

U.S.C.G. Merchant Marine Exam
Master/Chief Mate Unlimited Tonnage
Q102 Deck General - Part B
(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. You have orders to load cargoes of carbon disulfide, diisopropylamine and pyridine on your multi-product tankship. Which statement is true?
- (a) Pyridine must be separated from carbon disulfide by two barriers (cofferdams, voids, empty tanks, etc.).
 - (b) Pyridine and diisopropylamine may not be carried in tanks having a common header vent.
 - (c) A tank of diisopropylamine may be used to separate a tank of pyridine from a tank of carbon disulfide.
 - (d) Carbon disulfide may be carried in NOS. 1 and 2 center tanks and diisopropylamine in NOS. 1 and 2 wing tanks.

If choice b is selected set score to 1.

2. What is the minimum temperature required in order for steam driven pumps to be considered a source of vapor ignition?
- (a) 100°C
 - (b) 212°F
 - (c) 500°F
 - (d) 1200°F

If choice c is selected set score to 1.

3. What action should the helmsman take when hearing the command "ease the rudder"?
- (a) steer the course which is your present heading
 - (b) decrease the rudder angle
 - (c) bring the rudder amidships
 - (d) move the rudder slowly in the direction of the most recent rudder command

If choice b is selected set score to 1.

4. A lot of special cargo of similar cartons as shown in illustration D042DG below is to be loaded. What is the total cubic capacity the consignment will occupy if you assume 10% broken stowage?
- (a) 51 cubic feet (1.5 cubic meters)
 - (b) 58 cubic feet (1.7 cubic meters)
 - (c) 65 cubic feet (2.0 cubic meters)
 - (d) 336 cubic feet (10 cubic meters)

If choice c is selected set score to 1.

5. Before welding is permitted on a fuel tank, it must be certified or declared as which of the following?

- (a) safe for personnel
- (b) not safe for personnel
- (c) not safe for hot work
- (d) safe for hot work

If choice d is selected set score to 1.

6. Which of the signals listed is required to be displayed at night while bunkering at a dock?

- (a) One red light over a yellow light
- (b) One red light
- (c) One red light over a white light
- (d) Two red lights

If choice b is selected set score to 1.

7. Which part of a conventional cargo gear rig provides for vertical control and positioning of a boom?

- (a) Cargo whip
- (b) Spider band
- (c) Gooseneck fitting
- (d) Topping lift

If choice d is selected set score to 1.

8. On the fully containerized ship, approximately one-third or more of the cargo is on deck above the rolling center. Top stowed containers are subject to _____.

- (a) accelerations less than on conventional vessels
- (b) accelerations the same as on conventional vessels
- (c) accelerations greater than on conventional vessels
- (d) no accelerations

If choice c is selected set score to 1.

9. Which is a grade B flammable liquid?

- (a) Carbon Disulfide
- (b) Carbon Tetrachloride
- (c) Ethyl Chloride
- (d) Butadiene

If choice a is selected set score to 1.

10. Before loading bulk grain, bilge wells must be covered to _____.

- (a) prevent oil, water, or other liquid from reaching the cargo
- (b) add strength to the bilge well strainer
- (c) prevent cargo sifting into the bilge wells
- (d) permit rapid flow of water to the bilge wells

If choice c is selected set score to 1.

11. Hygroscopic cargoes should be ventilated when _____.

- (a) the dew point of the outside air is greater than the dew point of the air in the hold
- (b) the outside dew point is 60°F (16°C) and the cargo temperature is 54°F (12°C)
- (c) going from a warm to a cold climate
- (d) the dew point of the air in the hold is very low

If choice c is selected set score to 1.

12. Because of the arrangement of the cell guides, the MOST important factor while loading containers is the _____.

- (a) weight of the container
- (b) contents of the container
- (c) list of the vessel
- (d) size of the shoreside crane

If choice c is selected set score to 1.

13. The space containing the cylinders for the carbon dioxide (CO₂) fire extinguishing system must be designed to preclude an anticipated ambient temperature over _____.

- (a) 80°F
- (b) 95°F
- (c) 130°F
- (d) 150°F

If choice c is selected set score to 1.

14. The signal man assisting the crane operator has his arm extended with the palm down and holds this position rigidly. This is the signal to _____.

- (a) stop
- (b) swing
- (c) hoist
- (d) lower

If choice a is selected set score to 1.

15. Fire hose stations shall be marked in red letters and figures such as Fire Station No. "1", "2", "3", etc. The height of the letters and figures must be at least _____.

- (a) 1/2 inch
- (b) 1 inch
- (c) 1-1/2 inches
- (d) 2 inches

If choice d is selected set score to 1.

16. You are on a multiple-product tankship and scheduled to load a cargo classed as an aromatic amine. This cargo is incompatible with cargoes classed as _____.

- (a) phenols
- (b) ketones
- (c) organic anhydrides
- (d) esters

If choice c is selected set score to 1.

17. What is the minimum number of fire pumps required on a cargo vessel of 2,000 GT?

- (a) 1
- (b) 2
- (c) 3
- (d) 4

If choice b is selected set score to 1.

18. You are loading a cargo of cases into a hold which has a bale cubic of 44,000. The cargo consists of cases measuring 4 ft by 2 ft by 1.5 ft. Estimated broken stowage is 15%. What is the maximum number of cases which can be stowed in the hold?

- (a) 3096
- (b) 3116
- (c) 3136
- (d) 3156

If choice b is selected set score to 1.

19. If you are loading fruit in reefer spaces and you notice that the fruit is beginning to mold, you should _____.

- (a) refuse to carry the cargo
- (b) write up exceptions on the cargo
- (c) carry the cargo at a cooler temperature than originally planned
- (d) discharge CO₂ into the compartment after loading

If choice b is selected set score to 1.

20. The largest crew a cargo vessel may carry without having a hospital space is _____.

- (a) 6
- (b) 11
- (c) 12
- (d) 16

If choice b is selected set score to 1.

21. Which variable factor affects the initial lashing requirements aboard Ro-Ro vessels?

- (a) Port of origin
- (b) Vessel's draft
- (c) ABS requirements
- (d) Number, position and angle of lashings

If choice d is selected set score to 1.

22. Under the Carriage of Goods by Sea Act of 1936, a vessel will be liable for damage to cargo when the damage arises out of _____.

- (a) inherent vice
- (b) fire caused by lightning
- (c) overloading
- (d) poor stowage of cargo in a container

If choice c is selected set score to 1.

23. Which is characteristic of a "special cargo"?

- (a) The cargo gives off toxic gases when heated.
- (b) It must be stowed on deck.
- (c) Periodic inspection is required while in transit to prevent spoilage.
- (d) It is of high value or easily pilferable.

If choice d is selected set score to 1.

24. The lower hold of your vessel has a bale capacity of 60,000 cubic feet. How many tons of cotton in bales having a stowage factor of 85 can be stowed in the lower hold, assuming a broken stowage factor of 20%?

- (a) 141
- (b) 565
- (c) 706
- (d) 847

If choice b is selected set score to 1.

25. "Cribbing" is _____.

- (a) the chains and shackles used to secure a deck cargo
- (b) a crate in which a deck cargo is packaged
- (c) wooden blocks or dunnage placed between a deck load and the deck
- (d) cardboard separation pieces placed between deck loads to prevent chafing

If choice c is selected set score to 1.

26. On your vessel, a wire rope for the cargo gear shows signs of excessive wear and must be replaced. In ordering a new wire for this 10-ton boom, what safety factor should you use?

- (a) Three
- (b) Five
- (c) Six
- (d) Seven

If choice b is selected set score to 1.

27. The certificate of loading required by each vessel carrying grain in bulk is issued by the _____.

- (a) National Cargo Bureau
- (b) owner or charterer of the vessel
- (c) American Bureau of Shipping
- (d) shipper of the cargo

If choice a is selected set score to 1.

28. Which statement about the carriage of coal is true?

- (a) Freshly worked coal is more dangerous than weathered coal.
- (b) Wet coal is more liable to spontaneous heating than dry coal.
- (c) Most problems with spontaneous combustion will occur within 72 hours of loading and after that the risk decreases.
- (d) Coal absorbs nitrogen from the air which reacts with methane and causes spontaneous heating.

If choice a is selected set score to 1.

29. Which wire rope purchases may be used with a 30-ton pedestal crane?

- (a) Luff
- (b) Rider block
- (c) Hoist
- (d) All of the above

If choice d is selected set score to 1.

30. Which of the following statement(s) is/are TRUE regarding twin pedestal cranes?

- (a) Each single boom is of the partial-level luffing type and is capable of limited rotation.
- (b) An independent slew drive system rotates the turntable.
- (c) A slew drive system provides for rotation of each crane.
- (d) All of the above

If choice d is selected set score to 1.

31. With the buttress securing system, containers of different heights must be stowed _____.

- (a) on the bottom tier on deck
- (b) on the top tier
- (c) next to the buttress tower
- (d) in the hold

If choice b is selected set score to 1.

32. You are on a containership. The cargo includes a container of small arms ammunition, a container of lead-acid storage batteries and a container of methyl acetylene bottles. Which statement is TRUE?

- (a) The storage batteries must be at least ten horizontal feet away from the methyl acetylene.
- (b) The storage batteries must be stowed on deck away from the ammunition.
- (c) The ammunition must be separated from the methyl acetylene by at least one hold.
- (d) No separation is required because freight containers are exempted.

If choice d is selected set score to 1.

33. If you carry packaged hazardous cargoes on a break bulk vessel bound foreign, you must _____.

- (a) stow the hazardous cargoes on deck available for jettisoning if necessary
- (b) remove the hazardous cargo labels from a portable tank after the tank is emptied
- (c) have the shipping papers indicate the proper shipping name and the technical name of n.o.s. cargoes
- (d) log the receipt of hazardous cargoes in the Official Logbook

If choice c is selected set score to 1.

34. Triethylene glycol fires may be extinguished by _____.

- (a) alcohol foam
- (b) dry chemical
- (c) carbon dioxide
- (d) All of the above

If choice d is selected set score to 1.

35. What is a grade B flammable liquid?

- (a) Chlorallylene
- (b) Allyl alcohol
- (c) Paraldehyde
- (d) Ethylene oxide

If choice a is selected set score to 1.

36. Which standard operating procedure(s) should be adhered to on a Ro-Ro vessel?

- (a) One deck engine mechanic assigned to oversee the initial loading and lashing
- (b) Periodic inspection and retensioning of lashings as required during voyage
- (c) Battery cables must be disconnected to prevent fire hazard
- (d) All of the above

If choice b is selected set score to 1.

37. A heated bulkhead has the effect on a hygroscopic commodity of _____.

- (a) causing moisture to accumulate against the bulkhead
- (b) raising the vapor pressure of the commodity
- (c) lowering the vapor pressure of the commodity
- (d) lowering the dew point of the air

If choice b is selected set score to 1.

38. Your vessel is going from a warm climate to a cold climate with a hygroscopic cargo. Which statement is TRUE?

- (a) There is little danger of any sweat problem.
- (b) There is danger of heavy cargo sweat if you ventilate.
- (c) You should ventilate; there is little danger of ship sweat, but a possibility of cargo sweat.
- (d) You must ventilate constantly and vigorously to combat ship sweat.

If choice d is selected set score to 1.

39. Regulations require that cargo pumps in tank vessels carrying grade D liquid cargo shall be isolated from sources of vapor ignition by _____.

- (a) general cargo spaces
- (b) passageways or living quarters
- (c) gastight bulkheads
- (d) cofferdams

If choice c is selected set score to 1.

40. If your asphalt barge has operated more than 12 months in saltwater in the 24 month period since it was last dry-docked, when is it required to be hauled out again?

- (a) 12 months since last dry-docking
- (b) 18 months since last dry-docking
- (c) 24 months since last dry-docking
- (d) 36 months since last dry-docking

If choice d is selected set score to 1.

41. When bunkering at anchorage which of the following signals must be displayed?

- (a) A red flag by day ONLY
- (b) A red flag by day, red light by night
- (c) A red light by night ONLY
- (d) No signal required at anchorage

If choice a is selected set score to 1.

42. The process of adding mercaptans to gas, is known as which of the following?

- (a) saturating
- (b) reeking
- (c) smelling
- (d) stenching

If choice d is selected set score to 1.

43. A tank is loaded with 9,000 barrels of gasoline. The temperature of the product is 90°F (32°C), and it has a coefficient of expansion of .0008. What is the net amount of cargo loaded?

- (a) 8856 bbls
- (b) 8784 bbls
- (c) 8820 bbls
- (d) 9216 bbls

If choice b is selected set score to 1.

44. Asphyxia is generally limited to enclosed spaces, and the deficiency of breathable air in an enclosed space can occur with any of the following conditions. Indicate the condition that will NOT cause asphyxia.

- (a) When 21% of oxygen is present.
- (b) Where rusting of internal tank surfaces has taken place.
- (c) Where large quantities of inert gas is present.
- (d) When large quantities of cargo vapor is present

If choice a is selected set score to 1.

45. Open ullage holes in tanks which are not gas-free must be protected by _____.

- (a) PV valves
- (b) stop-check valves
- (c) flame screens
- (d) warning signs

If choice c is selected set score to 1.

46. When planning the loading or discharging of a VLCC (100,000 DWT+) what is the most important consideration?

- (a) Draft and trim
- (b) Rate of discharging
- (c) Rate of loading
- (d) Limits of the bending moments

If choice d is selected set score to 1.

47. Before welding in a tank that has carried petroleum products, the tank must be certified by _____.

- (a) the American Bureau of Shipping
- (b) a certified marine chemist
- (c) the shipyard fire department
- (d) the Coast Guard

If choice b is selected set score to 1.

48. Which statement about entry into a space that has been sealed for a long time is TRUE?

- (a) A tank that has been used to carry hazardous liquids should be tested for oxygen content, toxicity, and explosive gases.
- (b) You can safely enter the space without a breathing apparatus if the oxygen content exceeds 14%.
- (c) The natural ventilation through the installed vents is sufficient to provide the proper oxygen content.
- (d) The heat of the sun on upper ballast tanks, such as in a bulk carrier, may generate carbon monoxide.

If choice a is selected set score to 1.

49. You are preparing to relieve the mate on watch while underway at sea. The watch should not be transferred _____.

- (a) during a collision avoidance maneuver
- (b) while the Master is on the bridge
- (c) during an engine speed change
- (d) All of the above

If choice a is selected set score to 1.

50. You are a watchstanding mate and have come to the bridge to relieve the watch. After reviewing the chart and having been briefed by the off-going mate, you are now ready to effect the relief. The watch is officially transferred to you after _____.

- (a) you state the vessel's charted position, present course and port of destination
- (b) the mate being relieved says, "You have the conn" and you state the ship's course
- (c) the mate being relieved tells you the vessel's course and speed and states that you have the watch
- (d) you say, "I relieve you" and you state the course per gyro and magnetic compasses

If choice d is selected set score to 1.

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