U.S.C.G. Merchant Marine Exam

Tankerman Assistant

Q456-Tankship Dangerous Liquids

(Sample Examination)
Chose the best answer to the following Multiple Choice Questions.

1. When discharging a tanker, how can list be controlled?
   - (A) by shore side personnel
   - (B) by using the after peak tank, loading as necessary
   - (C) by using wing tanks near the longitudinal center, discharging as necessary
   - (D) by using a center tank near the bow, discharging as necessary

   If choice C is selected set score to 1.

2. 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.

3. While loading bulk oil, you notice oil on the water near the barge. Which of the following actions should you carry out FIRST?
   - (A) Notify terminal superintendent
   - (B) Search the vessel for leaks
   - (C) Stop loading
   - (D) Notify the Coast Guard

   If choice C is selected set score to 1.

4. On tankers using manually operated tank valves, what does the deck hand wheel indicator register?
   - (A) exact lift position of the tank valve disk, through 100% of its operation
   - (B) oxygen content of the tank
   - (C) approximate number of turns the tank valve has been opened
   - (D) level of oil in the tank

   If choice C is selected set score to 1.
5. On a tanker vessel, what is the required combined capacity of the inert gas generating system as compared to the total capacity of all the cargo pumps which can be operated simultaneously?

- (A) 50%
- (B) 75%
- (C) 100%
- (D) 125%

If choice D is selected set score to 1.

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

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

If choice C is selected set score to 1.

7. How can you determine which grades of cargo a tanker vessel is permitted to carry?

- (A) ask the terminal supervisor or his representative
- (B) refer to the vessel's Certificate of Inspection
- (C) examine the cargo tanks and fittings
- (D) check the loading order

If choice B is selected set score to 1.

8. What is meant by “thieving” a petroleum cargo?

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

If choice C is selected set score to 1.

9. Which of the following conditions will cause a combustible gas indicator to become inoperative or give erroneous readings?

- (A) compartment to be tested is free of CO₂
- (B) inerted content of the atmosphere is less than the lower explosive limit
- (C) atmosphere has sufficient oxygen
- (D) hydrocarbon content of the atmosphere is less than the upper explosive limit

If choice D is selected set score to 1.
10. Your tank vessel is loaded down to her marks, and you find that she has too much trim by the stern. What action should you take to obtain an even keel and still maintain profitability?

- (A) shift bunkers forward
- (B) load more cargo forward
- (C) discharge cargo amidships
- (D) add ballast forward

*If choice A is selected set score to 1.*

11. When loading a tanker, you should perform which of the following functions to ensure a safe operation?

- (A) keep a strain on the loading hoses
- (B) load only one tank at a time
- (C) keep the seamen on watch on standby in the messroom
- (D) close valves by closing them down, re-opening one or two turns, and re-closing

*If choice D is selected set score to 1.*

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

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

*If choice C is selected set score to 1.*

13. Which refers to the depth of a petroleum product in a tank?

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

*If choice B is selected set score to 1.*

14. What do the designations A, B, C, D, and E refer to in grades of cargo?

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

*If choice A is selected set score to 1.*
15. Where is the most likely location for a cargo fire to occur on a tanker?

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

*If choice D is selected set score to 1.*

16. In special cases, the Commandant of the Coast Guard may permit cargo piping to pass through machinery spaces. This is permitted provided that the only cargo carried through such piping is which of the following?

- (A) grade E
- (B) grades D or E
- (C) LFG
- (D) grades A or B

*If choice A is selected set score to 1.*

17. What is the purpose of the relief valve of a cargo pump?

- (A) Allows two or more tanks to be filled at the same time
- (B) Permits the return of cargo to the suction side of the pump
- (C) Provides for the emergency shutdown of the pump
- (D) Provides for the removal of vapors

*If choice B is selected set score to 1.*

18. What should be the first consideration when discharging an oil cargo?

- (A) discharge from the centerline tanks first
- (B) get the bow up
- (C) discharge from amidships first
- (D) discharge from the wings first

*If choice B is selected set score to 1.*

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

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

*If choice B is selected set score to 1.*
20. Which factor must be considered when determining the order of loading of dissimilar products through the same piping system aboard a tanker?

- (A) Contamination of the cargo
- (B) Reid vapor pressures
- (C) Flash points
- (D) Specific gravities

*If choice A is selected set score to 1.*

21. What is the maximum allowable oxygen content within the ship’s 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.*

22. U.S. regulations require which of the following upon completion of oil transfer operations?

- (A) all hoses shall be blown down with air
- (B) all soundings shall be entered in the oil record book
- (C) all persons on duty during oil transfer shall be accounted for
- (D) all valves used during transfer shall be closed

*If choice D is selected set score to 1.*

23. 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.*

24. When tank cleaning with a portable machine, how is the weight of the machine suspended?

- (A) a portable davit
- (B) solid metal bars clamped to the Butterworth opening
- (C) a natural fiber tag line, saddle and hose
- (D) a wire rope suspension line

*If choice C is selected set score to 1.*
25. 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.*

26. What is Reid Vapor Pressure?

- (A) a measurement of the amount of flammable vapors given off by a liquid at a certain temperature
- (B) exerted by liquid cargo on the sides of a tank
- (C) exerted by liquid cargo on a cargo hose body
- (D) the lowest temperature and pressure that will cause a flammable liquid to give off vapors

*If choice A is selected set score to 1.*

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

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

*If choice A is selected set score to 1.*

28. When the inert gas system is temporarily unable to maintain a positive pressure, or an oxygen content less than 8%, how should cargo operations be adjusted?

- (A) operations should continue at a slower rate until these requirements are met
- (B) operations should continue only under "Emergency Procedures"
- (C) operations should be shut down immediately
- (D) operations should be monitored more frequently

*If choice C is selected set score to 1.*

29. 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 designated person in charge
- (C) The tankerman
- (D) The oiler

*If choice B is selected set score to 1.*
30. Which of the following is equivalent to a "barrel", which is a unit of liquid measure?

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

   *If choice C is selected set score to 1.*

31. According to U.S. regulations, tank vessels are required to have a means of emergency shutdown. This device does which of the following?

   - (A) shuts off the main propulsion plant
   - (B) shuts off the firefighting foam systems
   - (C) stops the flow of oil to shore facility or other vessel
   - (D) secures electrical power to all motors

   *If choice C is selected set score to 1.*

32. 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) Outage
   - (B) Thievage
   - (C) Innage
   - (D) Ullage

   *If choice C is selected set score to 1.*

33. On tankers with manually operated tank valves, which of the following is the type of valve most commonly used?

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

   *If choice D is selected set score to 1.*

34. Which of the following is the pipe used to connect two separate piping systems on a tank vessel?

   - (A) junction
   - (B) connection
   - (C) crossover
   - (D) transfer

   *If choice C is selected set score to 1.*
35. What causes the most frequent incidents of pollution during tanker operations?

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

*If choice C is selected set score to 1.*

36. Oil product samples should be taken at the commencement and completion of loading operations. As the person in charge, where should the the final samples be taken?

- (A) the shoreline low points
- (B) the vessel’s cargo tanks
- (C) the shore tank discharge
- (D) the dock riser

*If choice B is selected set score to 1.*

37. How does an inert gas system on a tanker function to prevent explosions in cargo tanks?

- (A) De-energizes the "charged mist" effect.
- (B) Inert gas dilutes the flammable vapor and air concentrations to keep them below the lower explosive limit.
- (C) Inert gas filters out the flammable vapors from the cargo tank spaces.
- (D) Maintains a positive pressure on the vent header to cool the flammable vapors.

*If choice B is selected set score to 1.*

38. 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.*

39. Your vessel is taking on cargo oil when a small leak develops in the hose. You order the pumping stopped. What action should you take before you resume pumping?

- (A) place a large drip pan under the leak and plug the scuppers
- (B) notify the terminal superintendent
- (C) repair the hose with a patch
- (D) replace the hose

*If choice D is selected set score to 1.*
40. What do the designations A, B, C, D, and E grades of cargo define?
   - (A) pour point, color, and viscosity index of petroleum products
   - (B) degrees of quality of petroleum products
   - (C) flash point range and Reid vapor pressure index of petroleum products
   - (D) grades of crude oil

   If choice C is selected set score to 1.

41. What grade are most crude oils classified as?
   - (A) E
   - (B) B
   - (C) C or D
   - (D) A or B

   If choice C is selected set score to 1.

42. Who enforces the U.S. pollution regulations that apply to ships?
   - (A) U.S. Coast Guard
   - (B) State Pollution Board
   - (C) Corps of Engineers
   - (D) Port Authority

   If choice A is selected set score to 1.

43. 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) "Dangerous Cargo Being Transferred"
   - (C) "Danger, Do Not Board"
   - (D) "Warning, Keep Off, Stay Clear"

   If choice A is selected set score to 1.

44. If a cargo of kerosene were considered "too lean" to explode, then it must be which of the following?
   - (A) above the "explosive range"
   - (B) within the "explosive range"
   - (C) below the "explosive range"
   - (D) above the "lower explosive limit"

   If choice C is selected set score to 1.
45. What is NOT a precaution to be taken when topping off?

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

*If choice A is selected set score to 1.*

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

*If choice B is selected set score to 1.*

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

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

*If choice D is selected set score to 1.*

48. What should you do in order to reduce the accumulation of static electricity while loading petroleum products?

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

*If choice C is selected set score to 1.*

49. 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.*
50. On modern tankers with separate pumprooms, which of the following is used to minimize cargo pump shaft leakage?

- (A) Slinger rings
- (B) Stuffing box glands
- (C) Shaft sleeves
- (D) Mechanical seals

If choice D is selected, set score to 1.