

U.S.C.G. Merchant Marine Exam
Tankerman Assistant
Q457 Tankship Liquefied Gases
(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. What is the most common liquified gas cargo?

- (A) chemical gases
- (B) butane
- (C) hydrocarbons
- (D) ammonia

If choice D is selected set score to 1.

2. Your vessel is securely moored to the berth preparing to discharge a cargo of LPG. Which of the following items would not comply with a "Safety Checklist" and should be corrected?

- (A) the fixed and portable oxygen analysers are calibrated and operational
- (B) there is sufficient pumproom ventilation
- (C) the inert gas system deck water seal is drained and secured
- (D) cargo tanks atmosphere pressure is positive, with an oxygen content of 8% or below

If choice C is selected set score to 1.

3. When you notice oil on the water near your vessel while taking on fuel, what should your first action be?

- (A) notify the terminal superintendent
- (B) stop loading
- (C) notify the senior deck officer
- (D) determine whether your vessel is the source

If choice B is selected set score to 1.

4. According to 46 CFR there are specific alarms that are required to be tested prior to cargo transfer. Which of the following items does not require testing?

- (A) low liquid level alarms
- (B) high level audible alarm
- (C) high level visual alarm
- (D) quick closing loading valves

If choice A is selected set score to 1.

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

- (A) Unplug the deck scuppers.
- (B) Call the owner, operator, or terminal supervisor.
- (C) Order the dock man to shut down.
- (D) Run out the vessel or terminal fire hose.

If choice C is selected set score to 1.

6. 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) Thieverage

If choice A is selected set score to 1.

7. What is the best method for extinguishing a fire of escaping liquefied flammable gas?

- (A) stopping the flow of gas
- (B) cutting off the supply of oxygen
- (C) interrupting the chain reaction
- (D) cooling the gas below the ignition point

If choice A is selected set score to 1.

8. 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.

9. The condition of asphyxia arises from which of the following?

- (A) an inadequate supply of oxygen
- (B) too much oxygen
- (C) sleep deprivation
- (D) improper caloric intake

If choice A is selected set score to 1.

10. The cargo pump relief valve is usually piped to which of the following components?

- (A) crossover line
- (B) suction side of pump
- (C) atmosphere through pump vent
- (D) cargo pump pressure gauge

If choice B is selected set score to 1.

11. It would be prudent to preform which of the following actions prior to the commencement of bunkering?

- (A) plug the vents
- (B) close the lids on the vents
- (C) plug the sounding pipes
- (D) plug the scuppers

If choice D is selected set score to 1.

12. What do the designations A, B, C, D, and E grades of cargo define?

- (A) flash point range and Reid vapor pressure index of petroleum products
- (B) degrees of quality of petroleum products
- (C) pour point, color, and viscosity index of petroleum products
- (D) grades of crude oil

If choice A is selected set score to 1.

13. 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.

14. U.S. regulations require an emergency means of stopping the flow of oil or LNG during transfer operations. The emergency means may be which of the following?

- (A) manually-operated quick-closing valve
- (B) self-closing automatic disconnect fitting
- (C) automatic pressure-sensitive oil flow regulator
- (D) emergency pump control on the cargo deck

If choice D is selected set score to 1.

15. 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.

16. Why is a warning sign displayed at the gangway or access point of a barge during cargo transfer?

- (A) To indicate any health risk if applicable
- (B) To indicate if the cargo is a marine pollutant
- (C) To designate smoking areas
- (D) To keep visitors away from the barge

If choice D is selected set score to 1.

17. What are flame screens used for?

- (A) contain flammable fumes
- (B) prevent flames from entering tanks
- (C) protect firefighters from flames
- (D) keep flames and sparks from getting out of an engine's exhaust system

If choice B is selected set score to 1.

18. Which of the following is a safety consideration when dealing with Liquefied Gas?

- (A) it's cold
- (B) it's carcinogenic
- (C) it's caustic
- (D) it's corrosive

If choice A is selected set score to 1.

19. Which of the terms best describes the process of the production of vapor above the surface of a boiling cargo due to evaporation on an LNG tanker?

- (A) condensation
- (B) adiabatic
- (C) solidification
- (D) boil-off

If choice D is selected set score to 1.

20. 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.

21. According to U.S. regulations, no person may connect or disconnect an oil transfer hose or engage in any other critical oil transfer operation on a tank vessel unless which of the following is met?

- (A) the designated person-in-charge supervises that procedure
- (B) that person holds a tankerman assistant endorsement
- (C) that person holds a valid port security card
- (D) that person holds a license as master, mate, or engineer

If choice A is selected set score to 1.

22. What is the primary hazard of liquefied petroleum gas and liquefied natural gas?

- (A) pressure
- (B) flammability
- (C) toxicity
- (D) temperature

If choice B is selected set score to 1.

23. What is the proper first aid for LPG in the eye?

- (A) Rub the eye area clean.
- (B) Keep the eyelid close.
- (C) Flush the eye with plenty of water.
- (D) Apply an ice pack to the eye.

If choice C is selected set score to 1.

24. Which of the following describes the depth of a product in a tank?

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

If choice B is selected set score to 1.

25. For all loading operations, the terminal must supply the vessel with a means in which the vessel's designated person-in-charge may stop the flow of oil to the vessel, insuring immediate shutdown in the event of a hose rupture, tank overflow, etc. Which of the following choices will accomplish this task as required by 33 CFR?

- (A) a signal-board on the bridge
- (B) a loudhailer from the vessel bridge
- (C) a pneumatically or mechanically operated device
- (D) a specific sequence of lights

If choice C is selected set score to 1.

26. 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.

27. Your tank vessel is fully loaded to the marks, and you find that she is down slightly by the head. Which of the following choices would be the best action to take to trim the vessel slightly by the stern?

- (A) shift cargo aft
- (B) add ballast aft
- (C) load more cargo aft
- (D) shift ballast from the aft to forward

If choice A is selected set score to 1.

28. What does the sign used to caution persons approaching the gangway of a tank barge during cargo transfer read?

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

If choice A is selected set score to 1.

29. 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.

30. 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.

31. Which reference to Liquefied Gas operations what does the term "rollover" used to describe?

- (A) moving LNG from one tank to another
- (B) custody transfer at the terminal
- (C) vapor pockets forming at the bottom of a half-filled tank
- (D) when two or more stratified layers of different density LNG in the same tank suddenly mix together, causing a rapid increase in boil-off vapors

If choice D is selected set score to 1.

32. Which of the following is equivalent to a "barrel", which is a unit of liquid measure?

- (A) 40 U.S. gallons at 50°F
- (B) 42 U.S. gallons at 60°F
- (C) 43 U.S. gallons at 65°F
- (D) 45 U.S. gallons at 75°F

If choice B is selected set score to 1.

33. The boiling point of Methane is -161°C. How is the substance carried?

- (A) Fully pressurized.
- (B) Normal ambient temperature.
- (C) Atmospheric pressure.
- (D) Fully refrigerated.

If choice C is selected set score to 1.

34. 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.

35. 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.

36. 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.

37. 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.

38. 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.

39. 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.

40. 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.

41. The term "segregated ballast" is defined in the U.S. regulations as ballast water introduced into which of the following?

- (A) oily water separator for segregation
- (B) fuel settling tank for segregation from lighter fluids
- (C) isolated tank for analysis because of its noxious properties
- (D) tank that is completely separated from the cargo oil and fuel oil systems

If choice D is selected set score to 1.

42. 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.

43. 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.

44. What is the primary hazard of liquefied petroleum gas and liquefied natural gas?

- (A) flammability
- (B) pressure
- (C) toxicity
- (D) temperature

If choice A is selected set score to 1.

45. What causes the most frequent incidents of pollution during tanker operations?

- (A) routine discharge of oil during ballasting and tank crude oil washing
- (B) groundings
- (C) collisions
- (D) loading and discharging

If choice D is selected set score to 1.

46. 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 Sipping.
- (D) The manager of the shore facility

If choice A is selected set score to 1.

47. Which of the following describes the flash point temperature of a liquid?

- (A) at which a liquid will give off inflammable vapors
- (B) at which a liquid will explode
- (C) that a liquid must reach before it will flow readily
- (D) at which a liquid will burn steadily

If choice A is selected set score to 1.

48. 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.

49. To insure proper seating when closing a valve on a tank, what position should the valve be in?

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

If choice A is selected set score to 1.

50. U.S. regulations state that a person may not transfer oil or hazardous materials to or from a vessel unless each person-in-charge has signed which of the following documents?

- (A) Declaration of Inspection
- (B) machinery log
- (C) oil record book
- (D) valve inspection record

If choice A is selected set score to 1.