

U.S.C.G. Merchant Marine Exam

Master Near Coastal Less than 100 Gross Registered Tons

Q162-Navigation General-Near Coastal

(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. On U.S. charts, you can tell if a named feature such as a rock (i.e. Great Eastern Rock in Block Island Sound) is submerged by the _____.
- (A) color of ink used to print the name
 - (B) style of type used to print the name
 - (C) magenta circle around the feature
 - (D) dashed circle around the feature

If choice B is selected set score to 1.

2. The permanent magnetism of a vessel may change in strength due to _____.
- (A) major structural repair
 - (B) the nature of the cargo being carried
 - (C) changes in heading
 - (D) All of the above

If choice A is selected set score to 1.

3. A current perpendicular to a vessel's track has the greatest effect on the vessel's course made good _____.
- (A) at low vessel speeds
 - (B) at high vessel speeds
 - (C) in deep water
 - (D) in shallow water

If choice A is selected set score to 1.

4. While your vessel is proceeding down a channel you notice a range of lights in line with your vessel's mast. If your vessel is on course 001° per gyro compass and the charted value of the range of lights is 359°T, what is the gyro compass error?
- (A) 2°W
 - (B) 2°E
 - (C) 1°E
 - (D) 1°W

If choice A is selected set score to 1.

5. Using the surface analysis in illustration D049NG below, what wind speed is reported in position C?
- (A) 3 knots
 - (B) 10 knots
 - (C) 20 knots
 - (D) 30 knots

If choice D is selected set score to 1.

6. You are underway in an area where the charted depth is 8 fathoms. You compute the height of tide to be -4.0 feet. The draft of your vessel is 5.0 feet (1.52 meters). You determine the depth of the water beneath your keel to be _____.
- (A) 39 feet (11.9 meters)
 - (B) 43 feet (13.1 meters)
 - (C) 47 feet (14.3 meters)
 - (D) 57 feet (17.4 meters)

If choice A is selected set score to 1.

7. Under the U.S. Aids to Navigation System, a yellow buoy is a _____.
- (A) junction buoy
 - (B) special purpose mark
 - (C) cardinal mark
 - (D) safe water buoy

If choice B is selected set score to 1.

8. What will be the velocity and direction of the tidal current at Old Ferry Point, NY, at 1340 EST (ZD +5) on 5 February 1983?
- (A) 0.8 knot at 060°T
 - (B) 0.8 knot at 240°T
 - (C) 1.0 knot at 076°T
 - (D) 1.4 knots at 076°T

If choice D is selected set score to 1.

9. The Light List indicates that a light has a nominal range of 14 miles and is 26 feet high. If the visibility is 4 miles and your height of eye is 20 feet, at what approximate distance will you sight the light?
- (A) 7.5 miles
 - (B) 9.6 miles
 - (C) 11.2 miles
 - (D) 14.0 miles

If choice A is selected set score to 1.

10. On mid-ocean waters, the height of a wind-generated wave is not affected by the _____.

- (A) wind's velocity
- (B) water depth exceeding 100 feet
- (C) fetch
- (D) duration of the wind

If choice B is selected set score to 1.

11. Mean high water is used _____.

- (A) as the reference for soundings on the Gulf coast of the U.S.
- (B) as the reference plane for bottom contour lines
- (C) to indicate the shoreline where there is a large tidal fluctuation
- (D) as the sounding datum for rivers, lakes, etc. regulated by locks

If choice C is selected set score to 1.

12. High clouds, composed of small white flakes or scaly globular masses, and often banded together to form a "mackerel sky", would be classified as _____.

- (A) altostratus
- (B) cirrocumulus
- (C) cirrus
- (D) cumulonimbus

If choice B is selected set score to 1.

13. A hygrometer is a device used for determining _____.

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

If choice A is selected set score to 1.

14. A relative bearing is always measured from _____.

- (A) the vessel's head
- (B) the vessel's beam
- (C) magnetic north
- (D) true north

If choice A is selected set score to 1.

15. A vessel sighting a northern right whale dead ahead should _____.

- (A) alter course to give a wide clearance
- (B) maintain course and speed
- (C) report the whale's position to the Canadian Coast Guard
- (D) All of the above

If choice A is selected set score to 1.

16. A white buoy with a blue band is _____.

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

If choice C is selected set score to 1.

17. The first cloud formations you can use to indicate the bearing of the center of a hurricane or tropical storm are _____.

- (A) the point of convergence of the cirrus clouds
- (B) the direction of movement of thunderstorms on radar
- (C) the darkest point of the clouds in the "bar" of the storm
- (D) the point of origin of the altostratus clouds

If choice A is selected set score to 1.

18. The Light List indicates that a dayboard is a type NB. You should _____.

- (A) see a black triangle
- (B) look for another daymark forming a range
- (C) expect a daymark of no lateral significance
- (D) check to enter the correct channel at the junction daymark

If choice C is selected set score to 1.

19. Which of the following is a boundary between two air masses?

- (A) continent
- (B) isobar
- (C) front
- (D) lapse rate

If choice C is selected set score to 1.

20. The speed of sound in water is approximately _____.

- (A) 1.5 times its speed in air
- (B) 2.5 times its speed in air
- (C) 3.5 times its speed in air
- (D) 4.5 times its speed in air

If choice D is selected set score to 1.

21. Weather observations provided by each weather station include all of the following except _____.

- (A) predicted weather for the next twelve hours
- (B) temperature
- (C) barometric pressure and change in the last three hours
- (D) visibility

If choice A is selected set score to 1.

22. Which item in illustration D034NG below shows a Morse (A) light?

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

If choice D is selected set score to 1.

23. Information about temporary, short term changes affecting the safety of navigation in U.S. waters is distributed to navigational interests by the _____.

- (A) Daily Memorandum
- (B) Summary of Corrections
- (C) HYDROLANT or HYDROPAC broadcasts
- (D) Local Notice to Mariners

If choice D is selected set score to 1.

24. The symbol which appears beside a light on a chart reads "Gp Fl R (2) 10 sec 160 ft 19M". Which characteristic does the light possess?

- (A) Its distinguishing number is "19M".
- (B) It flashes once every ten seconds.
- (C) It has a red light.
- (D) It is visible two nautical miles.

If choice C is selected set score to 1.

25. The hurricane season in the North Atlantic Ocean reaches its peak during the month of _____.

- (A) June
- (B) November
- (C) September
- (D) July

If choice C is selected set score to 1.

26. Under the U.S. Aids to Navigation System on the Western Rivers, passing daymarks on the right descending bank are _____.

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

If choice C is selected set score to 1.

27. Under the IALA Buoyage Systems, a cardinal mark may NOT be used to _____.

- (A) draw attention to a feature in the channel such as a bend, junction, bifurcation, or end of a shoal
- (B) indicate the port and starboard sides of well-defined channels
- (C) indicate that the deepest water in an area is on the named side of the mark
- (D) indicate the safe side on which to pass a danger

If choice B is selected set score to 1.

28. Which statement describes the prevailing wind direction in mid-winter in the Gulf Coast area?

- (A) 40% to 50% of mid-winter winds are from a southern quadrant.
- (B) 30% to 40% of mid-winter winds are from a northern quadrant.
- (C) the winds are variable in speed, but strongest in March.
- (D) None of the above

If choice B is selected set score to 1.

29. Your vessel has a draft of 24 feet. On 7 April 1983 you wish to pass over a temporary obstruction near Lovell Island, MA, that has a charted depth of 22 feet. Allowing for a safety margin of 3.1 feet under your keel, what is the earliest time after 0100 EST (ZD +5) that this passage can be made?

- (A) 0248
- (B) 0304
- (C) 0342
- (D) 0356

If choice C is selected set score to 1.

30. The points on the earth's surface where the magnetic dip is 90° are _____.

- (A) connected by the isoclinal line
- (B) along the magnetic equator
- (C) the isopors
- (D) the magnetic poles

If choice D is selected set score to 1.

31. The climate of the northern Gulf coast _____.

- (A) has an east coast marine type of climate
- (B) is a warm marine type of climate
- (C) is humid and subtropical throughout the year
- (D) varies from warm to subtropical

If choice B is selected set score to 1.

32. At 2221 your course is 222° pgc at a speed of 11.2 knots, when radar detects a buoy bearing 355° relative, at a range of 5.8 miles. The gyro error is 2° E. If you change course at 2226, what course should you steer to leave the buoy 1.0 mile abeam to port?

- (A) 210° pgc
- (B) 228° pgc
- (C) 231° pgc
- (D) 206° pgc

If choice B is selected set score to 1.

33. The rise and fall of the ocean's surface due to a distant storm is known as _____.

- (A) swell
- (B) sea
- (C) waves
- (D) fetch

If choice A is selected set score to 1.

34. Your vessel is steering 263° T at 22 knots. At 0413 a light bears 294° T and at 0421 the same light bears 312° T. What will be your distance off when abeam?

- (A) 3.4 miles
- (B) 3.7 miles
- (C) 4.3 miles
- (D) 4.9 miles

If choice B is selected set score to 1.

35. A chart with a natural scale of 1:160,000 is classified as a _____.

- (A) sailing chart
- (B) general chart
- (C) harbor chart
- (D) coast chart

If choice B is selected set score to 1.

36. An important lunar cycle affecting the tidal cycle is called the nodal period. How long is this cycle?

- (A) 16 days
- (B) 19 years
- (C) 6 years
- (D) 18 days

If choice B is selected set score to 1.

37. What does not contribute to the commercial GPS receiver position error?

- (A) Ship's speed
- (B) Satellite clock
- (C) Satellites' orbits
- (D) Atmospheric/Ionospheric propagation

If choice A is selected set score to 1.

38. Atmospheric pressure may be measured with a(n) _____.

- (A) barograph
- (B) aneroid barometer
- (C) mercurial barometer
- (D) All of the above

If choice D is selected set score to 1.

39. Atmospheric pressure at sea level is equal to _____.

- (A) 1013.25 millibars
- (B) 29.92 inches of mercury
- (C) 14.7 pounds per square inch
- (D) All of the above

If choice D is selected set score to 1.

40. The area of strong westerly winds occurring between 40°S and 60°S latitude is called the _____.

- (A) polar easterlies
- (B) jet streams
- (C) roaring forties
- (D) prevailing westerlies

If choice C is selected set score to 1.

41. In the U.S. Aids to Navigation System on the Western Rivers, the light characteristic of group flashing (2) is used for lights on _____.

- (A) daymarks with no lateral significant
- (B) the left descending bank
- (C) preferred channel buoys
- (D) the right descending bank

If choice B is selected set score to 1.

42. Which describes privately maintained aids to navigation included in the Light List?

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

If choice B is selected set score to 1.

43. Under the IALA-A and B Buoyage Systems, a buoy with alternating red and white vertical stripes indicates _____.

- (A) that the preferred channel is to port
- (B) that there is navigable water all around
- (C) that the preferred channel is to starboard
- (D) an isolated danger exists

If choice B is selected set score to 1.

44. You are inbound in a channel marked by a range. The range line is 040° T. You are steering 036° T. The range is in sight as shown in illustration D047NG below, and is closing. Which action should you take?

- (A) Continue on course until the range is closed, then alter course to the right.
- (B) Immediately alter course to the right to bring the range in line.
- (C) Immediately alter course to 040° T.
- (D) Continue on the present heading until the range is in line then alter course to the left.

If choice A is selected set score to 1.

45. How is the intensity of a light expressed in the Light Lists?

- (A) Geographic range
- (B) Nominal range
- (C) Luminous range
- (D) Meteorological range

If choice B is selected set score to 1.

46. The datum from which the predicted heights of tides are reckoned in the tide tables is the same as that used for the charts of the locality. The depression of the datum below mean sea level for Hampton Roads, Virginia is _____.

- (A) between -.7 and +.5 feet
- (B) between 1.9 and 3.2 feet
- (C) 4.1 feet
- (D) 1.2 feet

If choice D is selected set score to 1.

47. A radar range to a small, charted object such as a light will provide a line of position in which form?

- (A) Straight line
- (B) Parabola
- (C) Hyperbola
- (D) Arc

If choice D is selected set score to 1.

48. You are required to enter a lock on your voyage. Information on the lock regulations, signals, and radio communications can be found in _____.

- (A) Bowditch
- (B) Coast Pilot
- (C) the publication "Key to the Locks"
- (D) Corps of Engineer Information Bulletin

If choice B 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.

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Illustrations: 4

- 50.** What is the approximate geographic range of Horton Point Light, NY, if your height of eye is 40 feet (12.2 meters)? Refer to "Reprints from the LIGHT LISTS AND COAST PILOTS".
- (A) 18.8 nm
 - (B) 19.3 nm
 - (C) 20.3 nm
 - (D) 24.8 nm

If choice B is selected set score to 1.

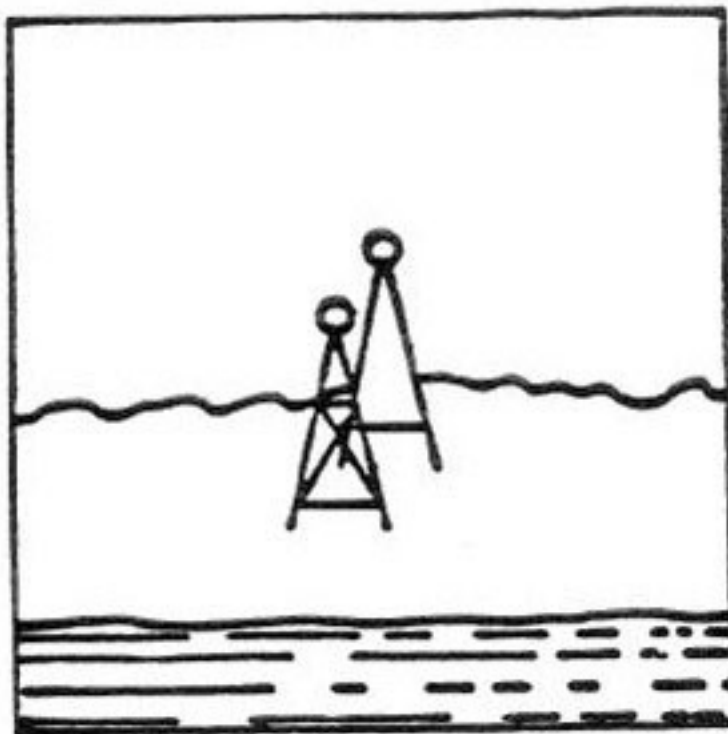
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