

U.S.C.G. Merchant Marine Exam  
Master Uninspected Fishing Vessels  
Q182 Navigation General – Near Coastal  
(Sample Examination)

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

1. On the pole side of the high-pressure belt in each hemisphere, the pressure diminishes. The winds along these gradients are diverted by the Earth's rotation toward the east. What is the name of these winds?
- A. The geostrophic winds
  - B. The southeast trades
  - C. The northeast trade winds
  - D. The prevailing westerlies

Correct answer: D

2. Buoys which only mark the left or right side of the channel will never exhibit a light with which characteristic?
- A. Quick flashing
  - B. Flashing
  - C. Composite group flashing
  - D. Equal interval (isophase)

Correct answer: C

3. An air mass that has moved down from Canada would most likely have which symbols?
- A. cTw
  - B. cPk
  - C. cTk
  - D. mTk

Correct answer: B

4. The dew point is reached when which condition occurs?
- A. The atmospheric pressure is 14.7 lbs. per square inch
  - B. The temperature of the air equals the temperature of the seawater
  - C. The air becomes saturated with water vapor
  - D. The relative humidity reaches 50%

Correct answer: C

5. Which of the sources contains information on Northern Right Whales?
- A. The Coast Pilot
  - B. Ship's Medicine Chest and Medical Aid at Sea
  - C. HO 229
  - D. The Nautical Almanac

Correct answer: A

6. Which is TRUE when a high-pressure system is centered north of your vessel in the Northern Hemisphere?
- A. The wind direction is generally easterly
  - B. The winds should be brisk
  - C. You should experience hot, moist, clear weather
  - D. The winds should be from the southwest at your position

Correct answer: A

7. Fog forms when the air temperature is at or below \_\_\_\_\_.
- A. 32°F
  - B. the wet bulb temperature
  - C. the dry bulb temperature
  - D. the dew point

Correct answer: D

8. Which term is used to describe the time interval between successive wave crests?
- A. Frequency
  - B. Epoch
  - C. Trough
  - D. Period

Correct answer: D

9. The most dangerous form of icing encountered at sea is formed by which of the following?
- A. Hail
  - B. Rime
  - C. Freezing rain
  - D. Sea spray

Correct answer: D

10. Under the IALA cardinal system, a mark with quick white light showing 3 flashes every 10 seconds indicates that the safest water in the area is in which location?
- A. The south side of the mark
  - B. The west side of the mark
  - C. The north side of the mark
  - D. The east side of the mark

Correct answer: D

11. Which is TRUE of the tides in Boston Harbor?
- A. The tides have their variations caused by the changing declination of the Moon
  - B. The tides have a greater range than the tides in Gulf Coast ports
  - C. The tides are diurnal in nature
  - D. All of the above

Correct answer: B

12. Which characteristics will a lighted buoy that is to be left to starboard, when entering a U.S. port from seaward have?

- A. A light characteristic of Morse (A)
- B. A red light
- C. A white light
- D. A green light

Correct answer: B

13. Which position includes the effects of wind and current?

- A. Leeway position
- B. Estimated position
- C. Set position
- D. Dead reckoning position

Correct answer: B

14. Which is TRUE of a special mark?

- A. It shall be striped black and red
- B. It shall be lighted with a white light
- C. It shall be yellow in color
- D. It shall be lighted with a red light

Correct answer: C

15. Which indication on the barometer is most meaningful in forecasting weather?

- A. The actual barometric pressure
- B. The direction and rate of change of barometric pressure
- C. The words "Fair -- Change -- Rain"
- D. The relative humidity

Correct answer: B

16. The Light List shows that a navigational light has a nominal range of 15 miles and a height above water of 29 feet (8.8 meters). Your height of eye is 52 feet (15.8 meters) and visibility is 6.0 miles. At which approximate range will you first sight the light?

- A. 8.0 miles
- B. 11.0 miles
- C. 14.5 miles
- D. 16.0 miles

Correct answer: B

17. You are steaming in the open ocean of the North Pacific between the Aleutian Chain and Hawaii. A warning broadcast indicates that an earthquake has occurred in the Aleutians and has generated a tsunami that is predicted to hit Hawaii. What action is necessary for the ship's safety?

- A. Calculate the tsunami's ETA at your position and turn to a course that will head into the Tsunami.
- B. Securely stow all loose gear, check deck lashings, and prepare for extreme rolls.
- C. Prepare for sudden, high-velocity wind gusts from rapidly changing directions.
- D. No special action as tsunamis are inconspicuous in the open ocean

Correct answer: D

18. While steering a course of  $150^{\circ}\text{T}$ , you wish to observe a body for a latitude check. What would the azimuth have to be?

- A.  $240^{\circ}\text{T}$
- B.  $150^{\circ}\text{T}$
- C.  $090^{\circ}\text{T}$
- D.  $000^{\circ}\text{T}$

Correct answer: D

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

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

Correct answer: A

20. Weather forecast messages are usually \_\_\_\_\_.

- A. given only to TV stations
- B. broadcast immediately on VHF Channel 16 and 2182 kHz
- C. broadcast in plain language
- D. transmitted only by commercial broadcast stations

Correct answer: C

21. Which is TRUE why Tropical cyclones do not form within  $5^{\circ}$  of the Equator?

- A. The region is too humid
- B. It is too hot in that region
- C. There are no fronts in that area
- D. Negligible Coriolis force in the region

Correct answer: D

22. How are altocumulus clouds defined?

- A. Low clouds
- B. Middle clouds
- C. Vertical development clouds
- D. High clouds

Correct answer: B

23. When you are steering on a pair of range lights and find the upper light is in line above the lower light, you should take which action?

- A. Continue on the present course
- B. Wait until the lights are no longer in a vertical line
- C. Come right
- D. Come left

Correct answer: A

24. What does a white buoy with an open-faced orange diamond on it indicate?

- A. Operating restrictions are in effect
- B. Vessels are excluded from the area
- C. Danger
- D. The buoy is a mooring buoy

Correct answer: C

25. How is a safe water mark, that can be passed close aboard on either side, painted and lighted?

- A. Black and red stripes with an interrupted quick flashing light
- B. Black and red stripes with a Morse (A) light
- C. Black and white stripes with an interrupted quick flashing light
- D. Red and white stripes with a Morse (A) light

Correct answer: D

26. Which is TRUE of echo-sounders?

- A. They measure the actual depth of water below keel
- B. They measure the average depth from waterline to hard bottom
- C. They measure the actual depth of water
- D. They measure the average depth of water to soft bottom

Correct answer: A

27. You take a bearing of  $191^\circ$  and  $313^\circ$  to two objects. Which bearing of a third object will give the best fix?

- A.  $001^\circ$
- B.  $069^\circ$
- C.  $209^\circ$
- D.  $356^\circ$

Correct answer: B

28. In a tropical cyclone, in the Northern Hemisphere, a vessel hove to with the wind shifting counterclockwise is located in which position?

- A. In the navigable semicircle
- B. Ahead of the storm center
- C. Directly in the approach path of the storm
- D. In the dangerous semicircle

Correct answer: A

29. An orange and white buoy indicating a vessel-exclusion area will be marked with what symbol?

- A. Diamond with a cross
- B. Open-faced diamond
- C. Circle
- D. Square

Correct answer: A

30. You have been observing your radar screen and notice that a contact on the screen has remained in the same position, relative to you, for several minutes. Your vessel is making 10 knots through the water. Which statement is TRUE?
- A. The contact is on a reciprocal course at the same speed as your vessel.
  - B. The radar is showing false echoes and is probably defective.
  - C. The contact is dead in the water.
  - D. The contact is on the same course and speed as your vessel.

Correct answer: D

31. Which is TRUE of Raster-scan chart data?
- A. It is a digitized "picture" of a chart in one format and one layer
  - B. It is composed of files that are smaller than vector files
  - C. It is the only format recognized by IMO/IHO
  - D. It is organized into many separate files

Correct answer: A

32. What does a slow rise in the barometric pressure forecast?
- A. Improving weather conditions
  - B. Deteriorating weather conditions
  - C. High seas
  - D. Rainy weather for the next 48 hours

Correct answer: A

33. The Light List shows that a navigational light has a nominal range of 22 miles and a height above water of 48 feet (14.6 meters). Your height of eye is 35 feet (10.7 meters) and the visibility is 20.0 miles. At what approximate range will you first sight the light?
- A. 10.5 nm
  - B. 13.2 nm
  - C. 14.7 nm
  - D. 32.0 nm

Correct answer: C

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

Correct answer: C

35. Isobars on a weather map are useful in predicting which element of the weather?
- A. The relative humidity
  - B. The dew point
  - C. The wind velocity
  - D. The temperature

Correct answer: C

36. In the Northern Hemisphere, an observer at point II in illustration D014NG below, should experience a wind shift from what direction?
- A. northeast, counterclockwise to northwest
  - B. east, counterclockwise to south-southwest
  - C. southwest, clockwise to northwest
  - D. northeast, clockwise to west-southwest

Correct answer: C

37. What is the light phase characteristic of a lighted isolated-danger mark?
- A. Interrupted quick flashing
  - B. Long flashing
  - C. Very quick flashing
  - D. Group flashing

Correct answer: D

38. The chart indicates the variation was  $3^{\circ}45'E$  in 1988, and the annual change is increasing 6'. If you use the chart in 1991 how much variation should you apply?
- A.  $3^{\circ}27'E$
  - B.  $3^{\circ}27'W$
  - C.  $3^{\circ}45'E$
  - D.  $4^{\circ}03'E$

Correct answer: D

39. Which organization operates the Maritime Differential GPS (DGPS)?
- A. The International Maritime Organization
  - B. The Federal Communication Commission
  - C. The U.S. Coast Guard
  - D. The United States Air Force

Correct answer: C

40. What does the Flinders bar on a magnetic compass compensate for?
- A. Induced magnetism in horizontal soft iron
  - B. Permanent magnetism in ship's steel
  - C. Induced magnetism in vertical soft iron
  - D. Vessel's inclination from the vertical

Correct answer: C

41. It is unlawful to approach within how many yards of a Northern Right Whale?
- A. 200
  - B. 300
  - C. 400
  - D. 500

Correct answer: D



42. When does the effects of priming of the tides occur?

- A. When the Moon is between new and first quarter and between full and third quarter
- B. When the Moon is between first quarter and full and between third quarter and new
- C. At times of new and full Moon
- D. When the Earth, Moon, and Sun are lying approximately on the same line

Correct answer: A

43. Which statement concerning current is TRUE?

- A. Current can be determined by measuring the direction and distance between simultaneous EP and DR positions.
- B. The drift of the current should be averaged out on a one hour basis.
- C. After the current is determined, it should not be used for further plotting because it is an unknown variable.
- D. The distance between a simultaneous DR position and fix is equal to the drift of the current.

Correct answer: B

44. As you enter a U.S. channel from seaward, which is TRUE concerning the numbers on the buoys?

- A. increase with the can buoys being even numbered
- B. increase in channels going to the north or west, and decrease in channels going to the south or east
- C. decrease with the can buoys being even numbered
- D. increase with the can buoys being odd numbered

Correct answer: D

45. The Light List shows a lighted aid to navigation on the right bank. In which situation can the light be seen on the port side of a vessel?

- A. When the vessel is ascending the river
- B. When the vessel is proceeding towards sea
- C. When the vessel is descending the river
- D. When the vessel is crossing the river

Correct answer: A

46. Which statement about a gnomonic chart is correct?

- A. Meridians appear as curved lines converging toward the nearer pole.
- B. Parallels, except the equator, appear as curved lines.
- C. A rhumb line appears as a straight line.
- D. Distance is measured at the mid-latitude of the track line.

Correct answer: B

47. What is the reaction of a gyrocompass to an applied force known as?

- A. Precession
- B. Earth rate
- C. Gyroscopic inertia
- D. Gravity effect

Correct answer: A

48. Under the U.S. Aids to Navigation System, what does a lighted buoy with a spherical topmark mark indicate?

- A. A hazard to navigation
- B. The port side of the channel
- C. The position of underwater cables
- D. Safe water

Correct answer: D

49. How are the doldrums characterized?

- A. The steady, light to moderate winds
- B. The low humidity
- C. The frequent calms
- D. The clear skies

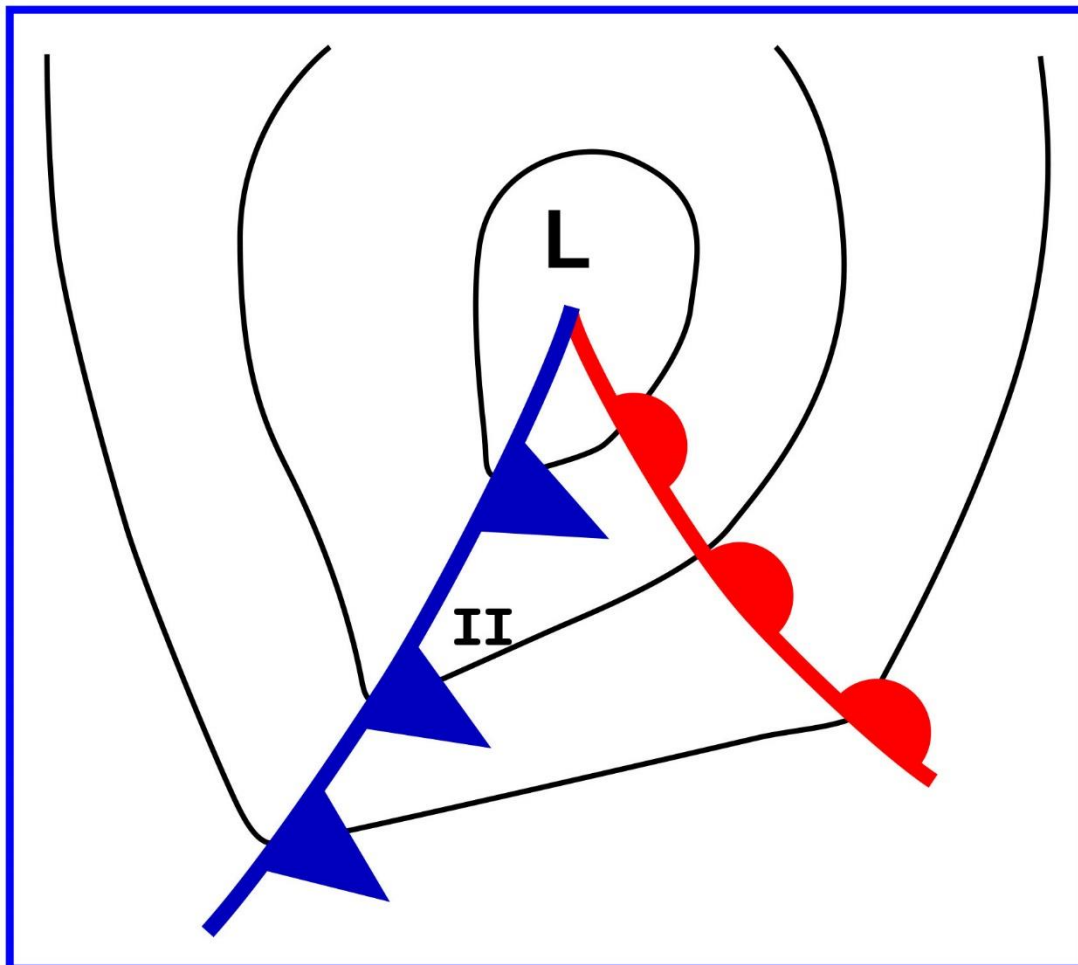
Correct answer: C

50. What natural feature is responsible for the rather even climate found on the Florida peninsula throughout the year?

- A. The cool waters of the Sargasso Sea
- B. The Gulf Stream
- C. Strong masses of continental air
- D. The Bermuda high

Correct answer: B

## D014NG



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