

U.S.C.G. Merchant Marine Exam

Apprentice Mate Steersman

Q411 Deck Safety

(Sample Examination)

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

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

Correct answer: D

2. Which formula can be used to calculate metacentric height?
- A. $KM + GM$
 - B. $KM - GM$
 - C. $KB + BM$
 - D. $KM - KG$

Correct answer: D

3. All personnel on board a vessel should be familiar with the rescue boat's _____.
- A. navigational systems
 - B. fuel consumption rates
 - C. boarding and operating procedure
 - D. maintenance schedules

Correct answer: C

4. Which describes how to determine a vessel's LCG?
- A. Multiplying the MT1 by the longitudinal moments
 - B. Dividing the total vertical moment summations by displacement
 - C. Subtracting LCF from LCB
 - D. Dividing the total longitudinal moment summations by displacement

Correct answer: D

5. You are on watch and receive word that a person has fallen overboard from the starboard side. What should your first action be?
- A. Sound the man overboard alarm
 - B. Notify the Master
 - C. Put the wheel hard right
 - D. Put the engines full astern

Correct answer: C

6. What is the Ring life buoy requirement on your small passenger vessel that has a length of 28 feet?
- A. A minimum of one life buoy not less than 24 inches in diameter
 - B. A minimum of one life buoy less than 20 inches in diameter
 - C. A minimum of two life buoys less than 20 inches in diameter
 - D. A minimum of two life buoys not less than 24 inches in diameter

Correct answer: A

7. When water pressure of 100 psi is used in conjunction with an inline proportioner for the production of the mechanical foam, how long will a 5-gallon can of liquid foam last?
- A. 1-1/2 minutes
 - B. 2-1/2 minutes
 - C. 5 minutes
 - D. 15 minutes

Correct answer: A

8. A short ton is a unit of weight consisting of _____.
- A. 2,240 pounds
 - B. 1,000 pounds
 - C. 2,205 pounds
 - D. 2,000 pounds

Correct answer: D

9. Which is TRUE concerning immersion suits and their use?
- A. They provide sufficient flotation to do away with the necessity of wearing a life jacket.
 - B. They should be tight fitting.
 - C. A puncture in the suit will not appreciably reduce its value.
 - D. Only a light layer of clothing may be worn underneath.

Correct answer: A

10. 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

11. You have a large, broken-down vessel in tow with a wire rope and anchor cable towline. Both vessels have made provision for slipping the tow in an emergency; however, unless there are special circumstances which is TRUE?
- A. They should slip simultaneously
 - B. The vessel towed should slip first
 - C. The towing vessel should slip first
 - D. Either vessel may slip first

Correct answer: C

12. If the situation arose where it became necessary to tow a disabled vessel, which statement is TRUE concerning the towing line?

- A. The towing line should be taut at all times between the vessels.
- B. There should be a catenary so the line dips into the water.
- C. The towing line between the two vessels should be clear of the water.
- D. None of the above.

Correct answer: B

13. A vessel is "listed" when it is _____.

- A. down by the stern
- B. inclined due to wind
- C. down by the head
- D. inclined due to off-center weight

Correct answer: D

14. 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 slower than the theoretical propeller speed
- C. The distance a vessel travels when all propulsion has been stopped
- D. The ship is moving faster than the theoretical propeller speed

Correct answer: D

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

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

Correct answer: A

16. What is the traditional signal for fire aboard ship?

- A. Alternating short and long blasts on the ship's whistle
- 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. More than 6 short blasts and 1 long blast on the whistle, and the same signal on the general alarm

Correct answer: C

17. While you are working in a space, the fixed CO2 system is accidentally activated. Which action should you take?

- A. Retreat to fresh air and ventilate the compartment before returning
- B. Continue with your work as there is nothing you can do to stop the flow of CO2
- C. Make sure all doors and vents are secured
- D. Secure the applicators to preserve the charge in the cylinders

Correct answer: A

18. The total weight of cargo, fuel, water, stores, passengers and crew, and their effects, that a ship can carry, is known as which term?

- A. Bale cubic
- B. Loaded displacement
- C. Deadweight
- D. Gross tonnage

Correct answer: C

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

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

Correct answer: C

20. What term indicates the immersed body of the vessel aft of the parallel mid-body?

- A. Counter
- B. Run
- C. Flow
- D. Stern

Correct answer: B

21. A fire in a pile of linen is considered which class of fire?

- A. A
- B. B
- C. C
- D. D

Correct answer: A

22. What name is given to the perforated, elevated bottom of the chain locker, which prevents the chains from touching the main locker bottom and allows seepage water to flow to the drains?

- A. Draft
- B. Harping
- C. Cradle
- D. Manger

Correct answer: D

23. 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

24. Which indicates the volatility of a flammable liquid?

- A. The flammable range of the liquid
- B. The flash point of the liquid
- C. The ignition temperature of the liquid
- D. The conversion index of the liquid

Correct answer: B

25. Which item of the listed survival craft equipment would be the most suitable for night signaling to a ship on the horizon?

- A. An orange smoke flare
- B. A flashlight
- C. A red handheld flare
- D. A red parachute flare

Correct answer: D

26. Which precaution should be taken when testing a line throwing gun?

- A. Wear asbestos gloves.
- B. Fire it at an angle of approximately 90 degrees to the horizon.
- C. Never remove the line from the rocket.
- D. All of the above

Correct answer: C

27. Overhauling a fire in the living quarters on a vessel must include which action?

- A. Opening dead spaces to check for heat or fire
- B. The immediate evacuation of the vessel
- C. Sounding the "all clear" signal, no action is necessary
- D. Operation of the emergency generator

Correct answer: A

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

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

Correct answer: C

29. What is the color of the signal flare sent up by a submarine indicating that a torpedo has been fired in a training exercise?

- A. Green
- B. Red
- C. Yellow
- D. White

Correct answer: A

30. Your vessel is conducting helicopter evacuation operations for an injured crew member. Which of the following statements is true concerning the hoisting line?
- A. Secure the graining line to the deck railings
 - B. As a safety measure wrap the line around the patient before attaching it to the basket
 - C. A tag line is required to be attached to the hoist cable for securing
 - D. Allow the line to touch the deck to discharge the static electricity

Correct answer: D

31. You are in the process of righting an inflatable liferaft that has inflated in an upside-down position. Which statement is TRUE?
- A. You should remove your life preservers before attempting to right an inflatable raft.
 - B. Swim out from under the raft in a face up position to keep your life preservers clear of the raft.
 - C. After the raft is in the upright position on top of you, dive down to prevent your life preservers from fouling as you come out.
 - D. As the raft flips to the upright position, you will be thrown clear.

Correct answer: B

32. The pillar shape that gives the greatest strength for the least weight is the _____.
- A. Circular type pillar
 - B. "H" Beam pillar
 - C. Solid octagonal pillar
 - D. "I" Beam pillar

Correct answer: A

33. When transferring survivors from an enclosed lifeboat to a rescue vessel, personnel on board the boat should take which action?
- A. Enter the water and swim over to the rescue vessel
 - B. Remove their life preservers to make it easier to climb on board the rescue vessel
 - C. Climb on top of the boat while waiting for their turn to transfer to the rescue vessel
 - D. Remain seated inside and make the transfer one person at a time

Correct answer: D

34. Life jackets should be marked with which item?
- A. The maximum weight allowed
 - B. The vessel's home port
 - C. The stowage space assigned
 - D. The vessel's name

Correct answer: D

35. 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. Assume the shift is due to off-center loading
- C. Counterflood
- D. Assume the cause is environmental forces

Correct answer: A

36. What is the primary reason for placing covers over the top of storage batteries?

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

Correct answer: B

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

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

Correct answer: D

38. A squeeze-grip type carbon dioxide portable fire extinguisher has been partially discharged. Which action should be taken?

- A. Replaced in its proper location regardless of weight
- B. Replaced in its proper location if weight loss is no more than 15%
- C. Labeled empty and recharged as soon as possible
- D. Replaced in its proper location if weight loss is no more than 25%

Correct answer: C

39. Which term describes the time required to incline the vessel from port to starboard and back to port again?

- A. Initial stability
- B. Inclining moment
- C. Rolling period
- D. Range of stability

Correct answer: C

40. 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

41. Which VHF channel should you avoid using as a working channel?

- A. 7A
- B. 8
- C. 9
- D. 16

Correct answer: D

42. One of your crew members falls overboard from the starboard side. You should IMMEDIATELY take which action?

- A. Begin backing your engines
- B. Position your vessel to windward and begin recovery
- C. Throw the crew member a life preserver
- D. Apply left rudder

Correct answer: C

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

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

Correct answer: D

44. In good weather, why should you deploy the sea anchor from the liferaft?

- A. To navigate against the current
- B. It will keep personnel from getting seasick
- C. To keep the liferaft from capsizing
- D. To stay in the general location to aid in rescue

Correct answer: D

45. Which extinguishing agent is most effective on a mattress fire?

- A. Water
- B. Halon
- C. Dry Chemical
- D. CO2

Correct answer: A

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

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

Correct answer: A

47. What is NOT an advantage of double bottom ships?

- A. The tank top forms a second skin for the vessel.
- B. The floors and longitudinals distribute the upward push of the water on the ship's bottom.
- C. The center of gravity of a loaded bulk cargo ship may be raised to produce a more comfortable roll.
- D. They are less expensive to construct because of increased access space.

Correct answer: D

48. Aboard ship, which term is given to the vertical flat plates running transversely and connecting the vertical keel to the margin plates?

- A. Intercostals
- B. Floors
- C. Stringers
- D. Girders

Correct answer: B

49. 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 headfirst
- B. protect your life preserver by holding it above your head
- C. enter the water on the windward side of the vessel
- D. wear very light clothing

Correct answer: C

50. Inflatable liferafts are provided with which item?

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

Correct answer: C

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

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

Correct answer: A

52. A class C fire would be burning _____.

- A. wood
- B. celluloid
- C. fuel oil
- D. electrical insulation

Correct answer: D

53. Provided every effort is used to produce, as well as preserve body moisture content by avoiding perspiration, how long is it normally possible to survive without stored quantities of water?

- A. Up to 3 days
- B. 8 to 14 days
- C. 15 to 20 days
- D. 25 to 30 days

Correct answer: B

54. What is the preferred agent used in fighting a helicopter crash fire?

- A. Halon
- B. CO2
- C. Foam
- D. Water

Correct answer: C

55. 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. If on a coastwise voyage along the east coast of the U.S., you should put into the nearest port
- B. When over 200 miles from a port in the danger zone, you should not darken ship
- 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

56. When using the term "limber system" one is referring to which system?

- A. A cleaning system
- B. A strengthening system
- C. A weight reduction system
- D. A drainage system

Correct answer: D

57. What is the purpose of a striking plate?

- A. Absorbs machinery vibration
- B. Provides landing surface for the sounding bob
- C. Prevents valve stem over-travel
- D. Provides surface for applying force on machinery

Correct answer: B

58. 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 decrease
- C. The vessel's rolling period will increase
- D. The vessel's rolling period will be rapid

Correct answer: B

59. What does blowing tubes accomplish?

- A. Cleans soot deposits from the inside of the stack
- B. Increases boiler efficiency
- C. Eliminates unburned fuel oil residues from the firebox
- D. Flushes away mineral deposits inside the water tubes

Correct answer: B

60. 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

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

- A. Idle for a brief period of time and then warm up at half speed.
- B. Bring it up to top speed immediately and run until warmed up.
- 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: A

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

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

Correct answer: B

63. 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 1/4 its original value.
- B. The moment of inertia would be 1/2 the original value.
- C. The moment of inertia would remain unchanged.
- D. None of the above

Correct answer: A

64. 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 firefighting water and pumping it overboard
 - B. Maneuvering the vessel so the fire is on the lee side
 - C. Shutting off electricity to damaged cables
 - D. Removing burned debris from the cargo hold

Correct answer: A

65. A situation has occurred in which your vessel must be towed. When the towing vessel passes the towing line to you, where should you secure the line?
- A. To the forwardmost bitts
 - B. At the stern
 - C. To the base of the foremast
 - D. To the forward part of the deckhouse

Correct answer: A

66. 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 against the Master or person in charge
 - C. \$1,000 fine or imprisonment for not more than two years
 - D. Civil penalty of no more than \$5,000

Correct answer: B

67. If you must jump from a vessel, what does the correct posture include?
- A. Holding down the life preserver against the chest with one arm crossing the other, covering the mouth and nose with a hand, and feet together
 - B. Body straight and arms held tightly at the sides for feet first entry into the water
 - C. Both hands holding the life preserver below the chin with knees bent and legs crossed
 - D. Knees bent and held close to the body with both arms around legs

Correct answer: A

68. What is the radiotelephone urgency signal?
- A. SEELONCE FEENE
 - B. SECURITE
 - C. MAYDAY
 - D. PAN PAN

Correct answer: D

69. How is the inside light in an inflatable liferaft activated?

- A. With a switch near the boarding handle
- B. At night via photosensitive switch
- C. By screwing the bulb in after the raft is inflated
- D. Automatically as the liferaft inflates

Correct answer: D

70. On a tankship, who is responsible for the sanitary inspections of the crew's quarters?

- A. Master and union delegate
- B. Master and Chief Mate
- C. Master and Chief Engineer
- D. Master and Second Mate

Correct answer: C