

U.S.C.G. Merchant Marine Exam
Master Less than 100 Gross Registered Tons Rivers
Q402 Navigation General - Rivers
(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. Which agency maintains federal aids to navigation?

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

If choice C is selected set score to 1.

2. Which is TRUE of a vertically-striped buoy?

- (A) It may be lighted with a red light
- (B) It may be striped black and yellow
- (C) It may be striped black and green
- (D) It may be lighted with a white light

If choice D is selected set score to 1.

3. What does the description "Racon" beside an illustration on a chart mean?

- (A) A radar transponder beacon
- (B) A radar calibration beacon
- (C) A radar conspicuous beacon
- (D) A circular radio beacon

If choice A is selected set score to 1.

4. What does a white buoy with a blue band signify?

- (A) A mooring buoy
- (B) A hydrographic data collection buoy
- (C) Marking a restricted area
- (D) An isolated danger mark

If choice A is selected set score to 1.

5. Which type of fog occurs on clear nights with very light breezes and forms when the earth cools rapidly?

- (A) Advection fog
- (B) Frontal fog
- (C) Radiation fog
- (D) Convection fog

If choice C is selected set score to 1.

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

If choice C is selected set score to 1.

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

If choice B is selected set score to 1.

8. In the U.S. Aids to Navigation System, lateral aids as seen entering from seaward will display lights with which characteristic?
- (A) Occulting
 - (B) Quick Flashing
 - (C) Flashing
 - (D) All of the above

If choice D is selected set score to 1.

9. What is the basic principle of the magnetic compass?
- (A) Magnetic materials of the same polarity repel each other and those of opposite polarity attract.
 - (B) The Earth's magnetic lines of force are parallel to the surface of the Earth.
 - (C) Magnetic meridians connect points of equal magnetic variation.
 - (D) The compass needle(s) will, when properly compensated, lie parallel to the isogonic lines of the Earth.

If choice A is selected set score to 1.

10. On an isomagnetic chart, which term is used for the line of zero variation?
- (A) A variation line
 - (B) An isogonic line
 - (C) The zero variation line
 - (D) An agonic line

If choice D is selected set score to 1.

11. Which item in illustration D034NG below shows a fixed and flashing light?

- (A) A
- (B) B
- (C) C
- (D) D

If choice A is selected set score to 1.

12. What does the abbreviation L.W.R.P. on the navigation maps mean?

- (A) Low water reference plane
- (B) Land wall reference point
- (C) Least water river plane
- (D) Low winter runoff point

If choice A is selected set score to 1.

13. White and orange buoys, if lighted, show which color light?

- (A) Alternating yellow and white
- (B) Red
- (C) White
- (D) Orange

If choice C is selected set score to 1.

14. 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) Half-tide level
- (D) Mean low water

If choice A is selected set score to 1.

15. Safe water buoys may show ONLY which type of light?

- (A) flashing green lights
- (B) flashing red lights
- (C) yellow lights
- (D) white lights

If choice D is selected set score to 1.

16. Fog forms when the air temperature is at or below _____.

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

If choice B is selected set score to 1.

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

- (A) A
- (B) B
- (C) C
- (D) D

If choice D is selected set score to 1.

18. 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) Snow
- (B) Glaze
- (C) Frost
- (D) Dew

If choice C is selected set score to 1.

19. What does a hygrometer measure?

- (A) The wind velocity
- (B) The relative humidity
- (C) The absolute temperature
- (D) The atmospheric pressure

If choice B is selected set score to 1.

20. What is published by the U.S. Coast Guard?

- (A) Tide Tables
- (B) Nautical Charts
- (C) Light List
- (D) U.S. Coast Pilot

If choice C is selected set score to 1.

21. Which is TRUE as the temperature for a given mass of air increases?

- (A) The dew point increases
- (B) The relative humidity increases
- (C) The relative humidity decreases
- (D) The dew point decreases

If choice C is selected set score to 1.

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

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

If choice A is selected set score to 1.

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

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

If choice A is selected set score to 1.

24. What weather change accompanies the passage of a cold front in the Northern Hemisphere?

- (A) Steady dropping of barometric pressure
- (B) A line of cumulonimbus clouds
- (C) Steady precipitation, gradually increasing in intensity
- (D) Wind shift from northeast clockwise to southwest

If choice B is selected set score to 1.

25. 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 preferred-channel buoys
- (C) Only to identify the right descending bank
- (D) On daymarks with no lateral significance

If choice B is selected set score to 1.

26. A daymark used as a special mark is indicated by which letter in illustration D045NG below?

- (A) A
- (B) B
- (C) C
- (D) D

If choice B is selected set score to 1.

27. Brief, violent showers frequently accompanied by thunder and lightning are usually associated with _____.

- (A) stationary high pressure systems
- (B) passage of a warm front
- (C) passage of a cold front
- (D) winds shifting counterclockwise in the Northern Hemisphere

If choice C is selected set score to 1.

28. In the Northern Hemisphere, when the center of a high pressure system is due east of your position, you can expect winds from which direction?

- (A) South to west
- (B) North to west
- (C) North to east
- (D) South to east

If choice D is selected set score to 1.

29. When operated over a muddy bottom, a fathometer may indicate which of the following?

- (A) No depth reading
- (B) A shallow depth reading
- (C) A zero depth reading
- (D) Two depth readings

If choice D is selected set score to 1.

30. You are operating on the Red River Waterway, a warm front has passed and your vessel is in the warm sector. What wind conditions would you expect at your vessel?

- (A) Continually backing winds
- (B) Continually veering winds
- (C) Steadily increasing winds
- (D) Generally steady winds

If choice D is selected set score to 1.

31. You are operating on the Illinois River. Which time of day would Heat thunderstorms most likely develop?

- (A) Warm, humid mornings
- (B) Late afternoon of warm, humid days
- (C) Midday, when the sun is the highest
- (D) Extremely hot, dry evenings

If choice B is selected set score to 1.

32. You are steaming southward along the west coast of the United States when you encounter a buoy showing a flashing red light. Which is TRUE concerning the buoy?

- (A) The buoy can remain on either side close aboard
- (B) The buoy should be left on the vessel's starboard side
- (C) The buoy can be on either side well clear
- (D) The buoy should be left on the vessel's port side

If choice D is selected set score to 1.

33. 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 mass is above 70°F
- (D) If the ground over which it moves is cooler than the air

If choice D is selected set score to 1.

34. A current moving across a lock entrance toward the river or toward the dam is known by which term?

- (A) Cutoff
- (B) Outdraft
- (C) Springpool
- (D) Lockwash

If choice B is selected set score to 1.

35. Who should be consulted for changing conditions of controlling depths in major channels?

- (A) U.S. Coast Guard
- (B) U.S. Army Corps of Engineers
- (C) National Geospatial-Intelligence Agency
- (D) National Ocean Service

If choice B is selected set score to 1.

36. 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 wingdam
- (D) A cutoff

If choice C is selected set score to 1.

37. Which publication contains information on navigation regulations, landmarks, channels, anchorages, tides, currents, and clearances of bridges for Chesapeake Bay?

- (A) Pilot Charts
- (B) Sailing Directions
- (C) Light List
- (D) Coast Pilot

If choice D is selected set score to 1.

38. Buoys which only mark the left or right side of the channel will never exhibit a light with which characteristic?

- (A) Composite group flashing
- (B) Flashing
- (C) Equal interval (isophase)
- (D) Quick flashing

If choice A is selected set score to 1.

39. You are steaming southward along the west coast of the United States when you sight a buoy showing a flashing green light. How should you pass this buoy?

- (A) Leave it to your port.
- (B) Pass it close aboard on either side.
- (C) Pass it on either side but well clear of it.
- (D) Leave it to your starboard.

If choice D is selected set score to 1.

40. What feature(s) of a daymark is (are) used to identify the beacon upon which it is mounted?

- (A) Method of construction
- (B) Color and shape
- (C) Size
- (D) Signal characteristics

If choice B is selected set score to 1.

41. Which is a characteristic of anticyclones?

- (A) Dry, fair weather
- (B) Gustiness and continuous precipitation
- (C) Overcast skies
- (D) High winds and cloudiness

If choice A is selected set score to 1.

42. When recording the wind direction in the weather log, which information would you report?

- (A) The direction the wind is blowing toward
- (B) The duration of the maximum gust of wind
- (C) The direction the wind is blowing from
- (D) The wind chill factor

If choice C is selected set score to 1.

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

If choice B is selected set score to 1.

44. 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 dock captain
- (C) The lock foreman
- (D) The dockmaster

If choice A is selected set score to 1.

45. Which light characteristic may be used on a special purpose mark?

- (A) Occulting
- (B) Quick flashing
- (C) Equal interval
- (D) Fixed

If choice D is selected set score to 1.

46. You are ascending a river and exchanging navigational information via radiotelephone with a descending vessel. If the descending vessel advises you to "watch for the set" above point X, what would you expect to encounter above point X?

- (A) Slack water
- (B) An increase in current velocity
- (C) Shallow water
- (D) A sideways movement of your vessel

If choice D is selected set score to 1.

47. The Light List indicates that a light has a nominal range of 10 miles and is 11 feet high. If the visibility is 15 miles and your height of eye is 20 feet, at what approximate distance will you sight the light?

- (A) 12.0 miles
- (B) 11.0 miles
- (C) 9.0 miles
- (D) 10.0 miles

If choice C is selected set score to 1.

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

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

If choice A is selected set score to 1.

49. Which topmark shown in illustration D023NG below identifies an isolated danger?

- (A) A
- (B) B
- (C) C
- (D) D

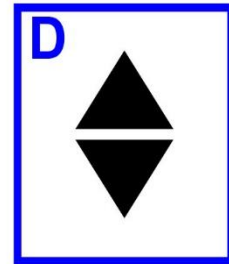
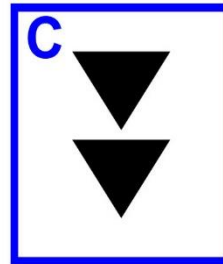
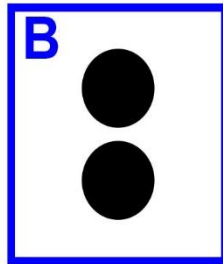
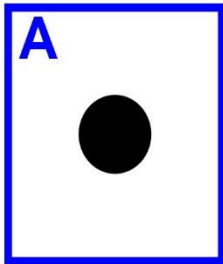
If choice B is selected set score to 1.

50. What can be expected with the presence of stratus clouds and a dying wind?

- (A) Clearing skies
- (B) Heavy snow
- (C) Thick fog
- (D) Heavy rain

If choice C is selected set score to 1.

D023NG



D034NG

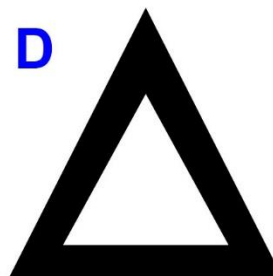
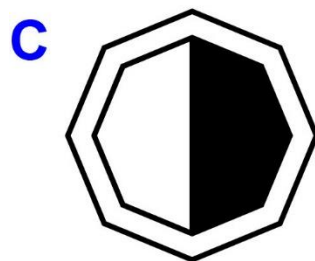
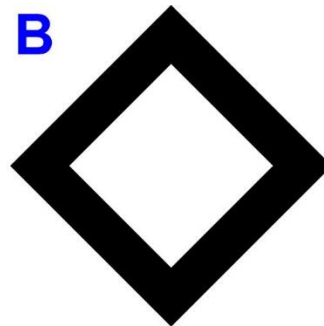
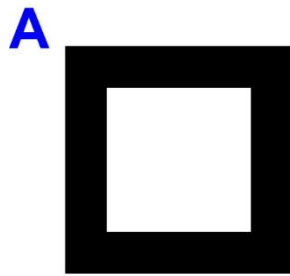


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