

U.S.C.G. Merchant Marine Exam

Apprentice Mate Steersman

Q419 Deck Safety

(Sample Examination)

Choose the best answer to the following Multiple Choice Questions:

1. Which statement is TRUE concerning distress signals in a survival craft?

- (A) A Very pistol with twelve flares is required.
- (B) Two hand-held smoke signals shall be provided.
- (C) Hand held flares and orange smoke signals are required.
- (D) If hand-held rocket-propelled parachute flares are provided, they are the only distress signals required.

If choice C is selected set score to 1.

2. A liferaft which has inflated bottom-up on the water _____.

- (A) must be cleared of the buoyant equipment before it will right itself
- (B) should be righted by standing on the carbon dioxide cylinder, holding the righting straps, and leaning backwards
- (C) will right itself when the canopy tubes inflate
- (D) should be righted by standing on the life line, holding the righting straps, and leaning backwards

If choice B is selected set score to 1.

3. When the height of the metacenter is the same as the height of the center of gravity, the metacentric height is equal to _____.

- (A) the height of the center of gravity
- (B) half the height of the metacenter
- (C) the height of the metacenter
- (D) zero

If choice D is selected set score to 1.

4. If an engine shuts down due to high jacket water temperature, what action should be taken?

- (A) Back flush the cooling water system
- (B) Allow engine to cool gradually
- (C) Open crankcase explosion covers
- (D) Slowly add cool water to the expansion tank

If choice B is selected set score to 1.

5. 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) The towing vessel should slip first
 - (B) The vessel towed should slip first
 - (C) They should slip simultaneously
 - (D) Either vessel may slip first

If choice A is selected set score to 1.

6. Which term describes the horizontal fore or aft motion of a vessel?
- (A) Roll
 - (B) Pitch
 - (C) Sway
 - (D) Surge

If choice D is selected set score to 1.

7. On the all-purpose nozzle, what is the position of the nozzle valve when the handle is all the way forward?
- (A) spray
 - (B) solid stream
 - (C) shut
 - (D) fog

If choice C is selected set score to 1.

8. Oil fires are best extinguished by _____.
- (A) cutting off the supply of oxygen
 - (B) removing the fuel
 - (C) spraying with water
 - (D) cooling below the ignition temperature

If choice A is selected set score to 1.

9. What time of day would an SSB radio have the longest transmitting range?
- (A) Daylight before noon
 - (B) At noon
 - (C) Daylight after noon
 - (D) During darkness

If choice D is selected set score to 1.

10. What is the flammable limit range of petroleum vapors mixed with air?

- (A) 0% to 1%
- (B) 1% to 10%
- (C) 10% to 15%
- (D) 12% to 20%

If choice B is selected set score to 1.

11. Where is the knife on an inflatable liferaft always located?

- (A) In one of the equipment bags
- (B) In a pocket on the first aid kit
- (C) In a special pocket near the entrance
- (D) On a cord hanging from the canopy

If choice C is selected set score to 1.

12. What does a pyrometer measure on a diesel engine?

- (A) Exhaust temperature
- (B) Water temperature
- (C) Air box pressure
- (D) Water pressure

If choice A is selected set score to 1.

13. 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) Pierce the container and discharge 6 or more portable CO₂'s then add more CO₂ hourly.
- (B) Cool the exterior of the container with water and close all vents; then keep it cooled until it can be off-loaded.
- (C) Flood the container with water and disregard any cargo damage as the fire threatens the entire vessel.
- (D) Connect a portable line from the ship's fixed system and discharge CO₂ into the container.

If choice A is selected set score to 1.

14. What is the minimum number of people required to safely handle a 2-1/2 inch fire hose?

- (A) 1
- (B) 2
- (C) 3
- (D) 4

If choice C is selected set score to 1.

15. A vessel with a large GM will _____.

- (A) be subject to severe racking stresses
- (B) be less likely to have cargo shift
- (C) have a small amplitude of roll in heavy weather
- (D) tend to ship water on deck in heavy weather

If choice A is selected set score to 1.

16. 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) You should only enter a port in the danger zone during hours of darkness.
- (C) You should attempt to submit an AMVER report to NSA.
- (D) When over 200 miles from a port in the danger zone, you should not darken ship.

If choice C is selected set score to 1.

17. When compared to low-expansion foam, a high-expansion foam will _____.

- (A) be drier
- (B) not cling to vertical surfaces
- (C) be more heat resistant
- (D) be heavier

If choice A is selected set score to 1.

18. What term indicates the length measured along the summer load line from the intersection of that load line with the foreside of the stem and the intersection of that load line with the aft side of the rudder post?

- (A) Length overall
- (B) Length between perpendiculars
- (C) Register length
- (D) Length on the waterline

If choice B is selected set score to 1.

19. Your vessel is discharging containers from the main deck with the ship's cranes. Which of the following must be taken into account when calculating the center of gravity as the containers are discharged?

- (A) The vertical distance from the main deck plus the height of the container
- (B) The vertical distance from the main deck plus the vertical distance to the head of the boom
- (C) The vertical distance from the main deck to the heel of the boom plus half the height of the container
- (D) The vertical distance from the main deck plus half the height of the container

If choice B is selected set score to 1.

20. When using the rain water collection tubes on a liferaft, what should be done with the first collection?

- (A) It should be saved to be used at a later time
- (B) Poured overboard because of salt washed off the canopy
- (C) Passed around so all can drink their fill
- (D) It should be used to boil food

If choice B is selected set score to 1.

21. 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) Deadweight
- (B) Bale cubic
- (C) Loaded displacement
- (D) Gross tonnage

If choice A is selected set score to 1.

22. Which type of weld testing can be used to detect internal flaws?

- (A) Dye penetrant
- (B) Chemical reaction
- (C) Magnetic particle
- (D) Radiographic

If choice D is selected set score to 1.

23. Inflatable liferafts are provided with which item?

- (A) A Very pistol
- (B) A towing connection
- (C) A sail
- (D) Canned milk

If choice B is selected set score to 1.

24. Which type of weld testing can be used to detect internal flaws?

- (A) Chemical reaction
- (B) Ultrasonic
- (C) Magnetic particle
- (D) Dye penetrant

If choice B is selected set score to 1.

25. 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) Red
- (B) Green
- (C) White
- (D) Yellow

If choice B is selected set score to 1.

26. Which of the devices listed will prevent an inflated liferaft from being pulled under by a vessel which sinks in water over 100 feet deep?

- (A) A shear pin
- (B) A weak link in the painter
- (C) A rottmer release
- (D) The hydrostatic release

If choice B is selected set score to 1.

27. You have hand launched an inflatable liferaft. What should be one of your FIRST actions after all persons have boarded the liferaft?

- (A) Open the equipment pack.
- (B) Cut the sea painter and clear the vessel.
- (C) Decide on food and water rations.
- (D) Inflate the liferaft floor.

If choice B is selected set score to 1.

28. 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

If choice C is selected set score to 1.

29. What is an advantage of a steam turbine over a diesel for the main propulsion?

- (A) Faster response from ahead to astern
- (B) Cheaper initial installation cost
- (C) Less time from secured plant to fully operational
- (D) Less fuel consumption

If choice A is selected set score to 1.

30. A fire starts in a switchboard due to a short circuit. This is which class of fire?

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

If choice C is selected set score to 1.

31. What may the firing of a red star signal mean?

- (A) "This is the best place to land"
- (B) "Tail block is made fast"
- (C) "Slack away"
- (D) "You are seen - assistance will be given as soon as possible"

If choice C is selected set score to 1.

32. When approaching a fire from windward, you should shield firefighters from the fire by using which method?

- (A) Foam spray
- (B) A straight stream of water
- (C) Low-velocity fog
- (D) High-velocity fog

If choice C is selected set score to 1.

33. Which of the following penalties can be imposed for a violation of the "Vessel Bridge-to-Bridge Radiotelephone Act"?

- (A) Suspension and/or revocation of an operator's FCC license
- (B) Civil penalty against the Master or person in charge of a vessel
- (C) Civil penalty against the vessel itself
- (D) All of the above

If choice B is selected set score to 1.

34. What does blowing tubes accomplish?

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

If choice B is selected set score to 1.

35. Ambient air, which you normally breathe, contains what percent of oxygen?

- (A) 6%
- (B) 10%
- (C) 15%
- (D) 21%

If choice D is selected set score to 1.

36. 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

If choice B is selected set score to 1.

37. The two factors which make underwater hull repair difficult are accessibility and which other factor?

- (A) The pressure exerted by the water
- (B) The threat of progressive flooding
- (C) The availability of tools
- (D) The shape of the hull

If choice A is selected set score to 1.

38. Which is the quickest method to stop a small diesel engine whose throttle or governor has become stuck open?

- (A) Close the fuel supply valve
- (B) Apply the shaft brake
- (C) Drain the fuel tank
- (D) Turn off the ignition switch

If choice A is selected set score to 1.

39. 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.

40. 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

If choice C is selected set score to 1.

41. What shall be conducted during a fire and boat drill?

- (A) Fire pumps shall be started and all exterior outlets opened.
- (B) All watertight doors in the vicinity of the drill shall be operated.
- (C) All lifeboat equipment shall be examined.
- (D) All of the above

If choice B is selected set score to 1.

42. 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) Permeability
- (B) Form gain
- (C) One compartment standard
- (D) Center of flotation

If choice A is selected set score to 1.

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

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

If choice B is selected set score to 1.

44. How is the external flotation bladder of an immersion suit inflated?

- (A) It is inflated by a small CO₂ bottle that is manually tripped.
- (B) It is inflated by a small CO₂ bottle that is automatically tripped when the front zipper is at the top of the zipper track.
- (C) It inflates by seawater bleeding into the inflation bladder and reacting with a chemical.
- (D) It is inflated by blowing through an inflation tube.

If choice D is selected set score to 1.

45. Before entering the chain locker, you should _____.

- (A) de-energize the windlass
- (B) have someone standing by
- (C) make sure there is sufficient air within the locker
- (D) All of the above

If choice D is selected set score to 1.

46. How can the spread of fire be prevented?

- (A) Shutting off the oxygen supply
- (B) Removing combustibles from the endangered area
- (C) Cooling surfaces adjacent to the fire
- (D) All of the above

If choice D is selected set score to 1.

47. What will a sea anchor accomplish if deployed correctly?

- (A) keep the liferaft from turning over
- (B) reduce the drift rate of the liferaft
- (C) increase your visibility
- (D) aid in recovering the liferaft

If choice B is selected set score to 1.

48. You have carbon tetrachloride as part of the cargo. If a fire breaks out in the general area, what is the major danger from the carbon tetrachloride?

- (A) You cannot use water to fight the fire because it will react with the carbon tetrachloride.
- (B) Phosgene gas may be formed if it comes in contact with hot metal.
- (C) It will burn rapidly once ignited.
- (D) It will explode if exposed to a flame.

If choice B is selected set score to 1.

49. Where on a vessel are the load line markings shown in illustration D031DG inscribed?

- (A) Around the stern
- (B) Both the port and starboard sides
- (C) The port side
- (D) The starboard side

If choice B is selected set score to 1.

50. An immersion suit should be equipped with a/an _____.

- (A) air bottle for breathing
- (B) whistle, strobe light and reflective tape
- (C) whistle and hand held flare
- (D) whistle, hand held flare and sea dye marker

If choice B is selected set score to 1.

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

If choice C is selected set score to 1.

52. Dry chemical extinguishers extinguish class B fires to the greatest extent by which method?

- (A) Smothering
- (B) Oxygen dilution
- (C) Breaking the chain reaction
- (D) Cooling

If choice C is selected set score to 1.

53. When rendering assistance to personnel in the water a SAR helicopter utilizes a rescue sling for most extractions. In which case would the use of a litter be preferred?

- (A) When the person is suffering from hypothermia
- (B) When the person is not trained in the use of the rescue sling
- (C) When the person is suffering from fatigue
- (D) When the person has a pacemaker and static discharge is a concern

If choice A is selected set score to 1.

54. What quality of a diesel fuel is most significant for efficient combustion?

- (A) Specific heat
- (B) Viscosity
- (C) Flash point
- (D) Volatility

If choice D is selected set score to 1.

55. In general, how often are sanitary inspections of passenger and crew quarters made aboard passenger vessels in river service?

- (A) Once each day
- (B) Once each week
- (C) Once each month
- (D) Once each trip

If choice C is selected set score to 1.

56. Radiation spreads a fire by _____.

- (A) burning liquids flowing into another space
- (B) transferring heat across an unobstructed space
- (C) heated gases flowing through ventilation systems
- (D) transmitting the heat of a fire through the ship's metal

If choice B is selected set score to 1.

57. Where should the life jackets be stowed?

- (A) Only in the survival crafts
- (B) Locked in watertight containers
- (C) In each of the messrooms
- (D) In readily accessible locations

If choice D is selected set score to 1.

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

If choice C is selected set score to 1.

59. What does subtracting GM from KM yield?

- (A) GM
- (B) BL
- (C) KG
- (D) FS

If choice C is selected set score to 1.

60. 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

If choice D is selected set score to 1.

61. 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 absorb the shock of wave pressure at the bow
- (C) To transmit the thrust of the propeller to the vessel
- (D) To transmit the thrust of the engine to the propeller

If choice C is selected set score to 1.

62. Which statement is TRUE concerning radiotelephones on board towing vessels?

- (A) Only distress messages may be transmitted over channel 13.
- (B) Only the Master of the vessel is allowed to speak over the radiotelephone.
- (C) There cannot be a radiotelephone located anywhere except in the wheelhouse.
- (D) The officer in charge of the wheelhouse is considered to have the radiotelephone watch.

If choice D is selected set score to 1.

63. When the mainline valve of a self-contained breathing apparatus is open, the bypass valve should be _____.

- (A) completely closed
- (B) completely open
- (C) disconnected
- (D) partially opened

If choice A is selected set score to 1.

64. When would a racetrack turn be better than a Williamson turn in recovering a man overboard?

- (A) If there is thick fog
- (B) When the sea water is very cold and the man is visible
- (C) If the man has been missing for a period of time
- (D) When the wind was from astern on the original course

If choice B is selected set score to 1.

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) At the stern
- (B) To the forwardmost bitts
- (C) To the base of the foremast
- (D) To the forward part of the deckhouse

If choice B is selected set score to 1.

66. If heavy smoke is coming from the paint locker, what should be the FIRST firefighting response?

- (A) Release the CO2 flooding system
- (B) Secure the ventilation
- (C) Open the door to evaluate the extent of the fire
- (D) Enter and use a portable extinguisher

If choice B is selected set score to 1.

67. Which instrument is suitable for determining the presence of explosive concentrations of fuel oil vapors in tanks?

- (A) A liquid cargo meter
- (B) A combustible gas indicator
- (C) A flame safety lamp
- (D) All of the above

If choice B is selected set score to 1.

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

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

If choice B is selected set score to 1.

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

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

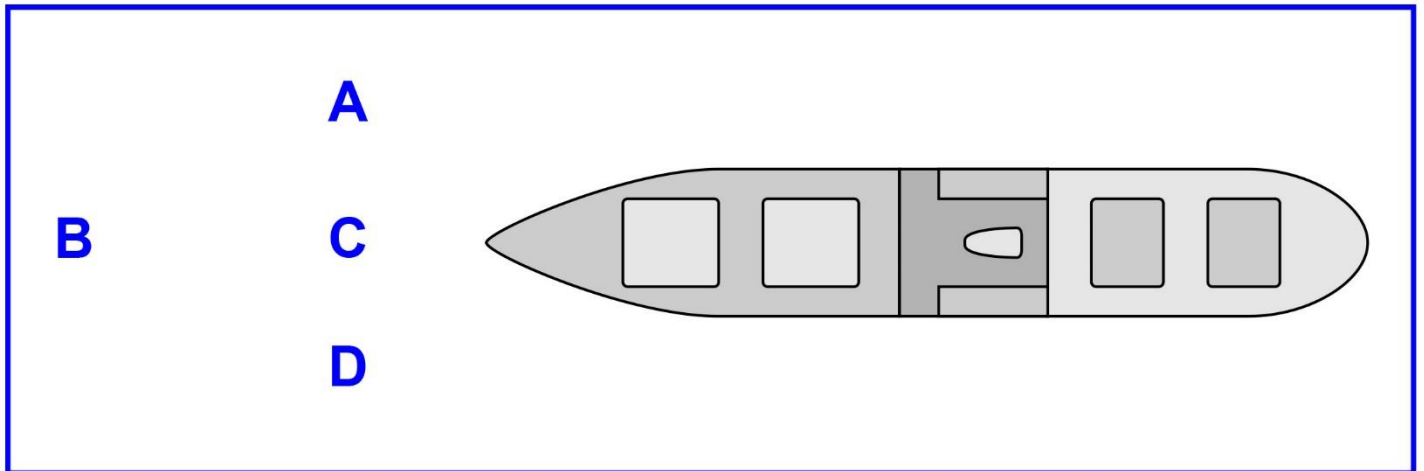
If choice B is selected set score to 1.

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

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

If choice C is selected set score to 1.

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