

U.S.C.G. Merchant Marine Exam  
Mate Uninspected Fishing Vessels  
Q190 Navigation General - Near Coastal  
(Sample Examination)

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

1. If a weather bulletin shows the center of a low pressure system to be 100 miles due east of you, what winds can you expect in the Southern Hemisphere?
- (A) North-northwesterly
  - (B) South-southeasterly
  - (C) North-northeasterly
  - (D) South-southwesterly

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

2. In many areas "atoll" clouds (clouds of vertical development) are produced over small islands. These are the result of \_\_\_\_\_.
- (A) warm air from the sea rising over higher land areas
  - (B) descending air over the islands
  - (C) rising air currents produced by the warm islands
  - (D) cool land air mixing with warm sea air

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

3. A system of reservoirs and connecting tubes in a gyro compass is called a \_\_\_\_\_.
- (A) gyrotron
  - (B) mercury ballistic
  - (C) rotor
  - (D) spider element

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

4. In the U.S. Aids to Navigation System, red and green horizontally-banded buoys mark \_\_\_\_\_.
- (A) general anchorage areas
  - (B) fishing grounds
  - (C) junctions or bifurcations
  - (D) channels for shallow draft vessels

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

5. You are heading out to sea in a buoyed channel and see a quick-flashing green light on a buoy ahead of you. In U.S. waters, you should leave the buoy \_\_\_\_\_.
- (A) well clear on either side
  - (B) to port
  - (C) to starboard
  - (D) about 50 yards off on either side

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

6. The directive force of a gyrocompass \_\_\_\_\_.

- (A) remains the same at all latitudes
- (B) increases with latitude, being maximum at the geographic poles
- (C) decreases with latitude, being maximum at the geographic equator
- (D) is greatest when a vessel is near the Earth's magnetic equator

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

7. Port side daymarks may be \_\_\_\_\_.

- (A) black and white
- (B) numbered
- (C) of any shape
- (D) octagonal

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

8. You are underway in a vessel with a draft of 6.0 feet. You are in an area where the charted depth of the water is 4 fathoms. You would expect the depth of water beneath your keel to be approximately \_\_\_\_\_.

- (A) 12 feet
- (B) 18 feet
- (C) 24 feet
- (D) 30 feet

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

9. With respect to failure warnings and status indications, GPS receivers should provide, at a minimum, \_\_\_\_\_.

- (A) a cross-track error alarm
- (B) an alarm if engine speed is suddenly reduced
- (C) a warning of loss of position
- (D) an indication of a change in satellite configuration

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

10. You are steaming in a westerly direction along the Gulf Coast. You see ahead of you a lighted buoy showing a red isophase light. Which action should you take?

- (A) Alter course and leave the buoy near by on either side.
- (B) Alter course and pass the buoy well-off on either side.
- (C) Alter course to port and leave the buoy to starboard.
- (D) Alter course to starboard and leave the buoy to port.

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

**11.** The radar control that shortens all echoes on the display and reduces clutter caused by rain or snow is the \_\_\_\_\_.

- (A) sensitivity time control (sea clutter control)
- (B) fast time constant (differentiator)
- (C) brilliance control
- (D) receiver gain control

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

**12.** Automatic identification systems (AIS) are expected to broadcast all of the following information EXCEPT \_\_\_\_\_.

- (A) navigation status
- (B) ship's heading
- (C) port of origin
- (D) time stamp

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

**13.** With respect to automatic identification systems (AIS), which information is required to be broadcast every 1 to 10 seconds?

- (A) Time stamp
- (B) Location of antenna
- (C) Destination
- (D) None of the above

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

**14.** A white buoy with an open-faced orange diamond on it indicates \_\_\_\_\_.

- (A) the buoy is a mooring buoy
- (B) operating restrictions are in effect
- (C) danger
- (D) vessels are excluded from the area

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

**15.** The cold ocean current which meets the warm Gulf Stream between latitudes 40° and 43°N to form the "cold wall" is called the \_\_\_\_\_.

- (A) North Atlantic Current
- (B) North Cape Current
- (C) Labrador Current
- (D) Greenland Current

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

**16.** While proceeding along the Norwegian coast on course 039°T, you sight the black-yellow-black banded buoy shown in illustration D021NG below, bearing 053°T. What action should you take?

- (A) Maintain course
- (B) Alter course to 053° and leave the buoy close aboard on either side
- (C) Alter course to port to rapidly open the bearing to the right
- (D) Alter course to 060° and ensure that the true bearings decreases

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

**17.** An orange and white buoy marking an area where operating restrictions are in effect will be marked with which symbol?

- (A) Rectangle
- (B) Diamond with a cross
- (C) Open-faced diamond
- (D) Circle

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

**18.** 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.*

**19.** A buoy marking a wreck will show a(n) \_\_\_\_\_.

- (A) white light FL (2) and a topmark of 2 black spheres
- (B) yellow light and will be numbered
- (C) continuous quick white light and may be numbered
- (D) occulting green light and may be lettered

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

**20.** A vertically-striped buoy may be \_\_\_\_\_.

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

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

**21.** Under the IALA Buoyage System, which topmark shown in illustration D023NG below will be displayed on a safe water mark?

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

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

**22.** Distance along a track line is measured on a Mercator chart by using the \_\_\_\_\_.

- (A) latitude scale at the mid-latitude of the chart
- (B) longitude scale near the middle of the track line
- (C) latitude scale near the middle of the track line
- (D) latitude or longitude scale at the middle of the scale

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

**23.** A special purpose buoy shall be \_\_\_\_\_.

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

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

**24.** The Light List Does NOT contain information on \_\_\_\_\_.

- (A) radio beacon systems
- (B) radio direction finder calibration stations
- (C) aeronautical lights useful for marine navigation
- (D) the Global Positioning System (GPS)

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

**25.** Geographic range is the maximum distance at which a light may be seen under \_\_\_\_\_.

- (A) perfect visibility conditions, limited only by interference from background lighting
- (B) perfect visibility conditions, limited only by the curvature of the Earth
- (C) existing visibility conditions, limited only by the intensity of the light
- (D) existing visibility conditions, limited only by the curvature of the Earth

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

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

- (A) Morse "A"
- (B) Equal interval
- (C) Flashing
- (D) Occulting

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

**27.** An occulting light is one in which \_\_\_\_\_.

- (A) the periods of light and darkness are equal
- (B) the period of light exceeds the period of darkness
- (C) the period of darkness exceeds the period of light
- (D) there is only a partial eclipse of the light

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

**28.** When a light is first seen on the horizon it will disappear again if the height of eye is immediately lowered several feet. When the eye is raised to its former height the light will again be visible. This process is called \_\_\_\_\_.

- (A) obscuring a light
- (B) checking a light
- (C) bobbing a light
- (D) raising a light

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

**29.** The buoy symbol printed on your chart is leaning to the northeast. This indicates \_\_\_\_\_.

- (A) nothing special for navigational purposes
- (B) you should stay to the north or east of the buoy
- (C) the buoy is a major lighted buoy
- (D) you should stay to the west or south of the buoy

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

**30.** When navigating in high latitudes and using a chart based on a Lambert conformal projection, \_\_\_\_\_.

- (A) a straight line drawn on the chart approximates a great circle
- (B) distance cannot be measured directly from the chart
- (C) the chart should not be used outside of the standard parallels
- (D) the course angle is measured at the mid-longitude of the track line

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

**31.** Which publication lists Class I and II private aids to navigation in or along navigable waters of the United States?

- (A) Light List
- (B) Sailing Directions
- (C) Aids to Navigation Manual
- (D) List of Private Aids

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

**32.** Magnets in the binnacles of magnetic compasses are used to reduce the effect of \_\_\_\_\_.

- (A) local attraction
- (B) deviation
- (C) variation
- (D) All of the above

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

**33.** By convention, the Earth's south magnetic pole is colored \_\_\_\_\_.

- (A) red
- (B) blue
- (C) white
- (D) black

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

**34.** You are proceeding up a channel at night. It is marked by a range which bears  $185^{\circ}T$ . You steady up on a compass course of  $180^{\circ}$  with the range in line dead ahead. This indicates that you(r) \_\_\_\_\_.

- (A) are being affected by a southerly current
- (B) must come right to get on the range
- (C) course is in error
- (D) compass has some easterly error

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

**35.** Your dead reckoning position should be plotted \_\_\_\_\_.

- (A) at least every hour on the hour in the open waters of the sea
- (B) whenever an estimated position is plotted
- (C) when coming on or going off soundings
- (D) when it agrees with your GPS position

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

**36.** A vessel's position should be plotted using bearings of \_\_\_\_\_.

- (A) fixed known objects on shore
- (B) buoys close at hand
- (C) fixed objects
- (D) All of the above

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

**37.** A line of position from a celestial observation is a segment of a \_\_\_\_\_.

- (A) parallel of declination
- (B) vertical circle
- (C) circle of equal altitude
- (D) parallel of altitude

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

**38.** The velocity of a rotary tidal current will be decreased when the Moon is \_\_\_\_\_.

- (A) full
- (B) new
- (C) at apogee
- (D) All of the above

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

**39.** The Brazil Current flows in which general direction?

- (A) Northwesterly
- (B) Southeasterly
- (C) Southwesterly
- (D) Northerly

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

**40.** The region containing 3/4 of the mass of the atmosphere and the region to which are confined such phenomena as clouds, storms, precipitation and changing weather conditions is called \_\_\_\_\_.

- (A) troposphere
- (B) stratosphere
- (C) stratopause
- (D) tropopause

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

**41.** A tsunami is caused by a(n) \_\_\_\_\_.

- (A) tidal wave
- (B) earthquake on the ocean's floor
- (C) storm surge caused by a hurricane or tropical storm
- (D) tornado

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

**42.** If the current and wind are in the same direction, the sea surface represents a wind speed \_\_\_\_\_.

- (A) higher than actually exists
- (B) that has no proportional relationship
- (C) that actually exists
- (D) lower than actually exists

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

**43.** You are underway on course 050°T and your maximum speed is 13 knots. The eye of a hurricane bears 100°T, 120 miles from your position. The hurricane is moving towards 275°T at 25 knots. What course should you steer at 13 knots to have the maximum CPA?

- (A) 339°
- (B) 320°
- (C) 326°
- (D) 333°

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

**44.** You are underway on course 120°T and can make 12 knots. The eye of a hurricane bears 150°T at 120 miles. The hurricane is on course 295° at 20 knots. What course should you steer at 12 knots to have the maximum CPA?

- (A) 330°
- (B) 348°
- (C) 312°
- (D) 001°

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

**45.** A sling psychrometer is used to measure \_\_\_\_\_.

- (A) barometric pressure
- (B) engine temperature
- (C) dry bulb and wet bulb temperatures
- (D) seawater temperature

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

**46.** Temperature and moisture characteristics are modified in a warm or cold air mass due to \_\_\_\_\_.

- (A) upper level atmospheric changes
- (B) the heterogeneous nature of the air mass
- (C) movement of the air mass
- (D) pressure changes in the air mass

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

**47.** When compared to air temperature, which factor is most useful in predicting fog?

- (A) Absolute humidity
- (B) Dew point
- (C) Barometric pressure
- (D) Vapor pressure

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

**48.** An occluded front is caused by a(n) \_\_\_\_\_.

- (A) low pressure area
- (B) high pressure area
- (C) cold front overtaking a warm front
- (D) area of calm air

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

**49.** Which of the following is NOT a form of precipitation?

- (A) sleet
- (B) frost
- (C) rain
- (D) snow

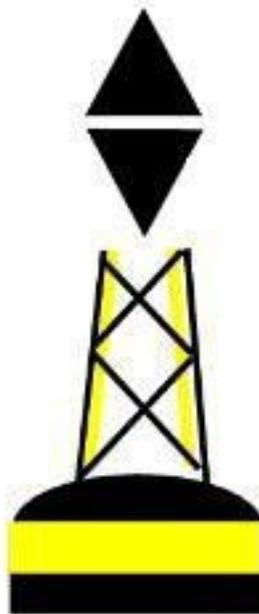
*If choice B is selected set score to 1.*

**50.** When reporting wind direction, you should give the direction in \_\_\_\_\_.

- (A) true degrees
- (B) isobaric degrees
- (C) magnetic compass degrees
- (D) relative degrees

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

## D021NG



## D023NG

