U.S.C.G. Merchant Marine Exam

Second/Third Mate of Unlimited Tonnage

Q111 Deck General

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

1. Which is an example of a messenger?
   - (A) Stay
   - (B) Heaving line
   - (C) Fairlead
   - (D) Warp
   
   If choice B is selected set score to 1.

2. What is the purpose of Chafing gear?
   - (A) It is used to anchor the boat
   - (B) It can pick up heavy loads
   - (C) It protects fiber rope from abrasion
   - (D) It strengthens mooring lines
   
   If choice C is selected set score to 1.

3. You are using tackle number 12 as shown in illustration D029DG below to lift a weight. The hauling part of this tackle is bent to the weight hook (w) of tackle number 2. What is the mechanical advantage of this rig?
   - (A) 9
   - (B) 10
   - (C) 14
   - (D) 21
   
   If choice C is selected set score to 1.

4. Which position shown in illustration D019DG below is the most dangerous when tying up?
   - (A) III
   - (B) IV
   - (C) II
   - (D) I
   
   If choice D is selected set score to 1.
5. You are using tackle number 6 as shown in illustration D029DG below to lift a weight. The hauling part of this tackle is bent to the weight hook (w) of tackle number 8. Disregarding friction, what is the mechanical advantage of this rig?

- (A) 11
- (B) 16
- (C) 18
- (D) 24

If choice C is selected set score to 1.

6. 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

If choice C is selected set score to 1.

7. When must a proper look-out be kept?

- (A) Only between the hours of sunset and sunrise
- (B) Only when entering and leaving port
- (C) Only in fog
- (D) At all times

If choice D is selected set score to 1.

8. How many fathoms are in a shot of anchor cable?

- (A) 6
- (B) 15
- (C) 20
- (D) 30

If choice B is selected set score to 1.

9. To safely anchor a vessel there must be sufficient "scope" in the anchor cable. Which BEST defines the term scope?

- (A) The ratio of the weight of cable to the weight of vessel
- (B) The ratio of the length of cable to the depth of water
- (C) The ratio of the length of anchor to the depth of water
- (D) The ratio of the weight of cable to the weight of the anchor

If choice B is selected set score to 1.
10. How many feet are there in 2 shots of anchor chain?

   - (A) 50
   - (B) 60
   - (C) 180
   - (D) 360

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

11. On an anchor windlass, which is the proper term for the sprocketed wheel over which the anchor chain passes?

   - (A) The devil's claw
   - (B) A winchhead
   - (C) The wildcat
   - (D) A brake compressor wheel

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

12. If your propeller is racing in rough weather, which action should you take?

   - (A) Decrease your engine speed
   - (B) Ignore it, this is acceptable in rough weather
   - (C) Stop your engine until the rough weather passes
   - (D) Increase your engine speed

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

13. Which term defines when a boat turns broadside to heavy seas and winds, thus exposing the boat to the danger of capsizing?

   - (A) Yawed
   - (B) Trimmed
   - (C) Broached
   - (D) Pitchpoled

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

14. When the period of beam seas equals the natural rolling period of a vessel, what will most likely occur?

   - (A) Excessive rolling
   - (B) Excessive yawing
   - (C) Excessive pitching
   - (D) No change should be evident

   *If choice A is selected set score to 1.*
15. 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

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

16. You are on a course of 000°T and put the rudder right 30°. In which direction will the transfer be measured?

- (A) 000°T
- (B) 090°T
- (C) 180°T
- (D) 270°T

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

17. You have determined the maneuvering characteristics of your vessel by taking the 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 60°?

- (A) 105 yards
- (B) 155 yards
- (C) 205 yards
- (D) 255 yards

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

18. While proceeding up a narrow waterway you observe a vessel berthed in the river with slack mooring lines. Which is the most prudent action to take FIRST?

- (A) Call the US Coast Guard
- (B) Contact the moored vessel
- (C) Reduce the speed of your vessel
- (D) Give 5 short blasts on the whistle

*If choice C is selected set score to 1.*
19. A U.S. Coast Guard icebreaker, while escorting ships in ice, has sounded four short and one long blasts on the whistle. What does this indicate?

- (A) The vessel has its engines full astern, stay clear
- (B) The vessel has become icebound, Stop
- (C) The vessel is increasing the distance between vessels
- (D) The vessel is increasing speed; watch for broken ice

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

20. Which type of ice is a hazard to navigation?

- (A) Pancake ice
- (B) Frazil ice
- (C) Ice rind
- (D) Growlers

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

21. Which single-letter signal, when used by icebreakers on the Great Lakes, may be made by using the ship's whistle?

- (A) M
- (B) E
- (C) I
- (D) None

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

22. 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) U.S. Salvage
- (C) Lloyds of London
- (D) National Cargo Bureau

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

23. What does item "G" refer to in illustration D045DG of a 30-ton pedestal crane?

- (A) Pedestal
- (B) Turntable
- (C) Mast
- (D) Pillar

*If choice B is selected set score to 1.*
24. What is an example of a grade A flammable liquid?

- (A) iso-Propylamine
  - (B) Ethyl acetate
  - (C) Acetone
  - (D) Morpholine

If choice A is selected set score to 1.

25. Flammable liquids should have what kind of label?

- (A) Red
  - (B) Yellow
  - (C) Skull and crossbones
  - (D) Green

If choice A is selected set score to 1.

26. There is a large shipment of case goods available to be loaded on your vessel. You are to load as many tons as possible in a hold which has 32,300 cubic feet left unfilled by cargo. Each case measures 2-feet high by 2-feet wide by 4-feet long and weighs 500 pounds. If you allow a broken stowage allowance of 10% of the 32,300 feet, what is the nearest whole number of tons which may be loaded?

- (A) 324 tons
  - (B) 360 tons
  - (C) 363 tons
  - (D) 406 tons

If choice D is selected set score to 1.

27. Which of the following statement(s) is/are TRUE regarding twin pedestal cranes?

- (A) Each single boom is of the partial-level luffing type and is capable of limited rotation.
- (B) An independent slew drive system rotates the turntable.
- (C) A slew drive system provides for rotation of each crane.
- (D) All of the above

If choice D is selected set score to 1.

28. Which variable factor affects the initial lashing requirements aboard Ro-Ro vessels?

- (A) Number, position and angle of lashings
  - (B) Port of origin
  - (C) ABS requirements
  - (D) Vessel's draft

If choice A is selected set score to 1.
29. Grade E combustible liquids are those having flash points of __________.

- (A) 80°F or less
- (B) 150°F or greater
- (C) greater than 80°F and less than 115°F
- (D) greater than 115°F and less than 150°F

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

30. You receive a package, for shipment aboard your vessel, containing Class 1 explosives. The package is damp, moldy and stained. Which action are you required to take?

- (A) Seek the shipper's advice with regard to withdrawal, repair, or replacement
- (B) Note an exception on the Bill of Lading
- (C) Repair or replace the packaging before stowage
- (D) Have the U.S.C.G. Captain of the Port approve the shipment

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

31. What is the Reid vapor pressure of allyl chloride?

- (A) 16.5 (psia)
- (B) 14.0 (psia)
- (C) 12.9 (psia)
- (D) 10.3 (psia)

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

32. If a cargo of kerosene were considered "too lean" to explode, then it must be __________.

- (A) below the "explosive range"
- (B) within the "explosive range"
- (C) above the "explosive range"
- (D) None of the above

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

33. If your asphalt barge has operated more than 12 months in saltwater in the 24 month period since it was last dry-docked, when is it required to be hauled out again?

- (A) 12 months since last dry-docking
- (B) 18 months since last dry-docking
- (C) 24 months since last dry-docking
- (D) 36 months since last dry-docking

*If choice D is selected set score to 1.*
34. On an inspection of your tankship you notice that there are no portable fire extinguishers in the pumproom. Which is TRUE when complying with regulations?

- (A) You may substitute sand for the required extinguishers
- (B) You should arrange to have a B-II extinguisher placed in the lower pumproom
- (C) You need not be concerned since no portable extinguishers are required in the pumproom
- (D) You should arrange to have a B-II extinguisher placed in the vicinity of the exit

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

35. Cargo pumprooms on tank vessels, constructed in 1965, handling grade C liquid cargo shall have power ventilation systems. What is time requirement for these ventilation systems to completely change the air?

- (A) 1 minute
- (B) 3 minutes
- (C) 5 minutes
- (D) 10 minutes

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

36. When bunkering is complete, which is the correct procedure concerning the bunker hoses?

- (A) The hose must be drained, blanked off, and stored securely
- (B) The hose should be washed out with hot soapy water
- (C) The hose must be stowed vertically and allowed to drain
- (D) The hose must be cleaned internally with a degreaser

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

37. Which of the signals listed is required to be displayed at night while bunkering at a dock?

- (A) Two red lights
- (B) One red light
- (C) One red light over a white light
- (D) One red light over a yellow light

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

38. Which is a precaution you should take before bunkering?

- (A) Plug the scuppers
- (B) Plug the sounding pipes
- (C) Plug the vents
- (D) Close the lids on the vents

*If choice A is selected set score to 1.*
39. A cargo of fuel oil is loaded whose temperature is 66°F. API gravity is 36°. The volume correction factor (VCF) is .0005. A cargo temperature of 80°F is expected at the discharge port. If 9,000 barrels were loaded, how many gallons would you expect to unload?

- (A) 375,354
- (B) 380,646
- (C) 491,535
- (D) 498,465

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

40. Which statement is TRUE when loading a tanker?

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

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

41. Grade D combustible liquids have a maximum flash point of __________.

- (A) 80°F
- (B) 149°F
- (C) 109°F
- (D) 100°F

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

42. Combustible liquids are divided into how many grades?

- (A) One
- (B) Two
- (C) Three
- (D) Four

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

43. Each inert gas system must be designed to supply the cargo tanks with a gas, or mixture of gasses, that has an oxygen content by volume of __________.

- (A) 10% or less
- (B) 15% or less
- (C) 20% or less
- (D) 5% or less

*If choice D is selected set score to 1.*
44. Which of the listed functions is the purpose of a gas scrubber in an inert gas generation system?

- (A) Maintains the oxygen content at 5% by volume.
- (B) Cools the inert gas.
- (C) Bleeds off static electricity in the inert gas.
- (D) Maintains flow to the water seal on the gas main.

*If choice B is selected set score to 1.

45. A tank vessel transferring non-flammable hazardous cargo in bulk must display warning signs. These signs must __________.

- (A) use black lettering on a white background
- (B) indicate "NO SMOKING"
- (C) be visible from both sides and from forward and aft
- (D) be displayed only while transferring cargo and fast to a dock

*If choice A is selected set score to 1.

46. Fuel oil tank vents are fitted with a screen which will stop __________.

- (A) flames on deck from entering the tank vent
- (B) oil from flowing out of the tank vent
- (C) vapors from leaving the tank vent
- (D) air from entering the tank vent

*If choice A is selected set score to 1.

47. How should cargo tank hatches be protected when the ullage opening is open and the tank NOT gas free?

- (A) With warning signs
- (B) With gooseneck vents
- (C) With pressure-vacuum relief valves
- (D) With flame screens

*If choice D is selected set score to 1.

48. Your tank barge requires repairs that include welding. Who normally would issue a gas-free certificate?

- (A) The ABS marine surveyor
- (B) A certified marine chemist
- (C) Any Coast Guard marine inspector
- (D) The port engineer

*If choice B is selected set score to 1.
49. A marine chemist issues gas free certificates and is certified by which organization?

- (A) National Fire Protection Association
- (B) American Chemical Society
- (C) Mine Safety Appliance Association
- (D) Marine Chemists Association

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

50. Which international body is responsible for drafting the convention prohibiting marine pollution (MARPOL)?

- (A) The Maritime Advisory Council
- (B) The Association of Seafaring Nations
- (C) The International Maritime Organization
- (D) The International Association of Shipping

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

51. You are loading in the winter in Albany, N.Y., for a voyage to a port governed by the tropical load line mark. Which of the following statements is TRUE? (Hydrometer reading in Albany is 1.000)

- (A) You may not exceed the winter load line mark when you finish loading except for the burnout to sea.
- (B) You may load to the winter mark less the fresh water allowance if you will be at the tropical mark upon arrival in the tropical zone.
- (C) You may calculate the burnout necessary to reach the tropical zone and load extra cargo to compensate.
- (D) The fresh water allowance and burnout to sea may be subtracted from the required freeboard in Albany.

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

52. What is the name of the mark indicated by the letter E in illustration D003DG below?

- (A) Winter water line
- (B) Fresh water line
- (C) Tropical water line
- (D) Summer water line

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

53. What is the primary purpose of a load line?

- (A) To establish the vessel's GM
- (B) To indicate the vessel's mean drafts
- (C) To establish transverse stability
- (D) To establish maximum amidships draft

*If choice D is selected set score to 1.*
54. Which item do you NOT have to provide for the Coast Guard representative at the time of a stability test?

- (A) Capacity plans showing the vertical and longitudinal centers of gravity of stowage spaces and tanks.
- (B) Tank sounding tables and draft mark locations.
- (C) A stability letter.
- (D) General arrangement plans of decks, holds and inner bottoms

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

55. On an inspected vessel, which abbreviation refers to the horizontal distance between perpendicul ars taken at the forward-most and the after-most points on the waterline at her deepest operating draft?

- (A) LLL
- (B) LBP
- (C) LWL
- (D) LOA

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

56. Who must approve the vessel's trim and stability booklet?

- (A) National Cargo Bureau
- (B) United States Coast Guard
- (C) International Maritime Organization
- (D) Society of Naval Architects and Marine Engineers

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

57. When would a U.S. merchant vessel in ocean service NOT subject to the requirements of Annex V to MARPOL 73/78?

- (A) A U.S. vessel in ocean service is ALWAYS subject to MARPOL.
- (B) When the vessel is outside of 25 nautical miles from nearest land
- (C) When the vessel is outside of the navigable waters of the United States
- (D) When the vessel is in the waters of those countries not signatory to MARPOL

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

58. The transfer procedures required to be followed on tankships shall contain which item?

- (A) A current crew list
- (B) A line diagram of the vessel's transfer piping
- (C) A list of each port of discharge
- (D) The duties by name of each person in charge required for each transfer operation

*If choice B is selected set score to 1.*
59. You are inspecting the nonmetallic oil transfer hoses on the vessel you operate. The maximum allowable pressure of the hose is 70 psi. Your inspection confirms the hose did not burst, bulge, leak or abnormally distort under the required static liquid. Which pressure was used for this test?

- (A) 70 psi  
- (B) 105 psi  
- (C) 140 psi  
- (D) 210 psi

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

60. Fueling results in the collection of waste oil in drip pans and containers. Which is an approved method of disposing of the waste oil?

- (A) Discharge to a proper reception facility
- (B) Adding sinking agents and discharging it into the water
- (C) Mixing it with dispersants before draining it overboard
- (D) Draining it overboard when the vessel gets underway

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

61. You are keeping the required garbage disposal records. How must the amount of garbage disposed of be stated?

- (A) In both cubic meters and cubic feet
- (B) In cubic meters
- (C) In both kilos and pounds
- (D) In barrels of 55 gallon capacity

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

62. Providing you are not in a special area, such as the Mediterranean or Red Sea, how many nautical miles from land must you be to throw wooden dunnage into the sea?

- (A) 3 nm  
- (B) 6 nm  
- (C) 12 nm  
- (D) It is prohibited to discharge dunnage into the sea

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

63. How many months after its expiration date may a Coast Guard credential be renewed without retaking the complete exam?

- (A) 1 month  
- (B) 6 months  
- (C) 12 months  
- (D) 24 months

*If choice C is selected set score to 1.*
64. What is the period of validity of a Merchant Mariner Credential?

   - (A) 2 years
   - (B) 1 year
   - (C) 3 years
   - (D) 5 years

   If choice D is selected set score to 1.

65. Which is the requirement for the name and hailing port of a documented commercial vessel?

   - (A) It is required to be marked on both bows and on the keel
   - (B) It is required to be marked on the keel, stern, and both bows
   - (C) It is required to be marked on the stern with the name of the vessel marked on both bows
   - (D) It is not required to be marked anywhere on the vessel

   If choice C is selected set score to 1.

66. The number of certificated able seamen and lifeboatmen required on a vessel is determined by which organization?

   - (A) American Bureau of Shipping
   - (B) Coast Guard
   - (C) International Maritime Organization
   - (D) Corps of Engineers

   If choice B is selected set score to 1.

67. Which term defines the process of dividing the total volume of the ship in cubic feet (after omission of exempted spaces) by 100?

   - (A) Bale cubic
   - (B) Light displacement
   - (C) Gross tonnage
   - (D) Net tonnage

   If choice C is selected set score to 1.

68. An Official Logbook is required on which vessel?

   - (A) A 150-G.T. tug going from Boston to New Orleans.
   - (B) A 100-G.T. tug going from New York to San Pedro, California.
   - (C) A 50-G.T. tug going from Miami to Seattle.
   - (D) A 199-G.T. tug on a coastwise trip of 650 miles.

   If choice B is selected set score to 1.
69. Upon completion of a voyage, where shall the official logbook shall be filed?

- (A) With the Captain of the Port (COTP)
- (B) At the Officer in Charge, Marine Inspection (OCMI)
- (C) At the nearest Regional Exam Center (REC)
- (D) At the Operating Company's Office

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

70. What is the period of validity of a Safety Management Certificate?

- (A) 60 months
- (B) 48 months
- (C) 42 months
- (D) 36 months

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