U.S.C.G. Merchant Marine Exam

Towing Vessels – Western Rivers

Q425 Navigation General

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

1. Under the U.S. Aids to Navigation System on the Western Rivers, which is TRUE of a daymark on the right descending bank?
   - (A) It will have an odd number
   - (B) It will indicate the gage reading
   - (C) Must contain yellow retro-reflective markings
   - (D) It shall be green in color

   If choice D is selected set score to 1.

2. What enables you to estimate the bearing of a storm's center?
   - (A) Buys Ballot's Law
   - (B) The left-hand rule
   - (C) Pascal's Law
   - (D) An educated guess

   If choice A is selected set score to 1.

3. If your weather bulletin shows the center of a low pressure area to be 100 miles due east of your position, what winds can you expect in the Northern Hemisphere?
   - (A) South to southeast
   - (B) North to northwest
   - (C) East to southeast
   - (D) East to northeast

   If choice B is selected set score to 1.

4. A Doppler log in the volume reverberation mode indicates __________.
   - (A) the set of the current
   - (B) speed through the water
   - (C) the depth of the water
   - (D) speed being made good

   If choice B is selected set score to 1.

5. Which term describes a tow that is properly aligned to pass through a narrow opening between two bridge piers or any other critical navigational maneuver?
   - (A) In shape
   - (B) Headed fair
   - (C) Holding on
   - (D) On course

   If choice A is selected set score to 1.
6. Which defines the controlling depth of the river?

- (A) The least available water in a channel which limits the draft of boats and tows
- (B) The highest level to which the river may rise without flooding
- (C) The edge of a dredged channel
- (D) The minimum depth of the river prescribed in the channel maintenance program

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

7. Which of the following statements is TRUE regarding automatic identification systems (AIS)?

- (A) AIS provides the other vessel's identity, type and navigational status regardless of visibility.
- (B) AIS can be relied upon as the sole means to determine risk of collision and safe speed.
- (C) AIS will not provide information on another vessel if that vessel is indistinguishable in radar sea clutter.
- (D) AIS is designed to replace ARPA, maneuvering boards, and visual bearings as a means to ascertain the risk of collision.

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

8. Under the U.S. Aids to Navigation System used on the Western Rivers, which is TRUE of the aids to navigation lights on the right descending bank?

- (A) They are white or green lights
- (B) They can only be white lights
- (C) They can only be green lights
- (D) They are white or red lights

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

9. The light characteristic of flashing is used in the Aids to Navigation System on the Western Rivers. Which example is required to utilize this characteristic?

- (A) Lights marking the left descending bank
- (B) Lights marking the right descending bank
- (C) Preferred channel buoys
- (D) Daymarks with no lateral significance

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

10. Deviation in a compass is caused by which of the following?

- (A) The influence of the magnetic materials of the vessel
- (B) The vessel's geographic position
- (C) The earth's magnetic field
- (D) The vessel's heading

*If choice A is selected set score to 1.*
11. With respect to failure warnings and status indications, GPS receivers should provide, at a minimum, __________.
   - (A) an alarm if engine speed is suddenly reduced
   - (B) a warning of loss of position
   - (C) a cross-track error alarm
   - (D) an indication of a change in satellite configuration

   *If choice B is selected set score to 1.

12. At McAlpine L & D, normal upper pool elevation is 420.0 feet MSL, equal to 12.0 feet on the upper gage. The vertical clearance at the Clark Memorial Highway bridge is 72.6 feet above normal pool. What is the clearance if the gage reads 27.2 feet?
   - (A) 25.4 feet
   - (B) 57.4 feet
   - (C) 60.6 feet
   - (D) 72.6 feet

   *If choice B is selected set score to 1.

13. What is published by the U.S. Coast Guard?
   - (A) Tide Tables
   - (B) Light List
   - (C) U.S. Coast Pilot
   - (D) Nautical Charts

   *If choice B is selected set score to 1.

14. The navigation regulations applicable to a U.S. inland waterway can be found in which publication?
   - (A) Sailing Directions
   - (B) Coast Pilots
   - (C) Notices to Mariners
   - (D) Channel Reports

   *If choice B is selected set score to 1.

15. In the U.S. Aids to Navigation System on the Western Rivers, the light characteristic of group flashing (2) is used for which purpose?
   - (A) To indicate the preferred channel
   - (B) To mark the left descending bank
   - (C) To mark the right descending bank
   - (D) To indicate daymarks with no lateral significant

   *If choice B is selected set score to 1.
16. Which item will the prudent Deck Officer check prior to relieving the watch while the vessel is in port?

- (A) The capability of shore power
- (B) Has the security call on VHF channel 10 been made
- (C) How many RPM is the shaft being turned
- (D) The appropriate signal or lights are exhibited or sounded

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

17. A section of the river that is narrower than usual and is often navigable from bank to bank is a __________.

- (A) chute
- (B) slough
- (C) stabilized channel
- (D) navigable pass

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

18. A backlash below a lock is defined as __________.

- (A) a current setting your vessel on the wall
- (B) an eddy working along the lower guide wall
- (C) a current setting counter-clockwise
- (D) a current setting into the lock chamber

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

19. In the U.S. Aids to Navigation System on the Western Rivers, a preferred channel buoy to be left to port while proceeding downstream will __________.

- (A) have the upper band red
- (B) have a characteristic of composite group flashing if lighted
- (C) show a red light if lighted
- (D) All of the above

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

20. Your barometer reading changes from 30.25 to 30.05 in a 12-hour period. What does this change indicate?

- (A) There will be little or no immediate change
- (B) Rapidly changing weather
- (C) High winds within the next six hours
- (D) Improving weather

*If choice A is selected set score to 1.*
21. When must a proper look-out be kept?
   - (A) Only when entering and leaving port
   - (B) Only in fog
   - (C) Only between the hours of sunset and sunrise
   - (D) At all times

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

22. Compared to a low pressure system, which is generally TRUE concerning the air in a high pressure system?
   - (A) The air is warmer, less dense, and less stable
   - (B) The air is cool, more dense, and drier
   - (C) The air is extremely moist with high relative humidity
   - (D) The air is muggy

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

23. Under the Uniform State Waterway Marking System how is a mooring buoy painted?
   - (A) White with a green top
   - (B) Any color that does not conflict with the lateral system
   - (C) White with a blue band
   - (D) Yellow

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

24. The Light List shows a lighted aid to navigation on the left bank. This means that the light can be seen on the starboard side of a vessel under which circumstances?
   - (A) The vessel is ascending the river
   - (B) The vessel is descending the river
   - (C) The vessel is crossing the river
   - (D) The vessel is proceeding towards sea

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

25. On the Mississippi and Ohio Rivers, there is a special type of fog known as steam fog. What conditions cause this fog?
   - (A) Rain coming out of a warm air mass aloft
   - (B) Cold air passing over much warmer water
   - (C) Warm air passing over much colder water
   - (D) A rapid cooling of the ground on a clear night

   *If choice B is selected set score to 1.*
26. In addition to monitoring channel 16, all Corps of Engineer locks may use which channels as working channels?

- (A) 14, 24 and 28
- (B) 06, 12 and 22A
  - (C) 13 and 14
- (D) 01A, 05A and 07A

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

27. In which source could you find the vertical clearance of a bridge on the Ohio River?

- (A) Notice to Mariners
- (B) Coast Pilot of the Gulf of Mexico
- (C) Great Lakes Pilot
  - (D) Light List of the Mississippi River System

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

28. While on watch, you notice that the air temperature is dropping and is approaching the dew point. Which type of weather should be forecasted?

- (A) Hail
  - (B) Fog
- (C) Heavy rain
- (D) Sleet

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

29. While proceeding downriver, you sight a red triangular-shaped daymark on the left bank. What does this daymark represent under the U.S. Aids to Navigation System on the Western Rivers?

- (A) It is a crossing daymark
  - (B) It is a passing daymark
- (C) It is a special purpose signal
- (D) It has no lateral significance

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

30. If your vessel were proceeding up river (ascending), how is the port side of the channel marked according to the U.S. Aids to Navigation System on the Western Rivers?

- (A) Green nun buoys
  - (B) Green can buoys
- (C) Red can buoys
- (D) Red nun buoys

*If choice B is selected set score to 1.*
31. Which of the following statements is TRUE regarding automatic identification systems (AIS)?

- (A) AIS cannot be used to make passing arrangements because the system is not capable of this type of ship-to-ship communications.
- (B) AIS cannot be used to make passing arrangements because the ship-to-ship text messaging feature is for emergency use only.
- (C) AIS can be used to make passing arrangements via ship-to-ship text messaging but a vessel operator is not relieved from the requirement to sound whistle signals or make arrangements via bridge-to-bridge radiotelephone.
- (D) AIS can be used to make passing arrangements via ship-to-ship text messaging relieving a vessel operator from making such arrangements via bridge-to-bridge radiotelephone or signaling intent to pass via whistle signals.

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

32. A magnetic compass card is marked in how many degrees?

- (A) 90
- (B) 180
- (C) 360
- (D) 400

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

33. Which agency maintains federal aids to navigation?

- (A) Coast Guard
- (B) Corps of Engineers
- (C) Maritime Administration
- (D) National Ocean Service

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

34. Which term is given to a radar display which is oriented, so that north is always at the top of the screen?

- (A) Stabilized display
- (B) Unstabilized display
- (C) Composite display
- (D) Relative display

*If choice A is selected set score to 1.*
35. Under the U.S. Aids to Navigation System on the Western Rivers, which is TRUE of a preferred channel buoy?

- (A) It shall be solid red
- (B) It shall be horizontally-banded red and green
- (C) It shall be vertically-striped red and white
- (D) It shall be solid green

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

36. Which term is used to describe a structure, usually made of stone, or cement pilings, which extends from the bank at approximately right angles to the current?

- (A) Crib
- (B) Dike
- (C) Revetment
- (D) Cutoff

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

37. Under the U.S. Aids to Navigation System on the Western Rivers, which describes the daymarks on the right descending bank?

- (A) Red diamond-shaped panels with red reflector borders
- (B) Green square-shaped panels with green reflector borders
- (C) Red triangular-shaped panels with red reflector borders
- (D) Green triangular-shaped panels with green reflector borders

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

38. The following types of vessels are awaiting lockage on the upper Mississippi. Which type of vessel is normally passed through the lock first?

- (A) Commercial towboats
- (B) Commercial passenger vessels
- (C) Commercial fishing vessels
- (D) Pleasure craft

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

39. Which clouds are described as high clouds, composed of small white flakes or scaly globular masses, and often banded together to form a "mackerel sky"?

- (A) Cirrocumulus
- (B) Cumulonimbus
- (C) Altostratus
- (D) Cirrus

*If choice A is selected set score to 1.*
40. Which is TRUE concerning air masses near the earth's surface?

- (A) They move from areas of high pressure to areas of low pressure
- (B) They are not deflected by the earth's rotation
- (C) Air masses are not affected by the earth's gravity
- (D) In North America the air masses move from east to west

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

41. Under which circumstances is the dumping of refuse in a lock permitted?

- (A) At no time
- (B) Only when locking downbound
- (C) When approved by the lockmaster
- (D) During high water only

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

42. All persons or vessels within the lock area, including the lock approach channels, come under the authority of which person?

- (A) The lockmaster
- (B) The dockmaster
- (C) The lock foreman
- (D) The dock captain

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

43. You are using a radar in which your own ship is shown at the center, and the heading flash always points to 0°. If bearings are measured in relation to the flash, what type of bearings are produced?

- (A) Compass
- (B) True
- (C) Magnetic
- (D) Relative

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

44. Fog generally clears when the __________.

- (A) wind direction changes
- (B) wind speed increases
- (C) temperature increases
- (D) All of the above

*If choice D is selected set score to 1.*
45. What does the lubber's line on a magnetic compass indicate?
   - (A) A relative bearing taken with an azimuth circle
   - (B) Magnetic north
   - (C) The vessel's compass heading
   - (D) Compass north

   If choice C is selected set score to 1.

46. Your radar displays your ship off center. As you proceed on your course, your ship's marker moves on the PPI scope while echoes from land masses remain stationary. What is this display called?
   - (A) Stabilized
   - (B) True motion
   - (C) Head up
   - (D) Off center

   If choice B is selected set score to 1.

47. When a buoy is in position only during a certain period of the year, where may the dates when the buoy is in position be found?
   - (A) Light List
   - (B) On the chart
   - (C) Coast Pilot
   - (D) Notice to Mariners

   If choice A is selected set score to 1.

48. Which term describes a light, feathery deposit of ice caused by the sublimation of water vapor directly into the crystalline form, on objects whose temperatures are below freezing?
   - (A) Frost
   - (B) Dew
   - (C) Glaze
   - (D) Snow

   If choice A is selected set score to 1.

49. What does the abbreviation L.W.R.P. on the navigation maps mean?
   - (A) Low water reference plane
   - (B) Land wall reference point
   - (C) Low winter runoff point
   - (D) Least water river plane

   If choice A is selected set score to 1.
50. Which organization operates the Maritime Differential GPS (DGPS)?

- (A) The U.S. Coast Guard
- (B) The United States Air Force
- (C) The Federal Communication Commission
- (D) The International Maritime Organization

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