

U.S.C.G. Merchant Marine Exam

Second Mate to Master
Less than 1600 Gross Registered Tons

Q130 Deck General – Safety

(Sample Examination)

Choose the best answer to the following Multiple-Choice Questions.

1. If the cause of a sudden severe list is negative initial stability, what may happen when counterflooding into empty tanks?
- A. An increase in the righting moment
 - B. Cause an increase in the righting arm
 - C. It will bring the vessel to an upright equilibrium position
 - D. It will cause the vessel to flop to a greater angle

Correct answer: D

2. Where is the pivoting point located on a fully loaded vessel with normal trim proceeding ahead at sea speed?
- A. Right at the bow
 - B. Two-thirds the length of the vessel from the bow
 - C. One-third the length of the vessel from the bow
 - D. One-half the length of the vessel from the bow

Correct answer: C

3. What is the penalty for desertion?
- A. Revocation of Merchant Mariner Credential and forfeiture of wages due
 - B. Forfeiture of money and property left on the vessel, and wages due
 - C. Imprisonment for not more than 2 years and/or a fine of not more than \$2000 dollars
 - D. Fine of not more than \$2000 dollars and forfeiture of wages

Correct answer: B

4. Which document has a list of names, birthplaces, and residences of persons employed on a merchant vessel bound from a U.S. port on a foreign voyage and is required at every port?
- A. The Shipping Articles for every crewmember
 - B. A Crew Manifest
 - C. A Muster List ("Station Bill")
 - D. A Crew List on form I-418

Correct answer: D

5. How deeply should the sternum be depressed when applying chest compressions on an adult victim during CPR?
- A. 1 to 1-1/2 inches
 - B. 1/2 to 1 inch
 - C. 1-1/2 to 2 inches
 - D. 1/2 inch or less

Correct answer: C

6. A maritime lien may be placed against which item(s)?
- A. Objects that are fixed and immovable, such as wharves
 - B. Any assets that a ship's owner may have
 - C. The vessel, cargo, or freight
 - D. The vessel only

Correct answer: C

7. A vessel has arrived in a U.S. port from a foreign voyage. Preliminary entry has been made. Formal entry must be made within how many hours after arrival (Sundays and holidays excepted)?
- A. 12
 - B. 24
 - C. 48
 - D. 72 without exception

Correct answer: C

8. A vessel loads 100 tons of glass jars. The mate on watch discovers that some of the cartons have been damaged and has an exception made on the Bill of Lading. What is this document called?
- A. Non-negotiable Bill of Lading
 - B. Unclean Bill of Lading
 - C. Damage Bill of Lading
 - D. Letter of Indemnity

Correct answer: B

9. Which officer is responsible for the sanitary condition of the engineering department?
- A. Chief Engineer
 - B. Chief Mate
 - C. Master
 - D. First Assistant

Correct answer: A

10. Your ship of 12,000 tons displacement has a center of gravity of 21.5 feet above the keel. You run aground and estimate the weight aground is 2500 tons. What would be the virtual rise in the center of gravity?
- A. 1.26 feet
 - B. 3.80 feet
 - C. 4.80 feet
 - D. 5.66 feet

Correct answer: D

11. Which term defines the process of dividing the total volume of the ship in cubic feet (after omission of exempted spaces) by 100?
- A. Light displacement
 - B. Net tonnage
 - C. Bale cubic
 - D. Gross tonnage

Correct answer: D

12. What is the name of the mark indicated by the letter F in illustration D003DG below?

- A. Fresh water load line
- B. Tropical load line
- C. Winter load line
- D. Summer load line

Correct answer: C

13. What is the difference between net tonnage and gross tonnage?

- A. Net tonnage is gross tonnage minus engine and bunker spaces.
- B. Net tonnage is the net weight of the ship.
- C. Net tonnage is tonnage of cargo compared to tonnage of whole ship.
- D. Net tonnage is the gross tonnage less certain deductible spaces.

Correct answer: D

14. When launching a lifeboat, when should frapping lines be rigged?

- A. When the boat is at the embarkation deck
- B. Only after the boat is in the water
- C. Before the boat is moved from the davits
- D. Before the gripes are released

Correct answer: A

15. Which agency deals with stowaways?

- A. Public Health
- B. U.S.D.A.
- C. Customs
- D. Immigration

Correct answer: D

16. A crew has signed on for a 3-month voyage. Fourteen days into the voyage a seaman is improperly discharged at the first port of call. How much pay is he entitled to receive?

- A. 14 days and one month's extra
- B. 1 month's
- C. double wages (28 days)
- D. 14 days

Correct answer: A

17. Your vessel is port side to a pier with a spring line led aft from the bow. How will the vessel respond in calm weather, with the engines ahead and hard left rudder?

- A. The bow will slip out and the stern in
- B. Both the bow and stern will move out
- C. Both the bow and stern will move in
- D. The bow will swing in and the stern out

Correct answer: D

18. You are the person in charge of a lifeboat when land is sighted. Due to a medical emergency you have made the decision to beach the lifeboat through the surf. Which of the following is of greatest consideration in making this decision?
- A. the likelihood of broaching or capsizing the survival craft
 - B. if there is a supply of freshwater near the landing area
 - C. if the surf appears less rough from the sea
 - D. the likelihood of the landing area being inhabited

Correct answer: A

19. Most of your vessel's superstructure is forward. How will the vessel lie when drifting with no way on?
- A. With the wind from abaft the beam
 - B. With the wind off the port beam
 - C. With the wind off the starboard beam
 - D. With the wind from ahead

Correct answer: A

20. Your vessel is equipped with totally enclosed lifeboats. Which statement is TRUE when the boat is enveloped in flames?
- A. A water spray system to cool the outside of the boat is operated by a high-volume manual pump.
 - B. The motor takes its air supply from outside the lifeboat to prevent asphyxiation of the crew.
 - C. The ventilators will automatically close by the action of fusible links.
 - D. An air tank will provide about ten minutes of air for the survivors and the engine.

Correct answer: D

21. What are the symptoms of seasickness?
- A. Reddening of skin and hives
 - B. Fever and thirst
 - C. Nausea and dizziness
 - D. Stomach cramps and diarrhea

Correct answer: C

22. You are approaching the pilot station with the wind fine on the starboard bow and making about 3 knots. You can help to calm the seas by taking what action just before the pilot boat comes along on the port side?
- A. Giving right full rudder
 - B. Stopping the engines
 - C. Backing full
 - D. A short burst of ahead full with left full rudder

Correct answer: D

23. You are the credentialed operator of a 100 GT towing vessel making coastwise runs. Which of the following must you do whenever a crew member is discharged from your vessel?
- A. Retain the crew member's Continuous Discharge Book onboard
 - B. Issue a Certificate of Discharge or make an entry in his Continuous Discharge Book
 - C. Issue a Certificate of Discharge and make an entry in his Continuous Discharge Book
 - D. Retain the crew member's Certificate of Discharge onboard

Correct answer: B

24. What is the function of an air receiver in the compressed air system?
- A. Provides overpressure protection
 - B. Utilized to store compressed air
 - C. Purifies the air
 - D. Condenses moisture

Correct answer: B

25. Instructions to the crew in the use of all the ship's fire-extinguishing and lifesaving equipment shall be completed within which time frame?
- A. Within any two-month period
 - B. Before sailing
 - C. Within one month and repeated quarterly
 - D. Within one week of sailing

Correct answer: A

26. In relation to the turning circle of a ship, which describes the term "advance"?
- A. The distance around the circumference of the turning circle
 - B. The distance moved sidewise from the original course when the rudder is first put over
 - C. The distance gained at right angles to the original course
 - D. The distance gained in the direction of the original course

Correct answer: D

27. Which statement about general average is TRUE?
- A. Of the ship, the freight, and the cargo interests, only one need be involved.
 - B. The loss or damage to deck cargo due to heavy weather constitutes general average.
 - C. Damage to a ship must have been incurred while the ship and/or its machinery was being used for its intended purpose.
 - D. Property must have been sacrificed or an expenditure of money incurred.

Correct answer: D

28. When launching a lifeboat, how should the tricing pennants be released?
- A. Before the boat is lowered from the embarkation level
 - B. As the boat-fall blocks break clear of the davit head
 - C. After the boat is released into the water
 - D. Before the boat is lowered from the stowed position

Correct answer: A

29. When taking a Pilot from a pilot vessel in a seaway, which way should you head your vessel if the ladder is on the leeward side?
- A. Sea on the lee quarter with ship moving ahead slowly
 - B. Sea on the quarter with sternway on the ship
 - C. Bow to the sea and no way on your vessel
 - D. Sea on the weather bow and ship moving ahead slowly

Correct answer: D

30. The S.S. Hollowpoint has a charter party in which the charterer assumes no responsibility for the operation of the vessel but pays stevedoring expenses. What is the name of the charter party?
- A. Voyage
 - B. Demise
 - C. Bareboat
 - D. Dispatch

Correct answer: A

31. Which is described as a wedge of water building up between the bow and the nearer bank which forces the bow out and away?
- A. Bank suction
 - B. Bend effect
 - C. Combined effect
 - D. Bank cushion

Correct answer: D

32. A vessel loads 5000 tons of manganese ore. The railroad cars that brought the ore to the vessel were previously loaded with iron ore so the ore is contaminated. The agent requests the Master to sign a Clean Bill of Lading and in return the shipper will give him a Letter of Indemnity. What is the best procedure to follow?
- A. Refuse to sign a Clean Bill of Lading.
 - B. Sign a Clean Bill of Lading under protest.
 - C. Sign a Clean Bill of Lading and accept the Letter of Indemnity.
 - D. Sign the Clean Bill of Lading and have the agent countersign it.

Correct answer: A

33. Due to the nature of a vessel's construction for a particular trade, it does not fully comply with the provisions of SOLAS. Where will this be indicated?
- A. On the Exemption Certificate
 - B. On the face of the Certificate of Inspection
 - C. Nowhere; the vessel must comply to engage in international trade.
 - D. On the reverse of the particular SOLAS certificate affected

Correct answer: A

34. You are docking a vessel. When are the wind and current most favorable in this situation?

- A. When they are crossing your course, both in the same direction
- B. When they are crossing your course, in opposite directions to the other
- C. When they are both parallel to the pier from ahead
- D. When they are both setting you on the pier

Correct answer: C

35. Prior to lowering the lifeboat, which is the most important item to check?

- A. Sail
- B. Oars
- C. Boat plug
- D. Life preservers

Correct answer: C

36. Which lien against a vessel would be settled FIRST?

- A. Salvage lien
- B. Maintenance and cure
- C. Ship repairer's lien
- D. Vessel mortgage

Correct answer: A

37. In heavy seas, how should the helmsman steer the lifeboat?

- A. Broadside to the seas
- B. In a series of figure-eights
- C. In the same direction as the seas
- D. With the seas slightly off of the bow

Correct answer: D

38. When is the best time to work a boat into a slip?

- A. At slack water
- B. When the wind is against you
- C. When there is a cross current
- D. When the current is setting against you

Correct answer: A

39. How does the effect known as "bank suction" act on a single-screw vessel proceeding along a narrow channel?

- A. It heels the vessel toward the bank.
- B. It pulls the bow toward the bank.
- C. It pushes the entire vessel away from the bank.
- D. It pulls the stern toward the bank.

Correct answer: D

40. The Safety of Life at Sea Convention was developed by which organization?

- A. American Institute of Maritime Shipping
- B. International Maritime Organization
- C. American Bureau of Shipping
- D. U.S. Coast Guard

Correct answer: B

41. Keeping the draft at or below the load line mark will ensure that the vessel has which of the following?

- A. Reserve buoyancy
- B. Normal rolling periods
- C. Adequate ballast
- D. Minimal displacement

Correct answer: A

42. In an emergency, which can directly control the electro-hydraulic steering units on the vessel?

- A. The trick wheel in the steering gear room
- B. The Rapson's slide in the steering gear room
- C. The receiver unit
- D. The follow-up gear

Correct answer: A

43. How can the Coast Guard determine that a crew member is "able to understand any order spoken by the officers"?

- A. Require a demonstration by the officer and the crew member
- B. Require that an interpreter be provided
- C. Require a written test
- D. All of the above

Correct answer: A

44. To increase the extent of flooding your vessel can suffer without sinking, you could take which action?

- A. Ballast the vessel
- B. Raise the center of gravity
- C. Lower the center of gravity
- D. Increase reserve buoyancy

Correct answer: D

45. When should the lubricating oil be changed on a heavy-duty diesel engine?

- A. Only when a sample rubbed between fingers feels thin
- B. When it gets dark in color
- C. When it has been in use for a specified interval
- D. When it no longer supports combustion

Correct answer: C

46. Your vessel is proceeding through a narrow channel. What actions can you take to avoid any sudden sheers of the vessel?
- A. Reduce speed and stay to the outer limits of the channel
 - B. Put your offshore anchor well in the water
 - C. Reduce speed and stay in the deepest part of the channel
 - D. Increase speed and stay to the outer limits of the channel

Correct answer: C

47. Which space(s) is(are) exempt when measuring gross tonnage?
- A. Auxiliary machinery spaces above the uppermost continuous deck
 - B. Steering gear room
 - C. Part of the wheelhouse used to control vessel
 - D. All of the above

Correct answer: D

48. After an engine is started which is the best action(s) to take?
- A. Increase engine speed to insure adequate flow of oil to all parts of the engine
 - B. Run the engine at idle until the temperature has increased
 - C. Check operating pressures and temperatures, and check for leaks
 - D. Pay no attention unless there are unusual noises from the engine

Correct answer: C

49. What is the purpose of the intake/exhaust valves in a diesel engine?
- A. They regulate the combustion cycle
 - B. They supply cooling water
 - C. They synchronize the ignition spark
 - D. They supply and regulate the lubricant flow

Correct answer: A

50. Which term describes the time allowed for loading and discharging cargo in a charter party?
- A. Lay days
 - B. Demurrage
 - C. Charter hire
 - D. Dispatch

Correct answer: A

51. A vessel is described as a two-compartment vessel when it _____.
- A. will float if any two adjacent compartments are flooded
 - B. has no more than two compartments
 - C. has two compartments in addition to the engine room
 - D. will sink if any two compartments are flooded

Correct answer: A

52. Your stability calculations indicate your vessel has a marginal GM. Which of the following is the most effective way to increase the stability of the vessel?
- A. Raise the center of gravity and raise the center of buoyancy
 - B. Lower the center of buoyancy and raise the center of gravity
 - C. Raise the center of buoyancy and reduce freeboard
 - D. Lower the center of gravity and raise reserve buoyancy

Correct answer: D

53. Your enrolled vessel is bound from Baltimore, MD, to Norfolk, VA, via Chesapeake Bay. Which statement about the required Pilot is TRUE?
- A. The Pilot must be credentialed by Virginia, Maryland and the Coast Guard.
 - B. The Pilot must be credentialed by Virginia and Maryland.
 - C. The Pilot must be credentialed by either Virginia or Maryland.
 - D. The Pilot need only be credentialed by the Coast Guard.

Correct answer: D

54. What is the name of the mark indicated by the letter C in illustration D003DG below?
- A. Tropical water line
 - B. Winter North Atlantic water line
 - C. Summer water line
 - D. Fresh water line

Correct answer: D

55. When paying off seamen in a foreign port, where a United States consul is not available, the release must be executed by the seamen and which other person?
- A. The Master of the vessel
 - B. A representative of the foreign country
 - C. The local port authority representative
 - D. The ship's union delegate

Correct answer: A

56. What is the most useful drug to reduce a high fever?
- A. Aspirin
 - B. Bicarbonate of soda
 - C. Aromatic spirits of ammonia
 - D. Paregoric

Correct answer: A

57. In general, how often are sanitary inspections of passenger and crew quarters made aboard passenger vessels in river service?
- A. Once each day
 - B. Once each week
 - C. Once each month
 - D. Once each trip

Correct answer: C

58. A person is exhibiting signs of hypothermia and starts to shiver, what does this indicate?

- A. The body is in the final stages of severe hypothermia
- B. The body is trying to generate more heat
- C. The body is dilating blood vessels to conserve heat
- D. The body requires a rapid increase in core temperature

Correct answer: B

59. A fire has damaged 20 bales of cotton on a freighter loaded with general cargo. How would this claim be handled?

- A. As a general average claim
- B. As a constructive total loss claim
- C. As a particular average claim
- D. As a total loss of a part claim

Correct answer: C

60. When may a seaman on a vessel engaged in foreign trade be paid before earning the wages?

- A. The seaman may only draw an advance on earned wages.
- B. The advance of wages is at the discretion of the master; however, a seaman cannot be in an overpaid status at signoff.
- C. Wages equivalent to three days base wage may be advanced upon arrival in a foreign port.
- D. Wages up to fifty percent of the seaman's base wage may be advanced upon proof of serious family illness.

Correct answer: A

61. You are 15 feet off a pier and docking a vessel using only a bow breast line and stern breast line. Once the slack is out of both lines you begin to haul in on the bow breast line. What is the effect on the vessel?

- A. The bow will come in and the stern will remain the same distance off the pier.
- B. The stern will come in and the bow will remain the same distance off the pier.
- C. The bow will come in and the stern will go out.
- D. The bow and stern come in equally closer toward the pier.

Correct answer: A

62. Which group is sighted as being the originator of the Safety of Life at Sea Convention?

- A. U.S. Coast Guard
- B. American Institute of Maritime Shipping
- C. American Bureau of Shipping
- D. International Maritime Organization

Correct answer: D

63. What should you do if a crewman suffers a second-degree burn on the arm?

- A. Immerse the arm in cold water
- B. Apply antiseptic ointment
- C. Drain any blisters
- D. Scrub the arm thoroughly to prevent infection

Correct answer: A

64. How does the rotation of the steering wheel on the navigation bridge initiate oil pressure being applied to the steering gear rams?
- A. By regulating the oil flow with the six-way valve
 - B. It is moving the automatic differential valve
 - C. By varying the angle of a tilting box or eccentricity of a floating ring
 - D. It is moving the follow up indicator which regulates the six-way valve

Correct answer: C

65. A vessel reduces speed without backing. Which item is the primary factor that determines the rate that her speed through the water decreases?
- A. The vessel's horsepower
 - B. The number of propellers
 - C. The sea state
 - D. The vessel's displacement

Correct answer: D

66. You have steamed 803 miles at 13 knots, and consumed 179 tons of fuel. If you have 371 tons of usable fuel remaining, how far can you steam at 16 knots?
- A. 1099 miles
 - B. 2581 miles
 - C. 1833 miles
 - D. 1374 miles

Correct answer: A

67. You have steamed 746 miles at 14.0 knots and consumed 152 tons of fuel. If you have 201 tons of usable fuel remaining, how far can you steam at 10 knots?
- A. 2707 miles
 - B. 1934 miles
 - C. 1381 miles
 - D. 2263 miles

Correct answer: B

68. Multiple factors will have an effect on your vessel when it is maneuvering in restricted waters. Which of the following factors is the combination of sinkage and trim of the vessel?
- A. Squat
 - B. Bank suction
 - C. Bank cushion
 - D. Heel

Correct answer: A

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Illustrations: 1

69. While assigned to a 106 GRT vessel, you are required to sign "foreign" articles on a voyage from San Francisco to which port?
- A. Vancouver, Canada (west coast)
 - B. Mazatlan, Mexico (west coast)
 - C. New York, NY
 - D. Vera Cruz, Mexico (east coast)

Correct answer: C

70. Addition of weight to a vessel will ALWAYS _____.
- A. increase GM
 - B. increase righting moments
 - C. reduce reserve buoyancy
 - D. All of the above

Correct answer: C

D003DG

