

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. Angular motion about the vertical axis of a vessel refers to which term?

- A. Sway
- B. Yaw
- C. Surge
- D. Roll

Correct answer: B

2. If your vessel is aground at the bow, it would be preferable that any weight removals be made from which area(s) of the vessel?

- A. The bow
- B. The stern
- C. The mid-section
- D. All of the above

Correct answer: A

3. How can you recognize the necessity for administering artificial respiration?

- A. Irregular breathing
- B. Unconsciousness
- C. Vomiting
- D. Lack of breathing

Correct answer: D

4. The service use of pyrotechnic distress signals measured from the date of manufacture shall be limited to which period of time?

- A. 24 months
- B. 36 months
- C. 42 months
- D. 60 months

Correct answer: C

5. The most detrimental effect on initial stability is a result of liquids _____.

- A. flowing from side to side within the vessel
- B. flowing from fore to aft within a vessel
- C. flowing in and out of a holed wing tank
- D. pocketing in a slack tank as a vessel heels

Correct answer: C

6. When should you first have any food or water after boarding a lifeboat or liferaft?
- A. After 12 hours
 - B. After 24 hours
 - C. Within 48 hours
 - D. Some food and water should be consumed immediately and then not until 48 hours later.

Correct answer: B

7. How are fusible link fire dampers operated?
- A. The heat of a fire melting the link
 - B. Electrical controls on the bridge
 - C. A break-glass and pull-cable system
 - D. A mechanical arm outside the vent duct

Correct answer: A

8. Lifesaving regulations in Subchapter W require that a fire drill include which of the following?
- A. Checking arrangements for abandon ship
 - B. Starting the fire pumps
 - C. Checking the operation of watertight doors
 - D. All of the above

Correct answer: D

9. When a vessel is stationary and in a hogging condition, the main deck is under which type of stress?
- A. Shear
 - B. Racking
 - C. Compression
 - D. Tension

Correct answer: D

10. Angular motion about the longitudinal axis of a vessel is known by which term?
- A. Surge
 - B. Roll
 - C. Sway
 - D. Pitch

Correct answer: B

11. Which defines the "flammable limits" of an atmosphere?
- A. The two temperatures between which an atmosphere will self-ignite
 - B. The two temperatures between which an atmosphere will burn if an ignition source is present
 - C. The upper and lower percentage of vapor concentrations in an atmosphere which will burn if an ignition source is present
 - D. The upper and lower pressures between which an atmosphere will not burn

Correct answer: C

12. 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 which percentage?

- A. 5%
- B. 10%
- C. 25%
- D. 40%

Correct answer: C

13. Which of the following is a treatment of frostbite?

- A. Wrapping area tightly in warm cloths
- B. Rubbing affected area briskly to restore circulation
- C. Rubbing affected area with ice or snow
- D. Warming exposed parts rapidly

Correct answer: D

14. What is a wobbling tail shaft an indication of?

- A. Shallow water
- B. A tight tail shaft gland
- C. An engine that is misfiring
- D. A worn stern bearing or misalignment

Correct answer: D

15. A wooden plug fitted tightly in the vent of a damaged tank may prevent which situation?

- A. The tank developing free surface
- B. Developing free surface moment
- C. The tank from collapsing
- D. The tank filling completely

Correct answer: D

16. What is the operating principal of a flash type evaporator?

- A. Sea water is passed over heated plates in a thin film.
- B. Sea water is forced through a heated eductor.
- C. Sea water is heated to boiling temperature under a vacuum.
- D. Heated sea water is injected into a vacuum chamber.

Correct answer: D

17. Which is TRUE when operating the air supply system in a covered lifeboat?

- A. The fuel supply valve should be closed
- B. The engine should be shut off
- C. The air cylinder shut-off valve should be closed
- D. All hatches, doors, and oar ports should be closed

Correct answer: D

18. Fires are grouped into what categories?

- A. Class A, B, C, and D
- B. Type 1, 2, 3, and 4
- C. Combustible solids, liquids, and gases
- D. Flammable solids, liquids, and gases

Correct answer: A

19. What would a yellow signal floating in the air from a small parachute, about 300 feet above the water indicate about a submarine?

- A. The submarine is about to rise to periscope depth
- B. The submarine is disabled and unable to surface
- C. The submarine has fired a torpedo during a drill
- D. The submarine is on the bottom in distress

Correct answer: A

20. Your vessel is damaged and on an even keel. There is no trim. The freeboard is reduced to less than 1 foot. The rolling period is very long, and the vessel is sluggish in returning from a roll. Which action would you take FIRST to improve stability?

- A. In calm seas lower the lifeboats to the water and keep them alongside.
- B. Pump out the peak tanks simultaneously.
- C. Rig the jumbo boom and use it to jettison heavy deck cargo.
- D. Press up a centerline double bottom that is now filled to 15% capacity.

Correct answer: A

21. What is the calling and distress frequency on a single side band (SSB) marine radiotelephone?

- A. 1492 kHz
- B. 1892 kHz
- C. 2082 kHz
- D. 2182 kHz

Correct answer: D

22. When attempting to enter a compartment containing a fire, which method of applying water is best?

- A. High-velocity fog stream directed toward the overhead
- B. Straight stream directed into the center of the fire
- C. Solid stream directed toward the overhead
- D. Sweeping the compartment with a fog stream

Correct answer: D

23. Enclosed lifeboats which have been afloat over a long period of time require _____.

- A. frequent flushing of the water spray system with fresh water
- B. use of ear plugs to dampen engine noise
- C. frequent opening of hatches to permit entry of fresh air
- D. regular checks of bilge levels

Correct answer: D

24. The single turn method of returning to a man overboard should be used ONLY if which condition exists?

- A. The vessel is very maneuverable
- B. A boat will be used to recover the man
- C. The conning officer is inexperienced
- D. The man is reported missing rather than immediately seen as he falls overboard

Correct answer: A

25. You are attempting to take a dead ship in tow. All lines have been passed and secured. How should you get underway?

- A. Gradually apply power until catenary almost breaks the water, but keep the catenary in the water.
- B. If the towline is properly adjusted and weighted you can order slow or dead slow and the towline will act as a spring to absorb the initial shock.
- C. Order minimum turns until the towing hawser is just clear of the water, then reduce speed to that necessary to keep the line clear of the water.
- D. Order minimum turns until the towing hawser is taut and then continue at that speed until towing speed is attained.

Correct answer: A

26. Where there are multiple accident victims, which type of injury should be the first to receive emergency treatment?

- A. Major multiple fractures
- B. Eye injuries
- C. Severe shock
- D. Burns

Correct answer: C

27. Why should all electrical appliances aboard a vessel be grounded and ground fault protected?

- A. To prevent unauthorized personnel from operating them
- B. To prevent them from falling when the vessel rolls
- C. To protect personnel from electrical shock
- D. To increase their operating efficiency

Correct answer: C

28. You are having a Coast Guard inspection. Which is TRUE concerning all of the carbon dioxide fire extinguishers aboard?

- A. All of the extinguishers will be weighed
- B. All of the extinguishers will be checked for pressure loss
- C. All of the extinguishers will be discharged and recharged
- D. All of the extinguishers will be sent ashore to a service facility

Correct answer: A

29. Which term is given to the difference between the starboard and port drafts caused by shifting a weight transversely in the vessel?

- A. Trim
- B. Flotation
- C. List
- D. Heel

Correct answer: C

30. VHF Channel 6 is used exclusively for what kind of communications?

- A. Radio checks and time checks
- B. Inter-vessel safety and search and rescue
- C. Working with helicopters
- D. Radio direction finding

Correct answer: B

31. Which group would be used to send the signal Greenwich mean time 11:35 pm?

- A. T 2335 GMT
- B. GMT 1135PM
- C. Z 2335
- D. G 2335

Correct answer: C

32. Which is the best action to take when plugging holes below the waterline for the safety of the vessel?

- A. Reduce the entry of water as much as possible
- B. Eliminate all water entering the hole
- C. Only plug holes in machinery or other vital spaces
- D. Plug the largest holes first

Correct answer: A

33. The danger of a charged hose left unattended on deck with the nozzle open is _____.

- A. personnel might trip over the hose
- B. water damage to vessel's cargo or structure
- C. the nozzle end will whip about causing damage or injury
- D. the hose could burst

Correct answer: C

34. If a vessel is sagging, what kind of stress is placed on the sheer strake?

- A. Tension
- B. Compression
- C. Racking
- D. Thrust

Correct answer: B

35. Which is TRUE of the term negative slip on a vessel?

- A. The distance a vessel travels in the same direction when rudder has been applied
- B. The ship is moving faster than the theoretical propeller speed
- C. The ship is moving slower than the theoretical propeller speed
- D. The distance a vessel travels when all propulsion has been stopped

Correct answer: B

36. In the absence of external forces, the center of gravity of a floating vessel is located directly in line with which item?

- A. Geometric center of the displaced volume
- B. Center of flotation
- C. Metacenter
- D. Amidships

Correct answer: A

37. Which is the prime function of the bilge keel?

- A. To protect the vessel's hull when alongside a dock
- B. To serve as the vessel's main strength member
- C. To add strength to the bilge
- D. To reduce the rolling of the vessel

Correct answer: D

38. What is Metacentric height a measure of?

- A. Initial stability only
- B. Stability through all angles
- C. Maximum righting arm
- D. Location of G above the keel

Correct answer: A

39. You are on a ship that has broken down and are preparing to be taken in tow. You will use your anchor cable as part of the towline. Which statement is TRUE?

- A. The anchor cable should be veered enough to allow the towline connection to be immediately astern of the towing vessel.
- B. The anchor cable should be veered enough to allow the towline connection to be just forward of your bow.
- C. The anchor cable should be led out through a chock, if possible, to avoid a sharp nip at the hawsepipe lip.
- D. The strain of the tow is taken by the riding pawl, chain stopper, and anchor windlass brake.

Correct answer: D

40. Which defines the function of a spark arrestor?

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

Correct answer: B

41. Which term is given to the wooden planking that protects the tank top from cargo loading?

- A. Shores
- B. Frames
- C. Toms
- D. Ceiling

Correct answer: D

42. When a helicopter is lifting personnel from an enclosed lifeboat, what should the other individuals in the boat do?

- A. Remain seated inside to provide body weight for stability
- B. Enter the water in case the person being lifted slips from the sling
- C. Stand on the outside of the boat to assist the person being lifted
- D. Remove their life preservers to prepare for their transfer to the helicopter

Correct answer: A

43. Which is TRUE of the mechanical gearing of deck machinery such as the windlass or towing engines?

- A. They should be painted a contrasting color from the base color in order to call attention to the gearing
- B. They should be open to view so, if a foreign object gets in the gearing, the operator can immediately stop the machinery
- C. They should not be operated if there is any crew within 10 feet of the machinery
- D. They should have a guard over the gearing

Correct answer: D

44. Stability is determined principally by the location of the point of application of two forces: the downward-acting gravity force and which other force?

- A. The downward-acting weight force
- B. The environmental force
- C. The upward-acting buoyant force
- D. The upward-acting weight force

Correct answer: C

45. 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

- 46.** Your vessel has run aground and is touching bottom for the first one-quarter of its length. What is the LEAST desirable method from the standpoint of stability to decrease the bottom pressure?
- A. Pump out the forepeak tank
 - B. Discharge forward deck cargo
 - C. Flood an after double bottom tank
 - D. Shift deck cargo aft

Correct answer: A

- 47.** What condition will result in the automatic shutdown of a diesel engine?
- A. Low lube oil pressure
 - B. High lube oil pressure
 - C. Excessive turbo charger speed
 - D. High jacket water pressure

Correct answer: A

- 48.** What is the traditional signal for fire aboard ship?
- A. More than 6 short blasts and 1 long blast on the whistle, and the same signal on the general alarm
 - B. 1 short blast on the whistle
 - C. Continuous sounding of the ship's whistle and the general alarm for at least 10 seconds
 - D. Alternating short and long blasts on the ship's whistle

Correct answer: C

- 49.** What does the gross tonnage of a vessel indicate?
- A. Draft in feet
 - B. Displacement in metric tons
 - C. Volume in cubic feet
 - D. Total weight including cargo

Correct answer: C

- 50.** Shell plating is _____.
- A. synonymous with decking
 - B. the galvanizing on steel
 - C. the outer plating of a vessel
 - D. a hatch cover

Correct answer: C

- 51.** What would be the result of physical exertion on the part of a person who has fallen into cold water?
- A. It will increase the rate of heat loss from the body
 - B. It will increase the water temperature between the body and layers of clothing
 - C. It will decrease exposure of the body surface to cold water
 - D. It will increase survival time in the water

Correct answer: A

52. What is the purpose of a striking plate?

- A. It prevents valve stem over-travel
- B. It provides a surface for applying force on machinery
- C. It provides a landing surface for the sounding bob
- D. It absorbs machinery vibration

Correct answer: C

53. How should the number "3" be pronounced when spoken on the radiotelephone?

- A. NUM-ERL-THREE
- B. TRIC-THREE
- C. TAY-RAH-TREE
- D. BEES-SOH-THREE

Correct answer: C

54. If you are forced to abandon ship in a rescue boat, which action should you take?

- A. Head for the nearest land
- B. Head for the closest sea lanes
- C. Vote on what to do, so all hands will have a part in the decision
- D. Remain in the immediate vicinity

Correct answer: D

55. The distress message of a ship should include considerable information which might facilitate the rescue. Which is TRUE concerning the information?

- A. The information should be transmitted as a series of short messages, if time allows
- B. The information is ALWAYS included in the initial distress message and repeated as required
- C. The message must be sent to a Coast Guard station FIRST
- D. The distress message shall include the vessel's draft

Correct answer: A

56. Which statement(s) is(are) TRUE concerning the use of dry chemical extinguishers?

- A. You should direct the spray at a vertical bulkhead and allow it to flow over the fire.
- B. You should direct the spray directly into the fire.
- C. You should direct the spray at the base of the fire.
- D. On a weather deck approach the fire from the leeward side.

Correct answer: C

57. If you see an individual fall overboard, which action(s) should you take?

- A. Throw him/her a life buoy
- B. Pass the word to the bridge
- C. Hail "man overboard"
- D. All of the above

Correct answer: D

58. What is the lifesaving signal for "You are seen - Assistance will be given as soon as possible"?

- A. Green star rocket
- B. Red star rocket
- C. Orange smoke signal
- D. Vertical motion of a flag

Correct answer: C

59. A situation has occurred where it becomes necessary for you to be towed. What action should be taken to prevent your vessel from yawing?

- A. Shift weight to the bow
- B. Shift weight to the stern
- C. Shift weight to the center of the boat
- D. Throw excess weight overboard

Correct answer: B

60. What is the spoken emergency signal for a distress signal over a VHF radio?

- A. Pan
- B. Security
- C. Mayday
- D. Red Alert

Correct answer: C

61. When shoring a damaged bulkhead, effort should be taken to spread the pressure over the _____.

- A. maximum possible area
- B. nearest longitudinal girder
- C. minimum possible area
- D. nearest watertight door

Correct answer: A

62. As a last resort, what can a tourniquet be used for?

- A. To hold a victim in a stretcher
- B. To stop uncontrolled bleeding
- C. To restrain a delirious victim
- D. To hold a large bandage in place

Correct answer: B

63. When launching a lifeboat, when should frapping lines be rigged?

- A. Only after the boat is in the water
- B. Before the boat is moved from the davits
- C. Before the gripes are released
- D. When the boat is at the embarkation deck

Correct answer: D

64. Which defines reserve buoyancy?

- A. the void portion of the ship below the waterline which is enclosed and watertight
- B. The watertight part of a vessel above the waterline
- C. All transverse watertight bulkheads
- D. A measure of the vessel's metacentric height

Correct answer: B

65. After having thrown the liferaft and stowage container into the water, how is the liferaft inflated?

- A. Forcing open the container which operates the CO₂
- B. Hitting the hydrostatic release
- C. Pulling on the painter line
- D. Using the hand pump provided

Correct answer: C

66. 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 gallon
- C. 1 can
- D. 1 quart

Correct answer: A

67. Your vessel has grounded and a report must be made to the United States Coast Guard. Which is the required form for this report?

- A. form CG-1149
- B. form CG-2692
- C. form CG-2962
- D. form CG-1157

Correct answer: B

68. When does a cylinder in a two-cycle engine experience combustion?

- A. Every fourth stroke
- B. Once each crankshaft revolution
- C. Twice each crankshaft revolution
- D. Every other crankshaft revolution

Correct answer: B

- 69.** Your cargo vessel is transiting pirate waters with a temporary security team onboard. The ship has been attacked and starts sinking. The decision has been made to abandon ship. During the muster, the security force leader is determined to be missing. What initial action should be taken?
- A. Designate a crew member to search for the security force leader
 - B. Presume the security force leader is staying behind to defend the ship
 - C. Presume the security force leader was killed in action
 - D. Designate a security team member to search for the security force leader

Correct answer: A

- 70.** When choosing extinguishers to fight a Class "B" fire do NOT use which type of extinguisher?
- A. Dry chemical
 - B. Carbon dioxide
 - C. Water (cartridge-operated)
 - D. Foam (stored-pressure type)

Correct answer: C