

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. According to U.S. regulations, which of the following describes the declaration of inspection?
- A. paper issued by the Coast Guard marine inspector which allows you to conduct a transfer operation
 - B. application you must complete and submit to the Coast Guard to have an inspector visit your vessel
 - C. document signed by vessel and shore facility persons in charge declaring that all transfer requirements have been met
 - D. annual report submitted by vessel personnel to the Coast Guard declaring that all transfer equipment has been inspected

Correct answer: C

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

Correct answer: C

3. Which of the following describes the flash point temperature of a liquid?
- A. at which a liquid will give off inflammable vapors
 - B. that a liquid must reach before it will flow readily
 - C. at which a liquid will explode
 - D. at which a liquid will burn steadily

Correct answer: A

4. 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

Correct answer: D

5. 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. fire point
 - B. autoignition temperature
 - C. flash point
 - D. vaporization temperature

Correct answer: A

6. U.S. regulations require which of the following upon completion of oil transfer operations?
- A. all persons on duty during oil transfer shall be accounted for
 - B. all hoses shall be blown down with air
 - C. all valves used during transfer shall be closed
 - D. all soundings shall be entered in the oil record book

Correct answer: C

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

Correct answer: A

8. Which of the following is an example of a grade D product?
- A. aviation gas grade 115/145
 - B. commercial gasoline
 - C. kerosene
 - D. heavy fuel oil

Correct answer: C

9. According to U.S. regulations, tank vessels with greater than 250 barrels capacity 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

Correct answer: C

10. 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. gate valve
 - D. butterfly valve

Correct answer: C

11. Which of the following represents an emergency procedure used to stop the oil flow aboard tank vessels, of 250 tons or greater, as required by U.S. regulations?
- A. Manually-operated quick-closing valve
 - B. Quick-acting power actuated valve
 - C. Pressure-sensitive oil pressure controller
 - D. Self-closing emergency disconnect fitting

Correct answer: B

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

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

Correct answer: B

13. On a barge carrying bulk liquid hazardous cargo, remote controls for quick-closing shut off valves are required in how many location(s)?

- A. 1
- B. 2
- C. 3
- D. 4

Correct answer: B

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

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

Correct answer: B

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

- A. Outage
- B. Innage
- C. Thievage
- D. Ullage

Correct answer: B

16. Which statement is TRUE concerning insulating flanges?

- A. After the insulating flange is installed, hot-work may be performed on deck.
- B. The measured resistance value after installation should be less than 1,000 ohms.
- C. Switching off a cathodic protection system may be substituted for using an insulating flange.
- D. They should be inspected and tested periodically to ensure that the insulation is clean and in good condition.

Correct answer: D

17. 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 more harmful to sea life than lighter oils
- C. They are not a real threat to marine life
- D. They are less harmful to sea life than lighter oils

Correct answer: D

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

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

Correct answer: A

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

- A. Ullage
- B. Thieverage
- C. Innage
- D. Outage

Correct answer: C

20. 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%

Correct answer: C

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

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

Correct answer: B

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

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

Correct answer: C

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

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

Correct answer: A

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

Correct answer: C

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

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

Correct answer: B

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

- A. any certificated tankerman
- B. the person designated as "person in charge"
- C. the master of the vessel
- D. the officer of the watch

Correct answer: B

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

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

Correct answer: D

28. The person in charge on the vessel and the person in charge at the facility must hold a meeting before starting the transfer of oil. Who must decide to start the transfer?
- A. Both persons in charge
 - B. The person in charge at the facility
 - C. The person in charge of either place that is doing the pumping
 - D. The person in charge on the vessel

Correct answer: A

29. What is the lowest temperature at which a liquid will give off sufficient vapors to form a flammable mixture with air?
- A. lower explosive limit
 - B. flash point
 - C. fire point
 - D. threshold limit value

Correct answer: B

30. On tankers ullages are measured from what point?
- A. an above-deck datum such as the top of the ullage pipe
 - B. the tank ceiling aboard transversely framed vessels
 - C. the tank top
 - D. a thievery mark below the edge of the deck

Correct answer: A

31. Which statement about the use of portable electric lights in petroleum product tanks is TRUE?
- A. They can be used only when the compartment is gas free.
 - B. They must be explosion-proof, self-contained, battery-fed lamps.
 - C. No portable electric equipment of any type is allowed.
 - D. The fixture must be explosion-proof and the line must have a ground wire.

Correct answer: B

32. Your tank vessel is loaded down to her marks, and you find that she has too much trim by the stern. Which of the following actions would reduce the excessive trim?
- A. shift bunkers forward
 - B. load more cargo forward
 - C. add ballast forward
 - D. discharge cargo from the after tanks

Correct answer: A

33. 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. Sound the general alarm.
 - D. Shut down the operation.

Correct answer: D

34. What do the emergency shutdown requirements of U.S. regulations apply to?
- A. cargo transfer systems
 - B. air compressors
 - C. condensate pumps
 - D. induced draft fans

Correct answer: A

35. 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. grades of crude oil
 - C. degrees of quality of petroleum products
 - D. pour point, color, and viscosity index of petroleum products

Correct answer: A

36. What causes the most frequent incidents of pollution during tanker operations?
- A. groundings
 - B. collisions
 - C. routine discharge of oil during ballasting and tank crude oil washing
 - D. loading operations

Correct answer: D

37. 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. add ballast aft
 - B. shift cargo aft
 - C. load more cargo aft
 - D. shift ballast from the aft to forward

Correct answer: B

38. Who completes the Declaration of Inspection before loading a tank vessel?
- A. The American Bureau of Shipping
 - B. The manager of the shore facility
 - C. The designated person in charge
 - D. The US Coast Guard

Correct answer: C

39. According to U.S. regulations, which of the following conditions would disqualify a nonmetallic hose as being suitable for use in transferring oil?
- A. A cut in the cover which makes the reinforcement visible
 - B. Evidence of internal or external deterioration
 - C. A blown gasket when hydrostatic test pressure is applied
 - D. The hose has not been tested in the last 180 days

Correct answer: B

40. 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. Oil Record Book
 - B. machinery log
 - C. valve inspection record
 - D. Declaration of Inspection

Correct answer: D

41. According to U.S. regulations, which of the following does not qualify as a discharge of oil?
- A. Pumping oil overboard through a fixed piping system
 - B. Leakage of oil to the water by an improperly blanked transfer hose
 - C. Spilling oil on the main deck and having it flow over the side
 - D. Discharging oil into the sea for pollution research

Correct answer: D

42. The sign used to caution persons approaching the gangway of a tank barge during cargo transfer should state which of the following?
- A. "Danger, Do Not Board"
 - B. "Warning, No Smoking, No Open Lights, No Visitors"
 - C. "Warning, Keep Off, Stay Clear"
 - D. "Dangerous Cargo Being Transferred"

Correct answer: B

43. 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

Correct answer: D

44. Where would be the most likely location for a liquid cargo fire to occur on a tanker?
- A. in the pumproom
 - B. at the vent header
 - C. at the main deck manifold
 - D. in the midships house

Correct answer: A

45. What would likely happen if you were exposed to a 100% methane atmosphere for more than 15 minutes?
- A. suffocate
 - B. be severely burned
 - C. become quite ill due to the toxic nature of the gas
 - D. break out in a cryogenic rash

Correct answer: A

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

Correct answer: D

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

Correct answer: B

48. "Line Displacement" is a procedure that is followed at an oil terminal facility, when there is a change of which of the following?
- A. product before the start of loading
 - B. product after the final discharge
 - C. product during the final phase of loading
 - D. cargo lines at the terminal before loading

Correct answer: C

49. It would be prudent to perform which of the following actions prior to the commencement of bunkering?
- A. plug the sounding pipes
 - B. plug the vents
 - C. close the lids on the vents
 - D. plug the scuppers

Correct answer: D

50. 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%

Correct answer: D