

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. Which symbol represents a 20-fathom curve?

- A. -.-.-.-.-.-
- B. -.-.-.-.-.-.-.-
- C. -.-.-.-.-.-
- D. -.-.-.-.-.-

Correct answer: A

2. Which measurement uses mean high water as the reference plane?

- A. Water depths on the East Coast only
- B. Soundings on the East and West Coasts
- C. All vertical measurements on charts
- D. Heights above water of land features such as lights

Correct answer: D

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

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

Correct answer: C

4. Which is TRUE concerning the flow of air around an anticyclone in the Southern Hemisphere?

- A. Air flows in a clockwise and inward direction
- B. Air flows in a counterclockwise and outward direction
- C. Air flows in a counterclockwise and inward direction
- D. Air flows in a clockwise and outward direction

Correct answer: B

5. In regions near the poles, how are the winds generally described?

- A. Southerlies
- B. Northerlies
- C. Westerlies
- D. Easterlies

Correct answer: D

6. Which is TRUE of an alternating light?

- A. It is used as a replacement for another light
- B. It shows a light with varying lengths of the lighted period
- C. It shows a light that changes color
- D. It marks an alternate lesser used channel

Correct answer: C

7. By what means are indications of the master gyrocompass sent to remote repeaters?

- A. by phantom element
- B. by transmitter
- C. by follow-up system
- D. by azimuth motor

Correct answer: B

8. While upbound through Memphis, the weather report on the TV news indicates that a cold front will cross western Kentucky and Tennessee the next morning. What weather should accompany this front?

- A. Scattered clouds with light to moderate southeasterly winds and possibly fog
- B. Gusting winds shifting to the northwest with thunderstorms
- C. Overcast with steady, light rain or drizzle
- D. Light, southerly winds; high humidity and possibly fog

Correct answer: B

9. What is the approximate geographic range of Assateague Light, VA, if your height of eye is 52 feet (15.8 meters)? Refer to "Reprints from the LIGHT LISTS AND COAST PILOTS".

- A. 14.1 nm
- B. 21.8 nm
- C. 23.0 nm
- D. 50.2 nm

Correct answer: C

10. Which instrument may a towing vessel, engaged in towing exclusively on the Western Rivers, use in place of a magnetic compass?

- A. A VHF Radio
- B. GPS Receiver
- C. Illuminated Swing Meter
- D. Gyrocompass

Correct answer: C

11. 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. Must contain yellow retro-reflective markings
- C. It shall be green in color
- D. It will indicate the gage reading

Correct answer: C

12. A special mark (yellow buoy), if lighted, may exhibit which light rhythm?

- A. Flashing
- B. Equal interval
- C. Occulting
- D. Morse "A"

Correct answer: A

13. Which line connects the points of zero magnetic dip?

- A. The magnetic equator
- B. An agonic line
- C. A magnetic meridian
- D. The terrestrial equator

Correct answer: A

14. How are clouds formed?

- A. As a mass of warm, humid air rises into the atmosphere and cools, condensing moisture into small droplets
- B. Only when the relative humidity of the atmosphere is low
- C. Dry air compresses moisture from the atmosphere into clouds
- D. As winds blow across bodies of water, the sun causes the moisture to be absorbed and move upward forming clouds

Correct answer: A

15. Green lights may appear on which buoys?

- A. Horizontally banded buoys
- B. Yellow buoys
- C. Spherical buoys
- D. Vertically striped buoys

Correct answer: A

16. Who publishes the navigation charts of the Upper Mississippi River?

- A. Lake Survey
- B. U.S. Coast Guard
- C. Corps of Engineers, U.S. Army
- D. National Ocean Service

Correct answer: C

17. Which is TRUE concerning privately maintained aids to navigation included in the Light List?

- A. They are painted white and must use a white light if lighted
- B. Not permitted in or along first-class waterways and may be authorized for second- and third-class waterways
- C. They must conform to the standards of the U.S. Aids to Navigation System
- D. They must be conspicuously marked by a signboard with the words "PRIVATE AID"

Correct answer: C

18. A backlash below a lock is defined as \_\_\_\_\_.

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

Correct answer: A

19. 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. Preferred channel buoys
- B. Lights marking the right descending bank
- C. Daymarks with no lateral significance
- D. Lights marking the left descending bank

Correct answer: B

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

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

Correct answer: D

21. Fog forms when the air temperature is at or below \_\_\_\_\_.

- A. the dry bulb temperature
- B. 32°F
- C. the wet bulb temperature
- D. the dew point

Correct answer: D

22. How are buoys which mark isolated dangers painted?

- A. Alternating red and black bands
- B. Alternating red and white stripes
- C. Alternating green and black bands
- D. Alternating green and white bands

Correct answer: A

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

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

Correct answer: D

24. When is an air mass termed "warm"?

- A. If it originated in a high-pressure area
- B. If it originated in a low-pressure area
- C. If the ground over which it moves is cooler than the air
- D. If the mass is above 70°F

Correct answer: C

25. The dry bulb temperature is 78oF and the wet bulb temperature is 62oF. What is the relative humidity?

- A. 16%
- B. 24%
- C. 39%
- D. 79%

Correct answer: C

26. 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 indicate daymarks with no lateral significant
- C. To mark the left descending bank
- D. To mark the right descending bank

Correct answer: C

27. Which is TRUE if the compass error of a magnetic compass has no deviation?

- A. The compass error is eliminated by adjusting the compass
- B. The compass error equals zero
- C. The compass error is constant at any geographical location
- D. The compass error is equal to variation

Correct answer: D

28. Which is TRUE of a downbound power-driven vessel, when meeting an upbound vessel on the Western Rivers?

- A. She shall initiate the maneuvering signals.
- B. She shall propose the manner of passage.
- C. She has the right of way.
- D. All of the above

Correct answer: D

29. A vessel crossing a river on the Western Rivers, must keep out of the way of which power-driven vessel?

- A. A power-driven vessel ascending the river without a tow
- B. A power-driven vessel descending the river with a tow
- C. A power-driven vessel ascending the river with a tow
- D. All of the above

Correct answer: D

30. What does a white buoy with an orange cross within a diamond marked on it indicate?

- A. Operating restrictions are in effect
- B. Vessels are excluded from the area
- C. Danger
- D. An anchorage area

Correct answer: B

31. Some lights used as aids to marine navigation have a red sector to indicate a danger area. The limits of a colored sector of a light are listed in the Light List in which of the following manners?

- A. True bearings as observed from the ship toward the light
- B. True bearings as observed from the light toward the ship
- C. An outline of the area of the sector
- D. Geographical positions outlining the area of the sector

Correct answer: A

32. How is an occluded front represented on a weather map?

- A. A dashed blue line
- B. An alternate red and blue line
- C. A blue line
- D. A purple line

Correct answer: D

33. Which defines a bold reef?

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

Correct answer: C

34. The height of a light is measured from which reference plane?

- A. Mean high water
- B. Mean low water
- C. Average water level
- D. Geographical sea level

Correct answer: A

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

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

Correct answer: C

36. An electronic depth finder operates on which principle?

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

Correct answer: B

37. Which is a characteristic of a port side daymark?

- A. Octagonal
- B. Numbered
- C. Black and white
- D. Of any shape

Correct answer: B

38. Aneroid barometers are usually calibrated to indicate atmospheric pressure in which units?

- A. Inches of mercury and millibars
- B. Feet of mercury and millibars
- C. Inches of mercury and centimeters
- D. Inches of mercury and millimeters

Correct answer: A

39. 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

40. Which condition(s) is(are) necessary for the formation of dew?

- A. A surface warmer than the dew point of the air
- B. Moderate winds
- C. Available nuclei in the air
- D. Clear skies

Correct answer: D



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

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

Correct answer: A

42. Which table is NOT found in the U.S. Coast Pilots?

- A. Climatological table
- B. Meteorological table
- C. Coastwise distance table
- D. Luminous range table

Correct answer: D

43. 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 edge of a dredged channel
- C. The highest level to which the river may rise without flooding
- D. The minimum depth of the river prescribed in the channel maintenance program

Correct answer: A

44. Which is TRUE of the direction of flow (channel) on the Corps of Engineer's Navigation Maps?

- A. The direction of flow (channel) is indicated by a broken line
- B. The direction of flow (channel) is indicated by depths (in feet)
- C. The direction of flow (channel) is not indicated
- D. The direction of flow (channel) is always midway between the banks

Correct answer: A

45. You are in a channel inbound from sea. A daymark used to mark a channel junction when the preferred channel is to starboard will have the shape indicated by what letter in illustration D045NG below?

- A. A
- B. B
- C. C
- D. D

Correct answer: A

46. In United States waters, a buoy having red and white vertical stripes if lighted, it will have which light characteristic?

- A. Morse (A)
- B. Group occulting
- C. Quick flashing
- D. Interrupted quick flashing

Correct answer: A

47. Steam fog will occur when which conditions exists?

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

Correct answer: C

48. You are entering an east coast port and see a buoy with a yellow triangle painted on it. What does the symbol indicate?

- A. The buoy is off station
- B. The buoy is a special mark
- C. You are in the vicinity of the ICW
- D. The buoy designates a sharp turn in the channel

Correct answer: C

49. Which describes a deadhead?

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

Correct answer: B

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

Correct answer: D

## D045NG

