

U.S.C.G. Merchant Marine Exam
Tankerman Assistant
Q456 Tankship Dangerous Liquids
(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. 46 CFR directs the location of fuel oil sounding tubes and access openings for fuel oil tanks on cargo vessels. Where can the tubes be located?
- (A) Cargo holds
 - (B) Laundries
 - (C) Crew lounge
 - (D) Washrooms

If choice A is selected set score to 1.

2. Which statement is TRUE concerning combustible gas indicators?
- (A) They are calibrated to read the percentage chance of explosion.
 - (B) One sample of air is adequate to test a tank.
 - (C) They will detect a lack of oxygen.
 - (D) They do not work properly where there is a lack of oxygen.

If choice D is selected set score to 1.

3. What does the MARPOL 73/78 convention deal with?
- (A) International Convention for the Prevention of Pollution from Ships
 - (B) International Convention of Safety of Life at Sea
 - (C) International Marine Organization Gas Carrier Code
 - (D) International Convention on Standards of Training Certification and Watchkeeping

If choice A is selected set score to 1.

4. How can you determine which grades of cargo a tank vessel is permitted to carry?
- (A) check the loading order
 - (B) refer to the vessel's Certificate of Inspection
 - (C) ask the terminal supervisor or his representative
 - (D) examine the cargo tanks and fittings

If choice B is selected set score to 1.

5. When loading a tanker, you should do which of the following?
- (A) close valves by closing them down, reopening one or two turns, and re-closing
 - (B) keep a strain on the loading hoses
 - (C) keep the seamen on watch on standby in the mess room
 - (D) load only one tank at a time

If choice A is selected set score to 1.

6. Cargo hose carried on tank vessels shall be able to withstand a pressure of at least how many psi?

- (A) 75 psi
- (B) 100 psi
- (C) 120 psi
- (D) 150 psi

If choice D is selected set score to 1.

7. How is an inert gas system designed to reduce the possibility of tank explosions?

- (A) by reducing the oxygen concentration below levels necessary for combustion
- (B) by removing all hydrocarbon gases from the cargo tanks
- (C) by eliminating sparks and fire in the vicinity of cargo tanks
- (D) by blanketing cargo tanks with inert foam

If choice A is selected set score to 1.

8. If a repair team is to enter a confined space for repair work, what minimum level of oxygen should be present?

- (A) 18%
- (B) 19%
- (C) 20%
- (D) 21%

If choice D is selected set score to 1.

9. Which of the following describes heavy fuel oils when they have been spilled?

- (A) they are easier to clean up than lighter refined oils
- (B) they are less harmful to sea life than lighter oils
- (C) they are more harmful to sea life than lighter oils
- (D) they are not a real threat to marine life

If choice B is selected set score to 1.

10. In an inert gas system, high pressure alarms are set in the main vapor collection line to cause an audible and visual alarm if the pressure reaches a certain level. What is the percentage of the lowest relief valve setting at which the alarm must sound?

- (A) 70%
- (B) 80%
- (C) 90%
- (D) 95%

If choice C is selected set score to 1.

11. Who enforces the U.S. pollution regulations that apply to ships?

- (A) Port Authority
- (B) Corps of Engineers
- (C) U.S. Coast Guard
- (D) State Pollution Board

If choice C is selected set score to 1.

12. Which of the following defines flammable liquids for the purpose of U.S. regulations?

- (A) liquids that have a Reid vapor pressure of 18 pounds or more
- (B) liquids that give off flammable vapors at or below 80°F (27°C)
- (C) liquids that give off flammable vapors only above 80°F (27°C)
- (D) liquids that sustain combustion at a temperature at or below 100°F (38°C)

If choice B is selected set score to 1.

13. While loading bulk liquid cargo, a tank valve jams open, what is the first action you should take?

- (A) unplug the deck scuppers
- (B) run out the vessels fire hose
- (C) call the chief engineer
- (D) order the shore facility to shut down

If choice D is selected set score to 1.

14. Span gas is used for what process?

- (A) To calibrate a gas analyzer to ensure it indicates correct gas concentrations.
- (B) The name of a gaseous state when the temperature of the vapor is the same as that of the liquid.
- (C) To find the zero point on a gas analyzer.
- (D) To insure an inert atmosphere during the span of time when a system is being brought to a dry air condition from a flammable atmosphere.

If choice A is selected set score to 1.

15. Combustion can occur inside a piping system such as a vapor collection header in a marine emission control system. Which of the following will not aid in this combustion process?

- (A) oxygen
- (B) nitrogen
- (C) fuel
- (D) ignition

If choice B is selected set score to 1.

16. Which of the following terms best describes the amount of product in a tank measured from the tank top to the level of liquid?

- (A) Innage
- (B) Outage
- (C) Ullage
- (D) Thievery

If choice A is selected set score to 1.

17. Who completes the Declaration of Inspection before loading a tank vessel?

- (A) The designated person in charge
- (B) The US Coast Guard.
- (C) The American Bureau of Shipping.
- (D) The manager of the shore facility

If choice A is selected set score to 1.

18. Which alarm is NOT found on an inert gas system?

- (A) Deck seal low water alarm
- (B) Low oxygen alarm
- (C) Scrubber high water level alarm
- (D) Low pressure alarm

If choice B is selected set score to 1.

19. You have berthed in a port area with other tank vessels. What signal is displayed by a vessel to indicate it is transferring flammable or combustible liquid cargo?

- (A) A flashing yellow light
- (B) An illuminated red and yellow caution flag
- (C) A green light visible all around the horizon
- (D) A red light visible all around the horizon

If choice D is selected set score to 1.

20. U.S. regulations state that no person may transfer oil to or from a vessel unless which of the following conditions is met?

- (A) an oil containment boom is available for immediate use
- (B) a representative sample has been taken from the oil being received
- (C) oil residue has been drained from all hoses
- (D) all parts of the transfer system have been properly lined up

If choice D is selected set score to 1.

21. The sign used to caution persons approaching the gangway of a tank barge during cargo transfer should state which of the following?

- (A) "Warning, No Smoking, No Open Lights, No Visitors"
- (B) "Warning, Keep Off, Stay Clear"
- (C) "Danger, Do Not Board"
- (D) "Dangerous Cargo Being Transferred"

If choice A is selected set score to 1.

22. What type of valve is usually on the discharge side of a cargo pump on a tank vessel?

- (A) globe valve
- (B) butterfly valve
- (C) spectacle valve
- (D) check valve

If choice D is selected set score to 1.

23. When providing first aid to a victim of gas poisoning, what is the MOST important symptom to check for?

- (A) suspension of breathing
- (B) unconsciousness
- (C) cold and moist skin
- (D) slow and weak pulse

If choice A is selected set score to 1.

24. If you observe any situation which presents a safety or pollution hazard during the fuel transfer operations, which action should you take FIRST?

- (A) Close the valves at the manifold.
- (B) Notify the person in charge of the shore facility.
- (C) Shut down the operation.
- (D) Sound the general alarm.

If choice C is selected set score to 1.

25. How should pinching of the cargo hose between the vessel and the dock be prevented?

- (A) adjusting the hose supports
- (B) tying off the topping lifts and runners to winch heads
- (C) laying out an excess length of hose on deck
- (D) install hose preventers

If choice A is selected set score to 1.

26. What is meant by "thieving" a petroleum cargo?

- (A) Determining the amount of water (if any) in each cargo tank.
- (B) Siphoning off a few barrels of petroleum for shipboard use.
- (C) Reducing the gross cargo calculations to net amounts.
- (D) Adjusting the cargo figures to coincide with the draft.

If choice A is selected set score to 1.

27. According to U.S. regulations, which conditions would not disqualify a nonmetallic hose as being suitable for use in transferring oil?

- (A) A leak in the flange gasket while hydrostatically testing the hose.
- (B) A slight oil seepage between the hose and flange connection.
- (C) Evidence of internal or external deterioration.
- (D) A small cut in the hose cover which just pierces the reinforcement.

If choice A is selected set score to 1.

28. What is NOT a precaution to be taken when topping off?

- (A) Give the operation your undivided attention.
- (B) Maintain communications with the dock man.
- (C) Reduce the loading rate.
- (D) Notify the engine room of the procedure.

If choice D is selected set score to 1.

29. In order to reduce the accumulation of static electricity while loading petroleum products, you should _____.

- (A) start to load slowly
- (B) start to load at maximum pressure
- (C) use the overall method of loading only
- (D) increase the air flow into the tank

If choice A is selected set score to 1.

30. During oil transfer operations, who would be responsible to guarantee that the posted transfer procedures are being followed?

- (A) The senior able seaman
- (B) The tankerman
- (C) The designated person in charge
- (D) The oiler

If choice C is selected set score to 1.

31. What do the emergency shutdown requirements of U.S. regulations apply to?

- (A) induced draft fans
- (B) condensate pumps
- (C) air compressors
- (D) cargo transfer systems

If choice D is selected set score to 1.

32. When stripping a tank, what is caused by excessive air in the suction line?

- (A) increase of suction
- (B) loss of suction
- (C) back pressure
- (D) an over pressurized line

If choice B is selected set score to 1.

33. What is the lowest temperature at which a liquid will give off sufficient vapors to form a flammable mixture with air?

- (A) flash point
- (B) threshold limit value
- (C) lower explosive limit
- (D) fire point

If choice A is selected set score to 1.

34. Which statement about the use of portable electric lights in petroleum product tanks is TRUE?

- (A) They must be explosion-proof, self-contained, battery-fed lamps.
- (B) No portable electric equipment of any type is allowed.
- (C) They can be used only when the compartment is gas free.
- (D) The fixture must be explosion-proof and the line must have a ground wire.

If choice A is selected set score to 1.

35. What is the lowest temperature at which the vapors of a flammable liquid will ignite and cause self-sustained combustion in the presence of a spark or flame?

- (A) vaporization temperature
- (B) autoignition temperature
- (C) fire point
- (D) flash point

If choice C is selected set score to 1.

36. What is the required gas supply capacity of an inert gas system?

- (A) 125% of forced draft rate
- (B) 125% of shore side loading rate
- (C) 125% of fan capacity
- (D) 125% of cargo pump capacity

If choice D is selected set score to 1.

37. Each pressure gage used in an oil transfer operation must be accurate to within what percent?

- (A) 1 percent
- (B) 3 percent
- (C) 5 percent
- (D) 10 percent

If choice D is selected set score to 1.

38. Where is the most likely location for a cargo fire to occur on a tanker?

- (A) at the main deck manifold
- (B) at the vent header
- (C) in the pumproom
- (D) in the midships house

If choice C is selected set score to 1.

39. What is a cofferdam?

- (A) Area the product is loaded into
- (B) Tube fitted to an ullage hole
- (C) Opening in the deck used for cleaning a tank
- (D) Void or empty space separating two tanks

If choice D is selected set score to 1.

40. Which of the following will prevent a flammable atmosphere from occurring in a cargo tank on a tank vessel?

- (A) a combustion stabilizer
- (B) an oxidizer
- (C) inert gas
- (D) a vortex eliminator

If choice C is selected set score to 1.

41. What term is not considered a "discharge" as it applies to the U.S. pollution regulations?

- (A) pumping a harmful substance
- (B) leaking diesel fuel oil
- (C) sampling a harmful substance
- (D) spilling a harmful substance

If choice C is selected set score to 1.

42. What is the distance between the surface of the liquid and the tank top in a cargo tank called?

- (A) tankage
- (B) ullage
- (C) innage
- (D) thievage

If choice B is selected set score to 1.

43. What is the maximum allowable oxygen content within the ships cargo tanks, inert gas piping and the vapor recovery system?

- (A) 4%
- (B) 5%
- (C) 8%
- (D) 10%

If choice C is selected set score to 1.

44. Which of the following is the primary function of the screens that are fitted to the Fuel oil tank vents?

- (A) air from entering the tank vent
- (B) flames on deck from entering the tank vent
- (C) vapors from leaving the tank vent
- (D) oil from flowing out of the tank vent

If choice B is selected set score to 1.

45. What is the minimum temperature required to ignite gas or vapor without a spark or flame being present called?

- (A) autoignition temperature
- (B) fire point
- (C) lower explosive limit
- (D) flash point

If choice A is selected set score to 1.

46. When loading bulk liquid cargo, what is the FIRST action you should take if a cargo valve jammed open?

- (A) Trip the pump relief valve.
- (B) Call the owner, operator, or terminal supervisor.
- (C) Run out the vessel or terminal fire hose.
- (D) Order the dock man to shut down.

If choice D is selected set score to 1.

47. What is the standard unit of liquid volume used in the petroleum industry?

- (A) drum
- (B) gallon
- (C) liter
- (D) barrel

If choice D is selected set score to 1.

48. Who must supervise functions aboard a tanker or tank barge such as connecting, disconnecting, and topping off?

- (A) the person designated as "person in charge"
- (B) the Master of the vessel
- (C) any certificated tankerman
- (D) the officer of the watch

If choice A is selected set score to 1.

49. U.S. regulations require a meeting before starting any oil transfer operation. Who must be in attendance at this meeting?

- (A) master of the vessel and the terminal superintendent
- (B) person-in-charge of the oil transfer operations on the vessel and the person-in-charge of the oil transfer operations at the facility
- (C) terminal supervisor, Master of the vessel and the Coast Guard
- (D) master and chief engineer of the vessel and the terminal supervisor

If choice B is selected set score to 1.

50. Which of the following procedures would insure proper seating of the valve when closing?

- (A) set up as tight as possible by hand
- (B) closed against the stop and the locking pin inserted
- (C) closed, opened a half turn, and then closed again
- (D) set up tight using a valve wrench

If choice C is selected set score to 1.