

U.S.C.G. Merchant Marine Exam
Master Unlimited Tonnage Rivers
Q382 Navigation General – Rivers
(Sample Examination)

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

1. Under the IALA-B Buoyage System, which is TRUE of a conical buoy?

- A. The buoy is numbered with an odd number
- B. The buoy should be left to port when entering from seaward
- C. The buoy is red in color
- D. All of the above

Correct answer: C

2. The Light List shows a lighted aid to navigation on the left bank. This means that the light can be seen on the port side of a vessel under which condition?

- A. The vessel is crossing the river
- B. The vessel is ascending the river
- C. The vessel is proceeding from seaward
- D. The vessel is descending the river

Correct answer: D

3. Which is TRUE as the temperature of an air mass decreases?

- A. The relative humidity increases
- B. The specific humidity decreases
- C. The absolute humidity decreases
- D. The dew point rises

Correct answer: A

4. How are aids to navigation marking the intracoastal waterway (ICW) identified?

- A. Yellow bands, squares, or triangles marked on them
- B. The letters ICW after the aid's number or letter
- C. White retro-reflective material
- D. The light characteristic and color for lighted aids

Correct answer: A

5. Which defines a bold reef?

- A. A man-made reef extending above the water
- B. A shallow reef
- C. A steep and prominent sandbar
- D. A reef that is perpendicular to the current

Correct answer: C

6. At McAlpine L & D, normal upper pool elevation is 420.0 feet (130.8 meters) MSL, equal to 12.0 feet (3.7 meters) on the upper gage. The vertical clearance at the Clark Memorial Highway bridge is 72.6 feet (22.1 meters) above normal pool. What is the clearance if the gage reads 10.6 feet (3.2 meters)?
- A. 74.0 feet (22.6 meters)
 - B. 83.2 feet (25.4 meters)
 - C. 62.0 feet (18.9 meters)
 - D. 84.6 feet (25.8 meters)

Correct answer: A

7. Magnets in the binnacles of magnetic compasses are used to reduce which effect?
- A. Variation
 - B. Local attraction
 - C. Deviation
 - D. Static build-up

Correct answer: C

8. Which is the reference datum used in determining the heights of land features on most charts?
- A. Mean high water
 - B. Mean sea level
 - C. Mean low water
 - D. Half-tide level

Correct answer: A

9. Temperature and moisture characteristics are modified in a warm or cold air mass due to which factor?
- A. Pressure changes in the air mass
 - B. Movement of the air mass
 - C. The heterogeneous nature of the air mass
 - D. Upper-level atmospheric changes

Correct answer: B

10. Which topmark shown in illustration D023NG below identifies an isolated danger?
- A. A
 - B. B
 - C. C
 - D. D

Correct answer: B

11. Buoys which mark dredging areas are painted which color?
- A. Green
 - B. Red
 - C. Yellow
 - D. Black

Correct answer: C

12. What happens to the barometric pressure after a cold front passes?

- A. Drops, and the temperature drops
- B. Rises, and the temperature drops
- C. Drops, and the temperature rises
- D. Rises, and the temperature rises

Correct answer: B

13. Which agency publishes the Light Lists?

- A. Oceanographic Office
- B. National Ocean Service
- C. Army Corps of Engineers
- D. United States Coast Guard

Correct answer: D

14. Which term defines a submerged dike extending from the bank of the river used to train the channel?

- A. A towhead
- B. A landwall
- C. A cutoff
- D. A wing dam

Correct answer: D

15. A facility used for the discharge of a cargo of a particular hazard, such as chlorine, butane or ethane, must have what to warn water traffic of an immediate danger during fire or cargo release?

- A. An emergency boat and crew
- B. Buoys with flashing lights controlled from shore, located one-half mile upstream and downstream of the facility
- C. A siren or rotating flashing light
- D. Flashing red lights located one-half mile upstream and downstream of the facility

Correct answer: C

16. Fog forms when which condition exists?

- A. When the air is 50% water saturated
- B. When the air temperature is equal to, or below the dew point temperature
- C. When the air is 90% water saturated
- D. When the air temperature is greater than the dew point temperature

Correct answer: B

17. Which publication(s) must a towing vessel of 12 meters or more in length carry when operating on US waters other than the Western Rivers?

- A. Tide Tables and Tidal Current Tables
- B. US Coast Pilot(s)
- C. Notice to Mariners
- D. All of the above

Correct answer: D

18. Steam fog will occur when which conditions exist?

- A. Warm dry air from shore passes over cooler water
- B. Extremely cold air from shore passes over warmer water
- C. Cool rain passes through a warm air mass
- D. Cold ocean water evaporates into warm air

Correct answer: B

19. 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 daymarks with no lateral significant
- B. To mark the right descending bank
- C. To mark the left descending bank
- D. To indicate the preferred channel

Correct answer: C

20. An electronic depth finder operates on which principle?

- A. Pressure increases with depth
- B. Radio signals reflect from a solid surface
- C. Radar signals travel at a constant speed through water
- D. Sound waves travel at a constant speed through water

Correct answer: D

21. Which term describes a light, feathery deposit of ice by sublimation of water vapor directly into the crystalline form on objects whose temperatures are below freezing?

- A. Frost
- B. Snow
- C. Dew
- D. Glaze

Correct answer: A

22. Under the IALA Buoyage Systems, which is TRUE of the topmark of a red and white vertically-striped buoy?

- A. It shall be two black spheres
- B. It shall be X-shaped
- C. It shall be a single red cone
- D. It shall be a single red sphere

Correct answer: D

23. By convention, what color is the north seeking end of a compass' magnet?

- A. Blue
- B. Black
- C. Red
- D. White

Correct answer: C

24. Which is TRUE on the Western Rivers when a vessel downbound with a following current is meeting an upbound vessel?

- A. She has the right of way only if she is a power-driven vessel.
- B. She must wait for a whistle signal from the upbound vessel.
- C. She has the right of way only if she has a tow.
- D. She does not have the right of way, since the other vessel is not crossing the river.

Correct answer: A

25. Your vessel is on course 180°T speed 22 knots. The apparent wind is from 70° off the port bow, speed 20 knots. What are the true direction and speed of the wind?

- A. 45°T, 21.0 knots
- B. 51°T, 24.0 knots
- C. 58°T, 21.2 knots
- D. 64°T, 26.0 knots

Correct answer: B

26. What does a Doppler log in the bottom return mode indicate?

- A. The bottom characteristics
- B. The speed over the ground
- C. The depth of the water
- D. The velocity of the current

Correct answer: B

27. Which is TRUE concerning daymarks marking the starboard side of the channel when going towards the sea?

- A. They will be green squares
- B. They will be green triangles
- C. They will be red squares
- D. They will be red triangles

Correct answer: A

28. Which publication should you check for complete information on Puget Sound weather conditions?

- A. Coast Pilot
- B. Chart of the area
- C. Sailing Directions
- D. Light List

Correct answer: A

29. Which type of precipitation occurs only in thunderstorms with strong convection currents that convey raindrops above and below the freezing level?

- A. Hail
- B. Rime
- C. Sleet
- D. Freezing rain

Correct answer: A

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

Correct answer: B

- 31.** Aneroid barometers are usually calibrated to indicate atmospheric pressure in which units?
- A. Feet of mercury and millibars
 - B. Inches of mercury and millibars
 - C. Inches of mercury and centimeters
 - D. Inches of mercury and millimeters

Correct answer: B

- 32.** 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 can only be green lights
 - B. They are white or green lights
 - C. They can only be white lights
 - D. They are white or red lights

Correct answer: B

- 33.** If your vessel were proceeding down river (descending), what would a green square marker with a green reflector border on the right bank indicate?
- A. A crossing daymark
 - B. A dredging mark
 - C. It is a mile board
 - D. A passing day beacon

Correct answer: D

- 34.** When observing a rapid rise in barometric pressure, what may you expect?
- A. Deteriorating weather with rain or snow
 - B. Clearing weather, possibly accompanied by high winds
 - C. Clear weather with no wind, but the possibility of rain or snow within 24 hours
 - D. Heavy rain or severe thundershowers

Correct answer: B

- 35.** You are approaching a multiple-span bridge at night. How is the main navigational channel span indicated?
- A. A steady blue light in the center of the span
 - B. 3 white lights in a vertical line in the center of the span
 - C. Two flashing green lights in the center of the span
 - D. A quick flashing red or green aid to navigation

Correct answer: B

36. Which describes a deadhead?

- A. A tree or log awash in a nearly vertical position
- B. A crew member who refuses to work
- C. A buoy that is adrift
- D. The upstream end of a land wall

Correct answer: A

37. Which of the following is the most accurate method of determining gyrocompass error while underway?

- A. Comparing the gyro azimuth of a celestial body with the computed azimuth of the body
- B. Comparing the gyro heading with the magnetic compass heading
- C. Determining from the chart the course made good between celestial fixes
- D. It cannot be determined accurately at sea due to drift of unknown currents.

Correct answer: A

38. Which statement is TRUE for an unlighted, red and green, horizontally-banded buoy with the topmost band red?

- A. They are conical in shape and called nun buoys
- B. They are cylindrical in shape and called can buoys
- C. They may either be cylindrical or conical since the shape has no significance
- D. They are triangular in shape to indicate that it may not be possible to pass on either side of the buoy

Correct answer: A

39. What daymark shape is used in the lateral system?

- A. Semicircle
- B. Triangle
- C. Pentagon
- D. Diamond

Correct answer: B

40. In which situation is the light characteristic of composite group flashing (2 + 1) used in the Aids to Navigation System on the Western Rivers?

- A. Only to identify the left descending bank
- B. On daymarks with no lateral significance
- C. On preferred-channel buoys
- D. Only to identify the right descending bank

Correct answer: C

41. The Light List indicates that a light has a nominal range of 14 miles and is 26 feet high. If the visibility is 14 miles and your height of eye is 20 feet, at which approximate distance will you sight the light?

- A. 7.5 miles
- B. 11.2 miles
- C. 14.0 miles
- D. 18.1 miles

Correct answer: B

42. What does a white buoy with an orange rectangle on it indicate?

- A. General information
- B. A controlled area
- C. An exclusion area
- D. Danger

Correct answer: A

43. You are in charge of a power-driven vessel crossing a river on the Western Rivers. You must keep out of the way of _____.

- A. a sail vessel descending the river
- B. a power-driven vessel ascending the river
- C. a vessel restricted in its ability to maneuver crossing the river
- D. All of the above

Correct answer: D

44. Quadrantal error in a gyrocompass has its GREATEST effect on which of the following?

- A. When the vessel is on north or south headings
- B. When the vessel is in high latitudes
- C. When the vessel is near the equator
- D. When the vessel is on intercardinal headings

Correct answer: D

45. Which cloud commonly produces a halo about the Sun or Moon?

- A. Cirrocumulus
- B. Cirrostratus
- C. Altocumulus
- D. Altostratus

Correct answer: B

46. You are downbound approaching a lock and see 3 green lights in a vertical line. What does this indicate?

- A. The upstream end of the land wall
- B. The lock chamber is open and ready to receive your tow
- C. You should hold up until the signal changes to 2 green lights
- D. The upstream end of the river wall

Correct answer: D

47. 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. Cutoff
- D. Revetment

Correct answer: B

48. The following boats are approaching a lock. Which has priority for locking?

- A. A passenger vessel
- B. Corps of Engineer towboat running empty-headed
- C. An integrated chemical tow
- D. A pleasure yacht

Correct answer: B

49. Which agency maintains federal aids to navigation?

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

Correct answer: D

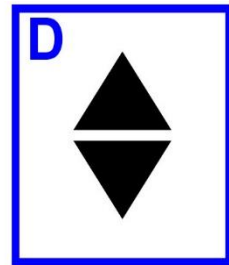
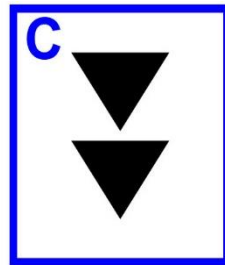
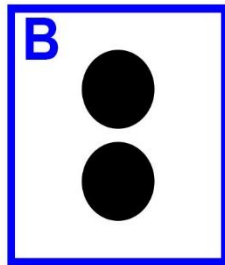
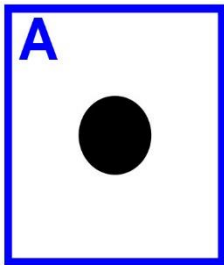
50. Which statement concerning the chartlet seen in illustration D010NG below is TRUE? (Soundings and heights are in meters)

- A. The bottom to the south-southeast of the lightship is soft coral.
- B. There is a dangerous eddy southeast of Beito Island.
- C. Maury lightship is visible for 17 miles.
- D. There is a 12-meter-deep hole west of Beito Island and inside the 5-meter line.

Correct answer: B



D023NG



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