

U.S.C.G. Merchant Marine Exam

Master or Mate Less than 200 Gross Registered Tons

Q151 Deck Safety

(Sample Examination)

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

1. Ultrasonic testing is used to determine the thickness of a vessel's shell plating and which other testing?

- A. To test the links of the anchor cables while being ranged
- B. To provide tail shaft clearances
- C. To test welds for subsurface defects
- D. To check the wear of the rudder carrier bearing

Correct answer: C

2. The safety discs on carbon dioxide cylinders are set to release at 2,700 psi. Under normal circumstances this pressure will be reached at which temperature?

- A. 70°F
- B. 100°F
- C. 125°F
- D. 135°F

Correct answer: D

3. You must medevac a critically injured seaman by helicopter hoist. Which statement is TRUE?

- A. The helicopter's drop line should be secured to the ship not more than 15 feet from the hoist position.
- B. When using a "horse collar", the bight of the loop should be around the chest of the injured seaman.
- C. The ship's relative wind should be from dead ahead at 10 to 30 knots.
- D. The deck crew at the hoist point should not wear baseball hats.

Correct answer: D

4. Which defines the function of a spark arrestor?

- A. Grounds static electricity reducing chance of explosion
- B. Utilized to secure covers on ullage openings
- C. Prevents sparks from getting out of an engine's exhaust system
- D. It keeps sparks from falling into an open tank

Correct answer: C

5. The vessel's Emergency Position Indicating Radio beacon (EPIRB) must be tested at which time interval?

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

Correct answer: D

6. Pitching is angular motion of the vessel about what axis?

- A. Centerline
- B. Vertical
- C. Transverse
- D. Longitudinal

Correct answer: C

7. A person who observes an individual fall overboard should do which of the following?

- A. Go to the control room for the distress flares
- B. Run to the radio room to send an emergency message
- C. Immediately jump into the water to assist the individual
- D. Call for help and keep the individual in sight

Correct answer: D

8. Which type of weld is used to attach stiffeners to a plate?

- A. Fillet welds
- B. Plate welds
- C. Butt welds
- D. Seam welds

Correct answer: A

9. After using a CO2 portable extinguisher, which action should be taken?

- A. Recharge the extinguisher
- B. Put it back in service if some CO2 remains
- C. Retag the extinguisher and put into service
- D. Hydrostatically test the extinguisher

Correct answer: A

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, which action should you take?

- A. Compare the rate of drift between the ships
- B. Have traveling lizards rigged to guide the towline while it is paid-out
- C. Install chafing gear on the towline
- D. Secure the bitter end of the towing hawser to prevent loss if the tow is slipped

Correct answer: A

11. Portable foam fire-extinguishers are designed for use on which class of fires?

- A. Class B and class C fires
- B. Class A and class C fires
- C. Class A and class B fires
- D. Class A, class B, and class C fires

Correct answer: C

12. The deck beam brackets of a transversely framed vessel resist which stresses?

- A. Hogging stresses
- B. Shearing stresses
- C. Sagging stresses
- D. Racking stresses

Correct answer: D

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

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

Correct answer: A

14. If a gasoline engine turns over freely but will not start, the cause is generally _____.

- A. a defective ignition system
- B. too heavy a load
- C. low lube oil level
- D. weak valve springs

Correct answer: A

15. Which of the following is one of the most important safety procedures that should be adhered to prior to starting a gasoline engine on a motorboat?

- A. The gasoline tank is full
- B. You have fresh water on board
- C. The bilges, cabins, etc. are thoroughly ventilated
- D. Each of the above is followed

Correct answer: C

16. What is the period of validity of a De-Rat certificate?

- A. Specific voyage
- B. 6 months
- C. 1 year
- D. 2 years

Correct answer: B

17. Normally, which chemical is used to treat water in order to ensure its safety for drinking?

- A. Oxygen
- B. Chlorine
- C. Carbon
- D. Nitrogen

Correct answer: B

18. The greatest effect on stability occurs from loose liquids flowing _____.

- A. from side to side in the tanks of the vessel
- B. from fore to aft in the tanks of a vessel
- C. in and out of a vessel that is holed in a peak tank
- D. in and out of a vessel that is holed in a wing tank

Correct answer: D

19. Your vessel has an injured crew member onboard that will require evacuation. Which of the following publications should you review for the procedures in conducting rescue/medivac helicopter operations?

- A. International Aeronautical and Maritime Search and Rescue Manual
- B. Pub 117 Radio Aids to Navigation
- C. International Maritime Organization Life-Saving Appliance Code Manual
- D. Merchant Marine Officers Handbook

Correct answer: A

20. If a vessel takes a sudden, severe list or trim from an unknown cause, which action should you take FIRST?

- A. Determine the cause before taking countermeasures
- B. Counterflood
- C. Assume the cause is environmental forces
- D. Assume the shift is due to off-center loading

Correct answer: A

21. What is placed on the underside of an inflatable liferaft to help prevent it from being skidded by the wind or overturned?

- A. Ballast bags
- B. Sea anchor
- C. Strikes
- D. A keel

Correct answer: A

22. An important step in fighting any electrical fire is to take which action?

- A. De-energize the circuit
- B. Apply water to extinguish the fire
- C. Stop the vessel
- D. Stop ventilation

Correct answer: A

23. How should you warm up a diesel engine that has not been run for some time?

- A. Bring it up to top speed immediately and run until warmed up.
- B. Idle for a brief period of time and then warm up at half speed.
- C. Inject ether into the air intake to shorten warm up time.
- D. Run it at minimum speed until warmed to operating temperature.

Correct answer: B

24. When evacuating a seaman by helicopter lift, which statement is TRUE?

- A. The hoist area should be located as far aft as possible so the pilot will have a visual reference while approaching.
- B. The vessel should be stopped with the wind dead ahead during the hoisting operation.
- C. Flags should be flown to provide a visual reference as to the direction of the apparent wind.
- D. The drop line should be grounded first then secured as close to the hoist point as possible.

Correct answer: C

25. What is the purpose of the hydrostatic release on an inflatable liferaft?

- A. To test the rafts hydrostatically
- B. To release the raft from the cradle automatically as the ship sinks
- C. To inflate the raft automatically
- D. None of the above

Correct answer: B

26. The percentage of the total surface area or volume of a flooded compartment that can be occupied by water caused by damage defines which term?

- A. Center of flotation
- B. One compartment standard
- C. Permeability
- D. Form gain

Correct answer: C

27. Small quantities of flammable liquids needed at a work site should be _____.

- A. used only under the supervision and direction of a ship's officer
- B. used only when a pressurized fire hose is laid out ready for immediate use
- C. tightly capped and stowed with other tools near the job site when securing at the end of the day
- D. in a metal container with a tight cap

Correct answer: D

28. You discover a leak in the fuel line to the engine. Which action should you take FIRST?

- A. Start the bilge pump
- B. Close the fuel valve at the tank
- C. Make a temporary repair with canvas or tape
- D. Activate the CO2 system

Correct answer: B

29. How would the exhaust of a properly operating diesel engine appear?

- A. Light brown haze
- B. Perfectly clear
- C. Light blue haze
- D. Light gray haze

Correct answer: B

30. Which is the national distress, safety, and calling frequency channel?

- A. 16
- B. 22
- C. 18
- D. 13

Correct answer: A

- 31.** What must be accurately determined to assess the potential for progressive flooding after a vessel has been damaged?
- A. The operation of the machinery space bilge level alarms
 - B. The integrity of the watertight boundaries
 - C. The capacity of the water sprinkler systems
 - D. All of the above

Correct answer: B

- 32.** The Master of a cargo or tank vessel shall be responsible that each lifeboat, except those free-fall launched, is lowered to the water with crew and maneuvered. Which time interval is this action required?
- A. Once a week
 - B. Once a month
 - C. Once every three months
 - D. Once a year

Correct answer: C

- 33.** Generally, when lifting an inflatable liferaft back aboard ship which item(s) would you use?
- A. The external lifelines
 - B. The righting straps
 - C. The main weather cover
 - D. The towing bridle

Correct answer: D

- 34.** If the cause of severe list is off-center ballast, what will counterflooding into empty tanks accomplish?
- A. Increase list
 - B. Increase the righting arm
 - C. Increase the righting moment
 - D. Decrease list

Correct answer: D

- 35.** Which is the principal danger from ice collecting on a vessel?
- A. The loss of stability
 - B. The decrease in capabilities of radar
 - C. The decrease in displacement
 - D. The adverse effect on trim

Correct answer: A

- 36.** What is required in addition to the heat, fuel, and oxygen of the fire triangle to have a fire?
- A. Chain reaction
 - B. Pressure
 - C. Smoke
 - D. Electricity

Correct answer: A

37. Which visual distress signal is acceptable for daylight use only?

- A. Self-contained rocket-propelled parachute red flare
- B. Red aerial pyrotechnic flare
- C. Hand-held orange smoke distress flare
- D. Hand-held red flare

Correct answer: C

38. Why is the height of a VHF radio antenna more important than the power output wattage of the radio?

- A. Sea water absorbs the radiated energy
- B. The air is more dense the higher you go
- C. Salt water is a poor conductor of sound
- D. VHF communications are basically "line of sight"

Correct answer: D

39. When should the lubricating oil be changed on a heavy-duty diesel engine?

- A. When it no longer supports combustion
- B. Only when a sample rubbed between fingers feels thin
- C. When it has been in use for a specified interval
- D. When it gets dark in color

Correct answer: C

40. What is the main advantage of a steady stream of water on a class "A" fire?

- A. It breaks up and cools the fire
- B. It removes the oxygen
- C. It washes the fire away
- D. It protects the firefighting crew

Correct answer: A

41. Channel 13 is primarily used for ship-to-ship communication. Channel 13 is also authorized for which purpose?

- A. Lock & bridge communications
- B. Coast to aircraft operational communications
- C. Aircraft to ship navigational communications
- D. Aircraft to ship operational communications

Correct answer: A

42. Which is TRUE of a combination or all-purpose nozzle?

- A. It produces a solid stream only
- B. It can produce a solid stream or fog
- C. It can produce a solid stream and foam
- D. It produces low-velocity fog only

Correct answer: B

43. Inflatable liferafts are provided with which item?

- A. A towing bridle
- B. An oil lantern
- C. Canned milk
- D. A compass

Correct answer: A

44. A crew member has just fallen overboard off your port side. Which action should you take?

- A. Immediately put the rudder over hard right.
- B. Wait until the stern is well clear of the man and then put the rudder over hard right.
- C. Immediately put the engines astern.
- D. Immediately put the rudder over hard left.

Correct answer: D

45. Horizontal transverse motion of a vessel is known by which term?

- A. Pitch
- B. Surge
- C. Heave
- D. Sway

Correct answer: D

46. Which action should be taken once fueling has been completed?

- A. Open the fuel line and drain a small amount of gasoline into the bilge to clear the line of sediment
- B. The engine should be started immediately to prevent vapor lock in the fuel line
- C. The fuel tank fill pipe should be left open to allow vapors to vent from the tank
- D. All hatches should be opened, and all compartments should be ventilated

Correct answer: D

47. On an oceangoing vessel, for each person a lifeboat (without desalting kits) is certified to carry, what must the boat be supplied with?

- A. A life preserver
- B. A signaling whistle
- C. 2 pounds of condensed milk
- D. 3 liters of water

Correct answer: D

48. What power source actuates a solenoid valve?

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

Correct answer: C

49. The amount of freeboard which a ship possesses has a tremendous effect on which item?

- A. Free surface
- B. Permeability
- C. Initial stability
- D. Stability at large angles of inclination

Correct answer: D

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

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

Correct answer: C