statement is TRUE of a tender vessel?

- (A) Its period of roll is long.
- (B) It has a very low center of gravity.
- (C) It has a large GM.
- (D) It has a good transverse stability.

If choice A is selected set score to 1.

4. Reserve buoyancy is the _____.

- (A) excess of the buoyant force over the gravity force
- (B) volume of intact space above the waterline
- (C) unoccupied space below the waterline
- (D) difference in the buoyant force in salt and fresh waters

If choice B is selected set score to 1.

5. 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. Both vessels are making the same amount of leeway. Where should you position your vessel when you start running lines?

- (A) A
- (B) D
- (C) C
- (D) B

If choice C is selected set score to 1.

6. What is the average range of vessel-to-vessel VHF-FM radio communications?

- (A) 15 to 20 miles
- (B) 60 to 90 miles
- (C) 90 to 120 miles
- (D) 120 to 150 miles

If choice A is selected set score to 1.

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

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

If choice B is selected set score to 1.

8. According to the Lifesaving regulations in Subchapter W, fire and abandon ship drills must be held within 24 hours of leaving port if the percentage of the crew that has not participated in drills aboard that particular vessel in the prior month exceeds _____.

- (A) 5%
- (B) 10%
- (C) 25%
- (D) 40%

If choice C is selected set score to 1.

9. A fuel line breaks, sprays fuel on the hot exhaust manifold, and catches fire. Your FIRST action should be to _____.

- (A) shut off the fuel supply
- (B) batten down the engine room
- (C) apply carbon dioxide to the fire
- (D) start the fire pump

If choice A is selected set score to 1.

10. 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) secure the bitter end of the towing hawser to prevent loss if the tow is slipped
- (B) install chafing gear on the towline
- (C) have traveling lizards rigged to guide the towline while it is paid-out
- (D) compare the rate of drift between the ships

If choice D is selected set score to 1.

11. Inflatable liferafts on vessels on an international voyage must be able to carry at least _____.

- (A) 2 persons
- (B) 4 persons
- (C) 6 persons
- (D) 8 persons

If choice C is selected set score to 1.

12. Damaged bulkheads often take a permanent set which is independent of the panting or bulge caused by water pressure. To control this, you should _____.

- (A) install shoring so that it pushes on the damaged bulkhead while supporting it
- (B) place sandbags by the bulkhead without installing shores
- (C) use jacks or chain falls to remove the set before installing shores
- (D) install shoring so the shoring supports the damaged bulkheads without pushing on them

If choice D is selected set score to 1.

13. You are fighting a fire in a cargo hold on your vessel. Which action is most important concerning the stability of the vessel?

- (A) Draining fire-fighting water and pumping it overboard
- (B) Shutting off electricity to damaged cables
- (C) Maneuvering the vessel so the fire is on the lee side
- (D) Removing burned debris from the cargo hold

If choice A is selected set score to 1.

14. In plugging submerged holes; rags, wedges, and other materials should be used in conjunction with plugs to _____.

- (A) prevent progressive flooding
- (B) reduce the water leaking around the plugs
- (C) reduce the water pressure on the hull
- (D) reduce the possibility of stress fractures

If choice B is selected set score to 1.

15. In an emergency, the electro-hydraulic steering units can be directly controlled by the _____.

- (A) follow-up gear
- (B) receiver unit
- (C) rapson slide
- (D) trick wheel

If choice D is selected set score to 1.

16. What power source actuates a solenoid valve?

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

If choice A is selected set score to 1.

17. When a vessel signals her distress by means of a gun or other explosive signal, the firing should be at intervals of approximately _____.

- (A) 1 minute
- (B) 3 minutes
- (C) 10 minutes
- (D) 1 hour

If choice A is selected set score to 1.

18. Where a propeller shaft passes through the hull, water is prevented from entering by means of a _____.

- (A) stop-water
- (B) sea cock
- (C) stuffing box
- (D) propeller boss

If choice C is selected set score to 1.

19. Loading cargo above the vessel's center of gravity will increase the vessel's vertical center of gravity. How will this affect the vessel?

- (A) if your vessel's stability is decreasing , the rolling period will decrease
- (B) if your vessel's stability is increasing, the rolling period will remain the same
- (C) if your vessel's stability is decreasing, the roll period will increase
- (D) if your vessel's stability is increasing, the rolling period will increase

If choice C is selected set score to 1.

20. What monitoring device best indicates the load being carried by a diesel engine?

- (A) Lube oil pressure gauge
- (B) Tachometer
- (C) Exhaust pyrometer
- (D) Jacket water temperature gauge

If choice C is selected set score to 1.

21. What is one of the FIRST actions you should take after abandoning and clearing away from a vessel?

- (A) Identify the person in charge.
- (B) Gather up useful floating objects.
- (C) Prepare for arrival of rescue units.
- (D) Arrange watches and duties.

If choice A is selected set score to 1.

22. What is the best treatment for preventing traumatic shock after an accident?

- (A) apply ice packs and avoid excitement
- (B) have the victim exercise to increase circulation
- (C) keep the victim from electrical equipment
- (D) keep the victim warm and dry while lying down

If choice D is selected set score to 1.

23. Your vessel has run hard aground in an area subject to heavy wave action. Backing full astern failed to free her. Which action should be taken next?

- (A) Continue backing to scour out the bottom.
- (B) Flood empty tanks to increase bottom pressure and prevent inshore creep.
- (C) Shift weight aft to reduce the forward draft.
- (D) Wait for high tide and then try backing.

If choice B is selected set score to 1.

24. The painter of an inflatable liferaft should be _____.

- (A) secured to a permanent object on deck
- (B) stowed near the raft
- (C) faked out next to the case
- (D) free running on the deck

If choice A is selected set score to 1.

25. What is the purpose of the intake/exhaust valves in a diesel engine?

- (A) They regulate the combustion cycle.
- (B) They supply cooling water.
- (C) They supply and regulate the lubricant flow.
- (D) They synchronize the ignition spark.

If choice A is selected set score to 1.

26. Each distress signal and self-activated smoke signal must be replaced not later than the marked date of expiration, or, from the date of manufacture, not later than _____.

- (A) 6 months
- (B) 12 months
- (C) 24 months
- (D) 42 months

If choice D is selected set score to 1.

27. A vessel is constructed with a steel hull and an aluminum superstructure. Which statement is TRUE?

- (A) The steel at the area of the aluminum-to-steel connection must be closely checked for galvanic corrosion.
- (B) If the superstructure is stressed, an aluminum structure requires additional expansion joints to prevent fracture.
- (C) The aluminum structure is usually attached to a steel coaming by a method that insulates the two metals.
- (D) The aluminum will provide greater resistance to the spread of fire by conduction.

If choice C is selected set score to 1.

28. A vessel is described as a two compartment vessel when it _____.

- (A) has no more than two compartments
- (B) will float if any two adjacent compartments are flooded
- (C) will sink if any two compartments are flooded
- (D) has two compartments in addition to the engine room

If choice B is selected set score to 1.

29. A vessel's bottom will be subjected to tension when weight is concentrated _____.

- (A) at both ends of the vessel
- (B) amidships
- (C) forward
- (D) aft

If choice B is selected set score to 1.

30. Which of the following statements relating to AMVER (Automated Mutual-assistance Vessel Rescue) is TRUE?

- (A) An AMVER participant is not relieved of the obligation to give 24 hour advance notice to the U.S. Coast Guard before entering a U.S. port from offshore.
- (B) The AMVER system does not reduce the time lost for vessels responding to calls for assistance.
- (C) An AMVER participant is under greater obligation to render assistance to a vessel in distress than a non-participant.
- (D) There is no cost to the ship or owner for messages sent within the AMVER system.

If choice D is selected set score to 1.

31. You wish to communicate information that the swell in your area is 8-10 feet in height and from the northeast. How would you describe this swell, as defined in the International Code of Signals?

- (A) high
- (B) moderate
- (C) rough
- (D) confused

If choice B is selected set score to 1.

32. What causes heat exhaustion?

- (A) excessive intake of water when working or exercising
- (B) excessive increase in body temperature
- (C) excessive loss of body temperature
- (D) excessive loss of water and salt from the body

If choice D is selected set score to 1.

33. What is NOT a motion of the vessel?

- (A) Roll
- (B) Trim
- (C) Pitch
- (D) Yaw

If choice B is selected set score to 1.

34. One major disadvantage of a low-speed diesel as compared to a steam main-propulsion system is _____.

- (A) the low efficiency of the system when a controllable pitch propeller is used
- (B) the higher fuel consumption per SHP
- (C) the extra weight required for the diesel reduction gearing
- (D) a minimum speed for the engines that limits the minimum speed of the vessel

If choice D is selected set score to 1.

35. You have abandoned ship in rough weather. After picking up other survivors in your liferaft, what should you do next?

- (A) Decide on food and water rations.
- (B) Close up the entrances.
- (C) Top up the buoyancy tubes.
- (D) Prepare for the arrival of rescue units.

If choice B is selected set score to 1.

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

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

If choice D is selected set score to 1.

37. The shearing stresses on a ship's structure are usually greatest at _____.

- (A) the stern
- (B) the ship's quarter-length points
- (C) midships
- (D) the bow

If choice B is selected set score to 1.

38. Which statement about the free surface correction is TRUE?

- (A) It is obtained by dividing the free surface moments by 12 times the volume of displacement.
- (B) It is obtained by dividing the total free surface by the total vertical moments.
- (C) It is added to the uncorrected GM to arrive at the corrected available GM.
- (D) It is subtracted from the total longitudinal moments before dividing by displacement to find LCG.

If choice A is selected set score to 1.

39. A carling is used aboard ship _____.

- (A) to provide an extra heavy fitting in a heavy lift cargo rig
- (B) to prevent the anchor from fouling when the brake is released
- (C) as a connecting strap between the butted ends of plating
- (D) to stiffen areas under points of great stress between beams

If choice D is selected set score to 1.

40. When in command of a lifeboat under oars, what does the command "Backwater" mean?

- (A) complete the stroke, come to "Oars", raise oars smartly to vertical, rest handles on footing, trim blades fore and aft
- (B) complete stroke, stop rowing, dip blade about halfway into water, hold water to stop the way on the boat
- (C) row in astern motion
- (D) lift oars to vertical position, trim blades fore and aft with handles resting on footings

If choice C is selected set score to 1.

41. You are at sea and have received a General Emergency message announcing the outbreak of war in Europe. You are directed to comply with the instructions in NGA (NIMA) PUB 117, Chapter Eight. Which statement is TRUE?

- (A) You should attempt to submit an AMVER report to NSA.
- (B) If on a coastwise voyage along the east coast of the U.S., you should put into the nearest port.
- (C) When over 200 miles from a port in the danger zone, you should not darken ship.
- (D) You should only enter a port in the danger zone during hours of darkness.

If choice A is selected set score to 1.

42. The first AMVER position report must be sent within how many hours of departure?

- (A) 12
- (B) 24
- (C) 36
- (D) 48

If choice B is selected set score to 1.

43. What does the signal "AS", when used in signaling by the International Code of Signals mean?

- (A) Repeat this signal
- (B) Finished with transmission
- (C) Over
- (D) Wait

If choice D is selected set score to 1.

44. Your vessel is damaged, listing to port and on occasion flopping to the same angle to starboard. It has a long, slow, sluggish roll around the angle of list. There is excessive trim by the stern with little freeboard aft. What action should you take FIRST to correct this situation?

- (A) Jettison any off-center topside weights to lower GM and correct the list.
- (B) Pump out any slack after double bottom tanks to reduce free surface and increase freeboard aft.
- (C) Pump out the after peak and fill the forepeak to change the trim.
- (D) Press up any slack double bottom tanks forward of the tipping center, then fill the forepeak if empty.

If choice D is selected set score to 1.

45. Fighting a fire in the galley poses the additional threat of _____.

- (A) contaminating food with extinguishing agent
- (B) a grease fire in the ventilation system
- (C) spreading through the engineering space
- (D) loss of stability

If choice B is selected set score to 1.

46. You are in a lifeboat broadcasting a distress message. What information would be essential to your rescuers?

- (A) Your radio call sign
- (B) The nature of the distress
- (C) Your position by latitude and longitude
- (D) The time of day

If choice C is selected set score to 1.

47. What is the most useful drug to reduce mild fever?

- (A) aromatic spirits of ammonia
- (B) bicarbonate of soda
- (C) paregoric
- (D) aspirin

If choice D is selected set score to 1.

48. When the handle of an all-purpose nozzle is pulled all the way back, it will _____.

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

If choice C is selected set score to 1.

49. 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

If choice D is selected set score to 1.

50. You detect an odor of burning electrical insulation and then notice smoke coming from an open laundry room doorway. After activating the fire alarm, which of the following is the LEAST likely of your next actions?

- (A) Locate the nearest CO₂ or dry chemical extinguisher.
- (B) Break out the nearest fire hose.
- (C) Secure power to the washers and dryers.
- (D) Close the door to the room.

If choice B is selected set score to 1.

51. When using a high-velocity fog stream in a passageway, the possibility of a blow back must be guarded against. Blow back is most likely to occur when _____.

- (A) pressure builds up in the nozzle which causes a surge of water
- (B) pressure in the fire hose drops below 100 psi
- (C) a bulkhead collapses due to heat and pressure
- (D) the only opening in a passageway is the one from which the nozzle is being advanced

If choice D is selected set score to 1.

52. Which system may be useful for messages, such as local storm warnings or a shore-to-ship distress alert, for which it is inappropriate to alert all ships in the satellite coverage area?

- (A) EGC
- (B) NAVTEX
- (C) AMVER
- (D) DSC

If choice A is selected set score to 1.

53. A floating vessel will behave as if all of its weight is acting downward through the _____.

- (A) center of buoyancy
- (B) center of gravity
- (C) metacenter
- (D) center of flotation

If choice B is selected set score to 1.

54. Which statement concerning the application of dry chemical powder is FALSE?

- (A) The stream should be directed at the base of the fire.
- (B) When possible, the fire should be attacked from windward.
- (C) At temperatures of less than 32°F, the extinguisher must be recharged more often.
- (D) Directing the stream into burning flammable liquid may cause splashing.

If choice C is selected set score to 1.

55. Signals between an icebreaker and an assisted vessel may NOT be given by _____.

- (A) whistle
- (B) flag hoist
- (C) radiotelephone
- (D) radiotelegraph

If choice D is selected set score to 1.

56. When the height of the metacenter is less than the height of the center of gravity, a vessel has which type of stability?

- (A) Positive
- (B) Stable
- (C) Neutral
- (D) Negative

If choice D is selected set score to 1.

57. What is the function of wearing rings found on some centrifugal pumps?

- (A) Seal pump shaft against entry of air
- (B) Absorb erosion of high-velocity discharge stream
- (C) Dampen the turbulent discharge flow
- (D) Isolate the outlet side from the inlet side

If choice D is selected set score to 1.

58. When landing a lifeboat through heavy surf with a strong current running parallel to the beach (from right to left when facing from seaward) the recommended procedure is to _____.

- (A) drop an anchor outside the surf line, then pay out anchor line over the bow while the seas carry the boat toward the beach
- (B) approach slow enough so that the boat can be brought around to meet breaking seas on the bow
- (C) rig a drogue with tripping line over the bow, back ashore with drogue tripped between breakers
- (D) approach while coming to the left to take advantage of the current

If choice C is selected set score to 1.

59. Your vessel has just received a distress message. As the master of the vessel, when are you relieved of your obligation to assist in the search and rescue operations?

- (A) if your vessel's time schedule conflicts with rendering assistance
- (B) if your vessel is one of two vessels that has been requisitioned for assistance by the Rescue Coordination Center
- (C) if your vessel does not have a fast rescue boat or a motorized lifeboat readily available
- (D) if you are informed by the persons in distress or by the master of another on scene vessel that assistance is no longer required

If choice D is selected set score to 1.

60. A man has suffered a burn on the arm. There is extensive damage to the skin with charring present. How is this injury classified using standard medical terminology?

- (A) Third-degree burn
- (B) Lethal burn
- (C) Major burn
- (D) Dermal burn

If choice A is selected set score to 1.

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

If choice C is selected set score to 1.

62. To keep injured survivors warm in the water after abandoning ship, they should _____.

- (A) float on their backs with their arms extended for maximum exposure to the air
- (B) sip water at intervals of fifteen minutes
- (C) be placed in the middle of a small circle formed by the other survivors in the water
- (D) remove their life preservers and hold on to the uninjured survivors

If choice C is selected set score to 1.

63. The term "scantlings" refers to the _____.

- (A) placement of a vessel's load line
- (B) requirements for ship's gear
- (C) draft of a vessel
- (D) measurements of structural members

If choice D is selected set score to 1.

64. All personnel on board a vessel should be familiar with the rescue boat's _____.

- (A) fuel consumption rates
- (B) boarding and operating procedure
- (C) navigational systems
- (D) maintenance schedules

If choice B is selected set score to 1.

65. Why should storage batteries should be charged in a well ventilated area?

- (A) They recharge faster in a well ventilated space
- (B) Because of the toxic fumes they emit
- (C) They emit hydrogen
- (D) They generate heat

If choice C is selected set score to 1.

66. The space above the engine room is called the _____.

- (A) fidley
- (B) gold locker
- (C) middle hatch
- (D) noble

If choice A is selected set score to 1.

67. On the all-purpose nozzle, the position of the valve when the handle is all the way forward is _____.

- (A) spray
- (B) fog
- (C) shut
- (D) solid stream

If choice C is selected set score to 1.

68. If your vessel is aground at the bow, it would be preferable that any weight removals be made from the _____.

- (A) bow
- (B) mid-section
- (C) stern
- (D) All of the above

If choice A is selected set score to 1.

69. In an electro-hydraulic steering system, rudder movement is maintained in close synchronization with the steering wheel position by means of the _____.

- (A) six-way valve
- (B) Rapson slide
- (C) follow-up control
- (D) trick wheel

If choice C is selected set score to 1.

70. You detect an odor of burning cotton fabric and then see smoke coming from the top of an open laundry room doorway. After activating the fire alarm, you might do any of the following next, EXCEPT _____.

- (A) secure ventilation to the room
- (B) acquire the nearest self contained breathing apparatus
- (C) close the door to the room
- (D) begin breaking out the nearest fire hose

If choice B is selected set score to 1.

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