

## U.S.C.G. Merchant Marine Exam

Mate Less than 500-1600 Gross Registered Tons

Q327 Deck General

(Sample Examination)

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

1. Your vessel is going from a warm climate to a cold climate with a hygroscopic cargo. Which statement is TRUE?
- A. You must ventilate constantly and vigorously to combat ship sweat.
  - B. There is little danger of any sweat problem.
  - C. There is danger of heavy cargo sweat if you ventilate.
  - D. You should ventilate; there is little danger of ship sweat, but a possibility of cargo sweat.

Correct answer: A

2. Which part of an anchor actually digs into the bottom?
- A. Crown
  - B. Stock
  - C. Fluke
  - D. Shank

Correct answer: C

3. Which action should you take FIRST when preparing to hoist the anchor?
- A. Put the brake in the off position
  - B. Raise riding pawl off of the chain
  - C. Take off the chain stopper
  - D. Lock in the wildcat

Correct answer: D

4. What is the FIRST action to take if you detect oil around your tank vessel while discharging petroleum products?
- A. Shut down operations
  - B. Have the pumpman check the discharge piping
  - C. Try to find out where the oil is coming from
  - D. Call the Master

Correct answer: A

5. The galley on your cargo vessel has an area of 2,500 square feet. Which of the following would fulfill the minimum requirements for fire protection?
- A. One A-II extinguisher or post 2017 One 2-A extinguisher
  - B. One B-II extinguisher or post 2017 One 40-B:C extinguisher
  - C. One B-II and One C-II extinguisher or post 2017 One 40-B and One 40-C extinguisher
  - D. One B-V extinguisher or post 2017 One 160-B extinguisher

Correct answer: B

6. Corrosive liquids and acids should have what kind of label?

- A. Skull and crossbones
- B. White and Black
- C. Red and White
- D. Yellow

Correct answer: B

7. You have determined the maneuvering characteristics of your vessel by taking radar ranges and bearings of an isolated light while making a turn. The results are shown in illustration D035DG below. What is the transfer for a turn of 90°?

- A. 400 yards
- B. 430 yards
- C. 485 yards
- D. 525 yards

Correct answer: A

8. What is one of the main purposes of dunnage?

- A. To provide ventilation and drainage for cargo
- B. To support weakened bulkheads
- C. To secure the tarpaulins in place
- D. To act as ballast for light vessels

Correct answer: A

9. Which item is a journal kept by the officer of the watch in which day to day happenings are recorded regarding the deck department?

- A. The deck log
- B. The bell book
- C. A cargo record book
- D. The Official Logbook

Correct answer: A

10. You will load class 1.2 commercial explosives and need to construct a portable magazine. Which is a requirement of the magazine?

- A. The construction must include a hinged cover
- B. The unit shall be fastened with nails or screws
- C. It must be elevated with skids 10cm (3.9 inches) above the deck
- D. It must be constructed of metal

Correct answer: C

11. According to regulations, how many portable fire extinguishers are required in the cargo tank area of an unmanned, cargo pump-equipped tank barge engaged in transferring grade B flammable liquids?
- A. Two B-II extinguishers or post 2017 Two 40-B extinguishers
  - B. One B-I extinguisher or post 2017 One 40-B extinguisher
  - C. None are required in the tank area of a tank barge
  - D. Three B-II extinguishers or post 2017 Three 40-B extinguishers

Correct answer: A

12. The most likely time for oil pollution while bunkering is when \_\_\_\_\_.
- A. hoses are being blown down
  - B. hoses are disconnected and being capped
  - C. final topping off is occurring
  - D. first starting to receive fuel

Correct answer: C

13. Each hose used for transferring vapors must be which of the following?
- A. have a design burst pressure of at least 25 psig
  - B. be capable of withstanding at least 2.0 psi vacuum without collapsing or constricting
  - C. be electrically continuous with a maximum resistance of 10,000 ohms
  - D. All of the above

Correct answer: D

14. You are transporting dangerous cargo on your vessel. Who is required to sign the Dangerous Cargo Manifest acknowledging the correctness of the document?
- A. The shipper
  - B. Only the Master
  - C. The Master or his authorized representative
  - D. A U.S. Coast Guard Marine Inspector

Correct answer: C

15. Which BEST describes a wildcat?
- A. A line that has jumped off the gypsyhead while under strain
  - B. A nylon line that has parted under strain and whips back in a hazardous manner
  - C. A deeply grooved drum on the windlass with sprockets which engage the links of the anchor chain
  - D. The winch that is running out of control due to a failure of the overspeed trips

Correct answer: C

16. Which would be the BEST condition for your vessel to enter into pack ice?
- A. The vessel is on an even keel
  - B. The vessel is ballasted so the forefoot is near the surface
  - C. The vessel is trimmed slightly by the head
  - D. The vessel has a drag of not more than 2 to 3 feet

Correct answer: D

17. If a tug equipped with flanking rudders is to be turned in a confined circle, when going astern, which is the best action to take to make the stern move to port?
- A. All of the rudders are hard to starboard
  - B. The rudder is hard to port and the flanking rudders are hard to starboard
  - C. The rudder is hard to port and the flanking rudders are hard to port
  - D. The rudder is amidships and the flanking rudders are hard to port

Correct answer: C

18. Sidewise force of the propeller tends to throw a vessel's stern to the right or left, depending on rotation. Which causes this force?
- A. Greater pressure on the right or left side of the propeller, depending on rotation
  - B. Lower pressure on the right or left side of the propeller, depending on rotation
  - C. The back current from the rudder
  - D. The torque from the velocity and angle at which the surrounding water impinges upon the propeller blades

Correct answer: D

19. When operating in an area where sea ice and icebergs are present, which statement is TRUE?
- A. Icebergs may travel in a direction many degrees different from the sea ice.
  - B. Both icebergs and sea ice will move in approximately the same direction and at the same speed.
  - C. Icebergs and sea ice will move in the same direction, but the iceberg will move slower because of its underwater bulk.
  - D. Icebergs and sea ice will move in the same direction, but at different speeds due to the sail effect of the berg.

Correct answer: A

20. Which product(s) is(are) compatible with the product ethylene cyanohydrin?
- A. Isocyanates
  - B. Nitric acid
  - C. Sulfuric acid
  - D. Ammonia

Correct answer: D

21. Which of the following is a rope ladder with wooden rungs?
- A. A Jacob's ladder
  - B. A life ladder
  - C. A jury ladder
  - D. A drop ladder

Correct answer: A

22. When talking about wire rope, what does the lay of the wire refer to?

- A. The direction the core is twisted
- B. The direction wires and strands are twisted together
- C. The material used in the core
- D. The number of strands in the wire

Correct answer: B

23. Which item is designed to show the position of the Rudder on the bridge?

- A. The Rapson slide indicator
- B. The telemotor position
- C. The rudder angle indicator
- D. The follow-up gear

Correct answer: C

24. You discharge food waste overboard at sea. You have recorded your vessel's position as required, what other items must be included in the report?

- A. The vessel's latitude, longitude, date and time of the discharge
- B. The vessel's latitude, longitude, course, speed, and a copy of that day's noon position slip
- C. The vessel's latitude and longitude is all that is required
- D. The vessel's latitude, longitude and approximate depth of water

Correct answer: A

25. When shall an Operator of an Uninspected Passenger Vessel be required to produce his/her MMC?

- A. An Operator of an Uninspected Passenger Vessel is not required to carry his/her MMC
- B. Immediately, when requested by a USCG boarding officer
- C. Only when the vessel has at least 6 passengers for hire and requested by a USCG boarding officer
- D. Only when the vessel is involved in a marine accident

Correct answer: B

26. Unless extremely flexible wire rope is used, the sheave diameter should always be as large as possible. Which is the Coast Guard rule for correct sheave diameter?

- A. 20 times the wire rope diameter
- B. Match the rope diameter
- C. 2 times the wire rope diameter
- D. 10 times the wire rope diameter

Correct answer: A

27. Which agency must approve the safety equipment on board inspected vessels?

- A. The Occupational Safety and Health Administration (OSHA)
- B. The U.S. Coast Guard
- C. The National Safety Council
- D. The Safety Standards Bureau

Correct answer: B

28. Your ship is in shallow water and the bow rides up on its bow wave while the stern sinks into a depression of its transverse wave system. What is this called?

- A. Squatting
- B. Parallel sinkage
- C. Fish tailing
- D. Broaching

Correct answer: A

29. Official proof of an American vessel's nationality is contained in which document?

- A. Shipping Articles
- B. Certificate of Inspection
- C. Certificate of Documentation
- D. Official Log

Correct answer: C

30. Which defines the process of cargoes segregation?

- A. The separating of cargoes by final destination and block stowing to avoid overcarriage
- B. The separating of cargoes so that the inherent characteristics of one cannot damage the other
- C. To classifying cargoes according to their toxicity
- D. Listing the cargoes in order of their flammability

Correct answer: B

31. When bunkering at a dock which of the following signals must be displayed?

- A. A red flag by day, a blue light by night
- B. A green flag by day, green light by night
- C. A yellow flag by day, red light by night
- D. A red flag by day, red light by night

Correct answer: D

32. Which is the proper term for a band or collar on the top end of a boom to which the topping lift, midships guy, and outboard guys are secured?

- A. A pad eye collar
- B. The guy band
- C. The spider band
- D. A collar band

Correct answer: C

33. Generally speaking, which is the most favorable bottom for anchoring your vessel?

- A. Loose sand bottoms
- B. Very soft mud
- C. A mixture of mud and clay
- D. Rocky with vegetation

Correct answer: C

34. Prior to being able to sail, each vessel that carries grain in bulk must have a certificate of loading. Which organization issues this certificate?

- A. American Bureau of Shipping
- B. National Cargo Bureau
- C. Lloyds of London
- D. U.S. Salvage

Correct answer: B

35. As a general guide, under which condition should hygroscopic cargoes be ventilated?

- A. When the dew point of the air in the hold is very low
- B. When the dew point of the outside air is greater than the dew point of the air in the hold
- C. When the outside dew point is 60°F (16°C) and the cargo temperature is 54°F (12°C)
- D. When going from a warm to a cold climate

Correct answer: D

36. In accordance with U.S. regulations which of the following is the proper label name for a class 6.1 substance?

- A. Corrosive
- B. Organic Peroxide
- C. Oxidizer
- D. Poison

Correct answer: D

37. Which action has a tendency to happen to a vessel proceeding along the bank of a river or channel with steep banks?

- A. The vessel will sheer away from the bank
- B. The vessel will increase speed
- C. The vessel will continue in line with the bank
- D. The vessel will hug the bank

Correct answer: A

38. On a passenger vessel over 400 gross tons, in which section are the routine entries recorded in the Oil Record Book?

- A. Part III (Emergency Discharge/Spillage)
- B. Part I (Machinery Space Operations)
- C. An Oil Record Book is not required on this vessel
- D. Part II (Cargo Oil/Ballast Operations)

Correct answer: B



39. What are the health hazard ratings for a product of triethylbenzene?

- A. 1,1,1
- B. 2,2,2
- C. 0,1,1
- D. Unavailable

Correct answer: A

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

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

Correct answer: C

41. As a ship moves through the water, it causes a wake, which is also moving forward relative to the sea. In addition to a fore and aft motion, which direction will the wake flow?

- A. Upward and inward flow
- B. Upward and outward flow
- C. Downward and inward flow
- D. Downward and outward flow

Correct answer: A

42. According to regulations, which choice depicts the bursting pressure of a cargo hose used for transferring liquefied gases?

- A. Five times the maximum working pressure on the hose during cargo transfer
- B. Five times the minimum working pressure on the hose during cargo transfer
- C. One and a half times the designed working pressure
- D. Four times the pressure of the cargo pump used for transferring

Correct answer: A

43. You are carrying cargoes of crotonaldehyde, phosphoric acid, and morpholine on your multiple-product tankship. Which of the following statements is TRUE?

- A. The required warning sign must have the legend "cancer hazard" added to it.
- B. Aluminum, copper, and zinc are prohibited in all valve parts in contact with these cargoes.
- C. The morpholine cargo must be segregated from the others by at least two barriers.
- D. The minimum protective clothing required for taking samples of phosphoric acid is goggles or a face shield.

Correct answer: C

44. The tankship Northland is loaded as shown in table BL-0004 below. Use the salmon-colored pages in the Stability Data Reference Book to determine the hogging numeral.

**BL-0004**

<b>LONGITUDINAL BENDING STRESSES (PSI)</b>		
	<b>DESCRIPTION</b>	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	5229
7.	#2 CARGO TANK	5193
8.	#3 CARGO TANK	4229
9.	#4 CARGO TANK	5116
10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
12.	BRIDGE F.W.	15
13.	#5 CARGO TANK	3956
14.	#6 BALLAST TANK	1628
15.	#7 CARGO/BALLAST TANK	5929
16.	#8 CARGO/BALLAST TANK	6012
17.	#9 CARGO/BALLAST TANK	0
18.	#10 CARGO TANK	5417
19.	#11 CARGO TANK	3257
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	900
22.	AFT SETTLERS	325
23.	DISTILLED WATER	56
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	375

- A. 49.73 numeral
- B. 52.76 numeral
- C. 55.29 numeral
- D. 57.93 numeral

Correct answer: A

45. Most of your vessel's superstructure is forward. How will the vessel lie when drifting with no way on?

- A. With the wind off the starboard beam
- B. With the wind from abaft the beam
- C. With the wind from ahead
- D. With the wind off the port beam

Correct answer: B

46. Which may indicate the proximity of pack ice?

- A. Frequent changes in air temperature
- B. White glare on clouds on the horizon
- C. Icebergs
- D. Rapid changes in seawater salinity

Correct answer: B

47. What action should the helmsman take when hearing the command "ease the rudder"?

- A. Bring the rudder amidships
- B. Decrease the rudder angle
- C. Move the rudder slowly in the direction of the most recent rudder command
- D. Steer the course which is your present heading

Correct answer: B

48. You are in port A in the United States, and your Certificate of Inspection has expired. You wish to go to port B in the United States for repairs and to complete the inspection. If the Officer-in-Charge Marine Inspection deems it safe, he may issue which document?

- A. Certificate of Seaworthiness
- B. Limited Certificate of Inspection
- C. Temporary Certificate of Inspection
- D. Permit to Proceed

Correct answer: D

49. Your vessel is being assisted through an ice field in Thunder Bay by the Canadian Coast Guard icebreaker Alexander Henry. The starboard lookout reports that the icebreaker has run up the code flag "N" (November). Which action should you take?

- A. Reverse your engines
- B. Reduce speed
- C. Stop your engines
- D. Stop your vessel instantly

Correct answer: C

50. Camphor oil is classified as a \_\_\_\_\_.

- A. Grade A flammable liquid
- B. Grade C flammable liquid
- C. Grade D combustible liquid
- D. Grade E combustible liquid

Correct answer: C

51. A flame screen \_\_\_\_\_.

- A. prevents the passage of flammable vapors
- B. permits vapors to exit but not enter a tank
- C. permits the passage of vapor but not of flame
- D. prevents inert gas from leaving a tank

Correct answer: C

52. As soon as the officer in charge of the vessel has taken steps to stop the discharge of oil or oily mixture into a U.S. harbor, what must they do FIRST?

- A. Rig a boom on deck
- B. Alert the fire department
- C. Inform the Environmental Protection Agency
- D. Contact the Coast Guard

Correct answer: D

53. Which defines the pitch of a propeller on a merchant vessel?

- A. The number of feet per revolution the propeller is designed to advance in still water without slip
- B. The positive pressure resulting from the difference of the forces on both sides of the moving propeller in still water without slip
- C. The angle that the propeller makes with the surface of the water
- D. The angle that the propeller makes with a free stream of water

Correct answer: A

54. When loading a high-density, solid bulk cargo, proper distribution of weights is necessary to \_\_\_\_\_.

- A. prevent excessive longitudinal stresses
- B. prevent negative stability from developing
- C. provide the proper trim
- D. control list

Correct answer: A

55. You observe a V-shaped ripple with the point of the V pointing upstream in a river. What may this indicate?

- A. A submerged rock, not dangerous to navigation
- B. A towed-under buoy
- C. A sunken wreck, not dangerous to navigation
- D. All of the above

Correct answer: B

56. Which statement is correct concerning the carriage of coal in bulk?

- A. Dunnage should be placed against ship's sides and around stanchions.
- B. Coal should be vented with surface ventilation only.
- C. Through ventilation, as well as surface ventilation, should be provided whenever possible.
- D. Because of its inherent vice, coal should not be loaded wet.

Correct answer: B

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

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

Correct answer: D

58. For any given pedestal crane, when the boom is lengthened, the lifting capacity is \_\_\_\_\_.

- A. decreased
- B. unchanged
- C. eliminated
- D. increased

Correct answer: A

59. What is the main advantage and chief characteristic of a Steulchen boom?

- A. It is collared to the mast
- B. It can be operated by one winchman
- C. It can be swung from one hatch to the adjacent hatch
- D. It is cradled on deck when secured for sea

Correct answer: C

60. Which document is NOT required by law to be posted aboard a vessel?

- A. Official Crew List
- B. Officer's licenses
- C. Certificate of Inspection
- D. Muster List

Correct answer: A

61. You are conducting trials to determine the maneuvering characteristics of your vessel. While making a turn, you take ranges and bearings of an isolated light with the results as shown. Based on this information, what is the advance for a turn of 45°? Illustration D034DG

- A. 590 yards
- B. 635 yards
- C. 690 yards
- D. 740 yards

Correct answer: C

62. In accordance with U.S. regulations which of the following is the proper label name for a class 6.2 substance?

- A. Corrosive substance
- B. Poison
- C. Oxidizer
- D. Infectious substance

Correct answer: D

63. The tankship Northland is loaded as shown in table BL-0003 below. Use the salmon-colored pages in the Stability Data Reference to determine the sagging numeral.

**BL-0003**

<b>LONGITUDINAL BENDING STRESSES (PSI)</b>		
	<b>DESCRIPTION</b>	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	5229
7.	#2 CARGO TANK	5193
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10.	BRIDGE CREW	3
11.	BRIDGE STORES	12
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17.	#9 CARGO/BALLAST TANK	0
18.	#10 CARGO TANK	5417
19.	#11 CARGO TANK	3257
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	900
22.	AFT SETTLERS	325
23.	DISTILLED WATER	56
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	57
27.	AFT PEAK	375

- A. 71.07 numeral
- B. 74.95 numeral
- C. 77.56 numeral
- D. 78.29 numeral

Correct answer: D

64. Fuel oil tank vents are fitted with a screen which will stop \_\_\_\_\_.

- 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

Correct answer: B

65. Which is TRUE of the Great Lakes Edition of the Notice to Mariners?

- A. It is published biweekly by the Commandant, U.S. Coast Guard
- B. It is published monthly by the Naval Oceanographic office
- C. It is published monthly by the Army Corps of Engineers
- D. It is published weekly by the 9th Coast Guard District

Correct answer: D

66. When is a lookout permitted to leave his station?

- A. Only when properly relieved
- B. At the end of the watch
- C. 15 minutes before the end of the watch
- D. At any time

Correct answer: A

67. To find the distance the strands should be unlaidd for a Liverpool eye splice, multiply the diameter of the wire in inches by which factor?

- A. 12
- B. 24
- C. 36
- D. 48

Correct answer: C

68. Which statement about tunnel bow thrusters fitted to large vessels is TRUE?

- A. Because of their location, most modern installations have as much power as a tug.
- B. They are fully effective at all drafts.
- C. They are effective on most vessels at speeds up to 10 knots.
- D. When going astern at slow speed, they provide effective steering control.

Correct answer: D

69. What is the period of validity of a Merchant Mariner Credential?

- A. 5 years
- B. 3 years
- C. 2 years
- D. 1 year

Correct answer: A

Q327 Deck General  
U.S.C.G. Merchant Marine Exam  
Mate Less than 500-1600 Gross Registered Tons  
Illustrations: 2

70. What is the breaking strain of steel wire rope with a 5/8" diameter?

- A. 1.0 tons
- B. 6.6 tons
- C. 9.6 tons
- D. 15.6 tons

Correct answer: C



## D034DG

HEADING (TRUE)	BEARING (TRUE)	RANGE (YDS)	REMARKS
228°			INITIAL HEADING
228°	232°	2260	ON INITIAL COURSE
228°	234°	1700	RIGHT FULL RUDDER ORDERED
230°	236°	1490	
252°	235°	1275	
275°	231°	1000	
316°	214°	850	
352°	198°	975	
022°	194°	1210	
053°	197°	1430	
087°	202°	1600	
115°	209°	1690	
151°	217°	1700	
183°	225°	1600	
218°	232°	1350	RUDDER AMIDSHIPS
228°	235°	1125	STEADY ON 228°

## D035DG

HEADING (TRUE)	BEARING (TRUE)	RANGE (YDS)	REMARKS
333°			INITIAL HEADING
333°	315°	2125	ON INITIAL COURSE
333°	310°	1650	LEFT FULL RUDDER ORDERED
327°	307°	1475	
310°	303°	1250	
278°	302°	1050	
268°	305°	900	
236°	318°	750	
196°	337°	800	
157°	344°	1100	
113°	340°	1350	
079°	332°	1525	
050°	324°	1575	
022°	318°	1550	
343°	308°	1400	RUDDER AMIDSHIPS
333°	302°	1175	STEADY ON 333°