

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

Correct answer: C

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

Correct answer: B

3. You have called another vessel by flashing light and he has answered your call properly. You now send your call sign "DE KLIS". What should he respond with?
- A. R
 - B. TTTT
 - C. his own call letters
 - D. KLIS, DE, his own call letters

Correct answer: D

4. What type of stern tube bearing has the least friction?
- A. Lignum vitae
 - B. Hard rubber
 - C. Bronze bushings
 - D. Oil-lubricated bearings

Correct answer: D

5. What should you avoid when administering first aid?
- A. Instructing bystanders
 - B. Unnecessary haste and appearance of uncertainty
 - C. Touching the patient before washing your hands
 - D. Any conversation with the patient

Correct answer: B

6. You are picking up an unconscious person that has fallen overboard in a fresh breeze. For safety reasons how should a small craft approach?
- A. With the wind on your starboard side
 - B. With the victim to windward
 - C. With the victim to leeward
 - D. With the wind on your port side

Correct answer: B

7. If an engine shuts down due to high jacket water temperature, what action should be taken?
- A. Slowly add cool water to the expansion tank
 - B. Allow engine to cool gradually
 - C. Open crankcase explosion covers
 - D. Back flush the cooling water system

Correct answer: B

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

Correct answer: A

9. You are fighting a fire in the electrical switchboard in the engine room. You should secure the power, then take which action?
- A. Use a portable CO2 extinguisher
 - B. Determine the cause of the fire
 - C. Use a low-velocity fog adapter with the fire hose
 - D. Use a portable foam extinguisher

Correct answer: A

10. Which type of portable fire extinguishers is NOT designed for use on flammable liquid fires?
- A. Carbon dioxide
 - B. Foam (stored-pressure)
 - C. Dry chemical
 - D. Water (cartridge-operated)

Correct answer: D

11. A deck-stowed 40-foot container is giving off smoke, and one end is discolored from heat. The cargo is valuable and easily damaged by water. You want to extinguish the fire without further damage if possible. What action should you take?
- A. Flood the container with water and disregard any cargo damage as the fire threatens the entire vessel.
 - B. Connect a portable line from the ship's fixed system and discharge CO₂ into the container.
 - C. Cool the exterior of the container with water and close all vents; then keep it cooled until it can be off-loaded.
 - D. Pierce the container and discharge 6 or more portable CO₂'s then add more CO₂ hourly.

Correct answer: D

12. 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. When over 200 miles from a port in the danger zone, you should not darken ship
 - B. If on a coastwise voyage along the east coast of the U.S., you should put into the nearest port
 - C. You should attempt to coordinate with the Shipping Control Team
 - D. You should only enter a port in the danger zone during hours of darkness

Correct answer: C

13. What entry would NOT be shown on the V line of an AMVER report?
- A. MD
 - B. PA
 - C. MT
 - D. NURSE

Correct answer: C

14. If a vessel takes a sudden, severe list or trim from an unknown cause, which action should you take FIRST?
- A. Assume the shift is due to off-center loading
 - B. Counterflood
 - C. Determine the cause before taking countermeasures
 - D. Assume the cause is environmental forces

Correct answer: C

15. What term indicates an inward curvature of the ship's hull above the waterline?
- A. Flare
 - B. Camber
 - C. Tumble home
 - D. Deadrise

Correct answer: C

16. 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. Flood an after double bottom tank
- B. Discharge forward deck cargo
- C. Pump out the forepeak tank
- D. Shift deck cargo aft

Correct answer: C

17. What represents poor sanitary procedures?

- A. After washing dishes with soap and warm water, sterilize them in water of at least 170°F (76.7°C).
- B. Locate potable (drinking) water tanks as low as possible in the bilge.
- C. Eliminate enclosed spaces in which trash, food particles, dirt may gather.
- D. Keep and use a separate filling hose for potable (drinking) water.

Correct answer: B

18. A thirty pound plate would be which thickness?

- A. 1/2" thick
- B. 3/4" thick
- C. 1" thick
- D. 3/8" thick

Correct answer: B

19. If you must enter water on which there is an oil fire, you should _____.

- A. keep both hands in front of your face to break the water surface when diving head first
- B. protect your life preserver by holding it above your head
- C. wear very light clothing
- D. enter the water on the windward side of the vessel

Correct answer: D

20. In illustration D041DG below, which is the symbol for the vertical plane midway between the fore and aft perpendiculars?

- A. 2
- B. 3
- C. 4
- D. 5

Correct answer: B

21. Why does a centrifugal bilge pump require priming?

- A. Head pressure must equal discharge pressure
- B. To overcome resistance of water in the discharge line
- C. To lubricate shaft seals
- D. Lack of ability to lift liquid to the impellers

Correct answer: D

22. The shearing stresses on a ship's structure are usually greatest at which area?

- A. The midships section
- B. The stern
- C. The bow
- D. The ship's quarter-length points

Correct answer: D

23. The spread of fire is NOT prevented by _____.

- A. removing smoke and toxic gases by ensuring adequate ventilation
- B. shutting off the oxygen supply
- C. cooling surfaces adjacent to the fire
- D. removing combustibles from the endangered area

Correct answer: A

24. A self-contained breathing apparatus is used to _____.

- A. enter areas that may contain dangerous fumes or lack oxygen
- B. resuscitate an unconscious person
- C. determine if the air in a tank is safe for men
- D. make underwater repairs to barges

Correct answer: A

25. Which is TRUE if you are transmitting a distress message by radiotelephone?

- A. Always use the International Code
- B. Use English language
- C. Follow the transmission with the radio alarm signal
- D. Preface it by the word "Interco"

Correct answer: B

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

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

Correct answer: C

27. A person reports to you with a fishhook in his thumb, what procedure should you use to remove it?

- A. Cut the skin from around the hook
- B. Have a surgeon remove it
- C. Pull it out with pliers
- D. Push the barb through, cut it off, then remove the hook

Correct answer: D

28. 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. Mud drum
- B. Economizer
- C. Superheater
- D. Firebox

Correct answer: C

29. Any extinguishing agent used on a Class "C" fire must have which important property?

- A. Penetrating power
- B. Cooling ability
- C. Leaves no residue
- D. Nonconductivity

Correct answer: D

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

Correct answer: B

31. 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

32. A concentration of weight has been shifted inboard to the center line of the vessel. Generally speaking, what effect will this have on the vessel?

- A. The vessel's rolling period will remain the same
- B. The vessel's rolling period will increase
- C. The vessel's rolling period will decrease
- D. The vessel's rolling period will be rapid

Correct answer: C

33. A thrust bearing is designed to accomplish which action?

- A. To be placed between the engines and the foundation to absorb the vibration
- B. To transmit the thrust of the engine to the propeller
- C. To transmit the thrust of the propeller to the vessel
- D. To absorb the shock of wave pressure at the bow

Correct answer: C

34. When in command of a lifeboat under oars, what does the command "Backwater" mean?
- A. Complete stroke, stop rowing, dip blade about halfway into water, hold water to stop the way on the boat
 - B. Row in astern motion
 - C. Lift oars to vertical position, trim blades fore and aft with handles resting on footings
 - D. Complete the stroke, come to "Oars", raise oars smartly to vertical, rest handles on footing, trim blades fore and aft

Correct answer: B

35. Your vessel has grounded on a bar. What should you do?
- A. If you cannot get clear immediately, lighten the ship by pumping all ballast overboard.
 - B. Switch to the high suction for condenser circulating water, if it is submerged.
 - C. Run the engine full astern to keep from being set further onto the bar.
 - D. All of the above

Correct answer: B

36. All of the following are recognized distress signals under the Navigation Rules EXCEPT which signal?
- A. A green star signal
 - B. Red flares
 - C. The repeated raising and lowering of outstretched arms
 - D. Orange-colored smoke

Correct answer: A

37. Aboard damaged vessels, the MOST important consideration is preserving which item?
- A. Instability
 - B. Reserve buoyancy
 - C. Level attitude
 - D. Bilge pumping capacity

Correct answer: B

38. If you are fighting a fire below the main deck of your vessel, which action is most important concerning the stability of the vessel?
- A. Shutting off electricity to damaged cables
 - B. Removing burned debris from the cargo hold
 - C. Pumping firefighting water overboard
 - D. Maneuvering the vessel so the fire is on the lee side

Correct answer: C

39. A vessel with a large GM will _____.
- A. be less likely to have cargo shift
 - B. tend to ship water on deck in heavy weather
 - C. be subject to severe racking stresses
 - D. have a small amplitude of roll in heavy weather

Correct answer: C

40. When launching an open lifeboat by falls, which is TRUE concerning the boathooks?

- A. They must be secured forward and aft where readily available
- B. They must be kept free to be used for fending off
- C. They must be used for picking up survivors in the water
- D. They must be secured amidships where they will not hinder the personnel

Correct answer: B

41. A man who is conscious has fallen overboard is being picked up by a lifeboat. In a mild breeze how should the boat approach the person in the water?

- A. With the wind just off the bow and the victim to windward
- B. With the wind ahead and the victim just off the bow
- C. With the wind just off the bow and the victim to leeward
- D. With the wind astern and the victim just off the bow

Correct answer: C

42. Where a propeller shaft passes through the hull, which device prevents water from entering the hull?

- A. Propeller boss
- B. Sea cock
- C. Stop-water
- D. Stuffing box

Correct answer: D

43. When using a hand held smoke signal aboard a survival craft, how should you activate the signal?

- A. At the stern of the craft
- B. On the downwind side of the craft
- C. On the upwind side of the craft
- D. Inside the craft

Correct answer: B

44. What must be accurately determined to assess the potential for progressive flooding after a vessel has been damaged?

- A. The capacity of the water sprinkler systems
- B. The operation of the machinery space bilge level alarms
- C. The integrity of the water tight boundaries
- D. All of the above

Correct answer: C

45. How does bleeding from a vein appear?

- A. Bright red and spurting
- B. Bright red and slow
- C. Dark red and has a steady flow
- D. Dark red and spurting

Correct answer: C

46. Which is TRUE if passengers are on board when an abandon ship drill is carried out?

- A. The passengers should just watch
- B. The passengers should stay out of the way and do what they want
- C. The passengers should take part in the drill
- D. Passengers should go to their quarters during drills

Correct answer: C

47. If water is rising in the bilge of a lifeboat, you should take which action FIRST?

- A. Check the bilge drain plug
- B. Abandon the survival craft
- C. Check for cracks in the hull
- D. Shift all personnel to the stern

Correct answer: A

48. Normally, before taking drinking water on board in the U.S. or its possessions, the responsible person from the vessel should determine which information about the water source?

- A. Is used by a city
- B. Is approved by the Public Health Service
- C. Has been treated with chlorine
- D. Is not from surface water

Correct answer: B

49. If an ill crew member is beginning to show signs of improvement, what code should your message contain?

- A. MPF
- B. MPH
- C. MSO
- D. MVP

Correct answer: A

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

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

Correct answer: A

51. If the cause of severe list is off-center ballast, what will counterflooding into empty tanks accomplish?

- A. Increase the righting arm
- B. Increase the righting moment
- C. Decrease list
- D. Increase list

Correct answer: C

52. Which factor has the greatest effect on the value of the free surface correction?

- A. The width of the tank
- B. The length of the tank
- C. The specific gravity of the liquid in the tank
- D. The draft of the vessel

Correct answer: A

53. When should you use distress flares and rockets?

- A. At half-hour intervals
- B. Immediately upon abandoning the vessel
- C. At one-hour intervals
- D. Only when there is a chance of their being seen by rescue vessels

Correct answer: D

54. 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

Correct answer: B

55. How do you determine the weight of the vessel that is supported by the ground when a vessel has run aground?

- A. Determine the point where aground and the draft at that point, then calculate it using the grounding formula.
- B. Use the inclining experiment formula and substitute the change of trim for the angle of list.
- C. This requires extensive calculation and is usually performed only by a naval architect not by a ship's officer.
- D. Use the hydrostatic tables and enter with the mean draft before grounding and the mean draft after grounding.

Correct answer: D

56. What will happen if cargo is shifted from the lower hold to the main deck on the vessel?

- A. The center of buoyancy will move downward
- B. The GM will increase
- C. The center of gravity will move upwards
- D. The center of buoyancy will move up

Correct answer: C

57. What is the most important reason for taking anti-seasickness pills as soon as possible after entering a liferaft?

- A. Reduces appetite by decreasing nausea
- B. To assist in sleeping
- C. Prevents loss of body moisture due to vomiting
- D. Prevents impaired judgment due to motion-induced deliriousness

Correct answer: C

58. When a vessel is stationary and in a hogging condition, the main deck is under which type of stress?

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

Correct answer: C

59. While underway, if you are required to have a radiotelephone, you must maintain a continuous listening watch on which of the following channels?

- A. 6 (156.3 MHz)
- B. 12 (156.6 MHz)
- C. 14 (156.7 MHz)
- D. 16 (156.8 MHz)

Correct answer: D

60. 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

Correct answer: C

61. What is the normal percentage of oxygen in air?

- A. 16%
- B. 18%
- C. 21%
- D. 25%

Correct answer: C

62. How should the letter "D" be pronounced when spoken on the radiotelephone?

- A. DUKE
- B. DA VID
- C. DELL TAH
- D. DOG

Correct answer: C

63. What should you do, if help has not arrived in 10-12 hours, after having abandoned your vessel in a survival craft?

- A. Go in one direction until the fuel runs out
- B. Shutdown the engines and put out the sea anchor
- C. Take a vote on the direction in which to go
- D. Plot a course for the nearest land

Correct answer: B

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

Correct answer: C

65. You are fighting a fire in a cargo hold on your vessel. Which action is most important concerning the stability of the vessel?
- A. Maneuvering the vessel so the fire is on the lee side
 - B. Draining firefighting water and pumping it overboard
 - C. Removing burned debris from the cargo hold
 - D. Shutting off electricity to damaged cables

Correct answer: B

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

Correct answer: B

67. The danger of a charged hose left unattended on deck with the nozzle open is _____.
- A. the nozzle end will whip about causing damage or injury
 - B. the hose could burst
 - C. water damage to vessel's cargo or structure
 - D. personnel might trip over the hose

Correct answer: A

68. 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. B
 - C. C
 - D. D

Correct answer: C

69. What is the space above the engine room called?
- A. Fidley
 - B. Noble
 - C. Gold locker
 - D. Middle hatch

Correct answer: A

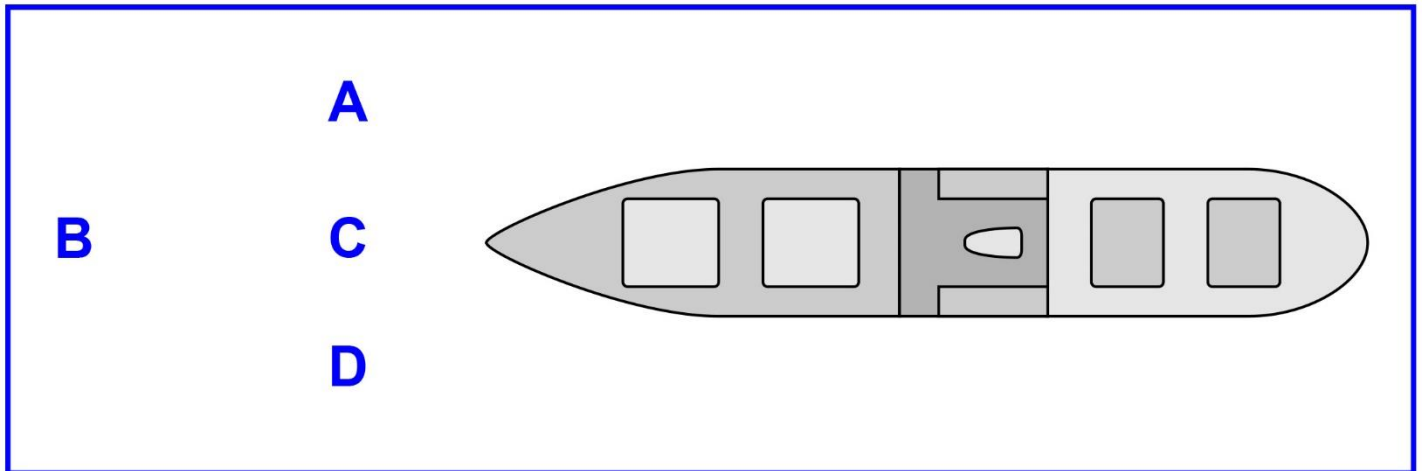
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70. To lubricate the swivel or remove corrosion from a fire hose coupling, which should be used?

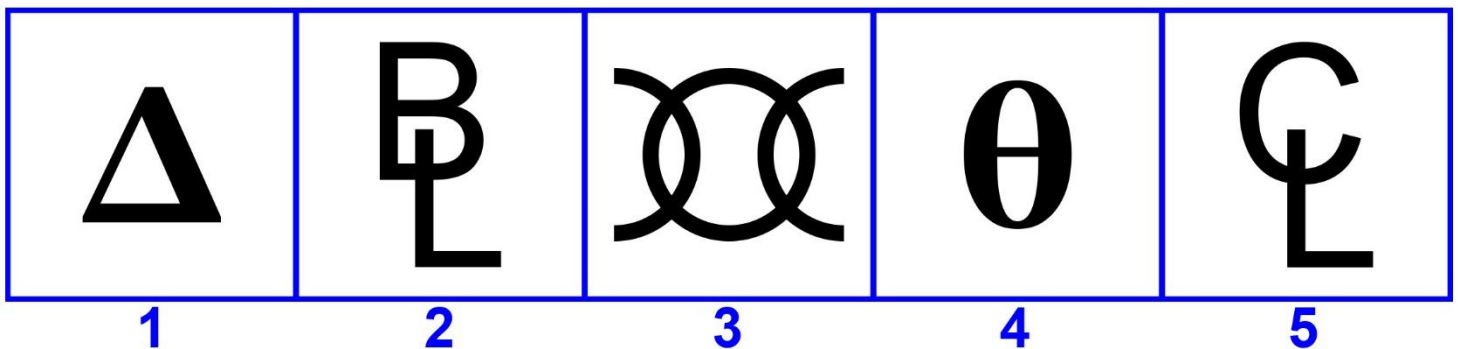
- A. Graphite
- B. Fresh water and soap
- C. Glycerine
- D. Kerosene

Correct answer: B

D025DG



D041DG



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