

U.S.C.G. Merchant Marine Exam
Master Uninspected Fishing Vessels
Q183 Navigation General - Oceans
(Sample Examination)

Choose the best answer to the following Multiple Choice Questions.

1. You are steering a southerly course, and you note that the chart predicts an easterly current. Without considering wind, how may you allow for the set?

- ☐ (A) Decrease your speed
- ☐ (B) Head your vessel slightly to the left
- ☐ (C) Increase your speed
- ☒ (D) Head your vessel slightly to the right

If choice D is selected set score to 1.

2. Your vessel is enroute from Japan to Seattle and is located at position I on the weather map in illustration D013NG below. You should experience which weather condition?

- ☐ (A) Overcast skies with rising temperature
- ☐ (B) Steady precipitation
- ☐ (C) Clear skies with warm temperatures
- ☒ (D) Thundershowers

If choice D is selected set score to 1.

3. In a tropical cyclone in the Northern Hemisphere, a vessel hove to with the wind shifting counterclockwise would be in which location?

- ☒ (A) In the navigable semicircle
- ☐ (B) Ahead of the storm
- ☐ (C) In the dangerous semicircle
- ☐ (D) Directly in the path of the center

If choice A is selected set score to 1.

4. In general, on how many radio channels will an automatic identification system (AIS) operate?

- ☒ (A) 2
- ☐ (B) 4
- ☐ (C) 6
- ☐ (D) 8

If choice A is selected set score to 1.

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

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

If choice A is selected set score to 1.

6. You are planning a voyage from San Francisco to Japan. Which publication contains information on the ocean routes?

- ☐ (A) Sailing Directions (Enroute)
- ☒ (B) Sailing Directions (Planning Guide)
- ☐ (C) Coast Pilot
- ☐ (D) World Port Index

If choice B is selected set score to 1.

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

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

If choice A is selected set score to 1.

8. Yesterday your chronometer read 03h 01m 56s at the 1500 GMT time tick. Today your chronometer read 03h 01m 58s at the 1500 GMT time tick. What is the chronometer error?

- ☐ (A) -2s
- ☐ (B) 03h 01m 58s fast
- ☐ (C) +2s
- ☒ (D) 01m 58s fast

If choice D is selected set score to 1.

9. Yellow lights may appear on which buoys?

- ☐ (A) Spherical buoys
- ☐ (B) Horizontally-banded buoys
- ☐ (C) Vertically-striped buoys
- ☒ (D) Special purpose buoys

If choice D is selected set score to 1.

10. 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.

11. When using a radar in an unstabilized mode, fixes are determined most easily from _____.

- ☐ (A) center bearings
- ☐ (B) objects that are close aboard
- ☐ (C) tangent bearings
- ☒ (D) ranges

If choice D is selected set score to 1.

12. In illustration D039NG below, what type of cloud is indicated by the number one?

- ☐ (A) Nimbostratus
- ☐ (B) Altocumulus
- ☒ (C) Cirrus
- ☐ (D) Altostratus

If choice C is selected set score to 1.

13. At about GMT 1436, on 3 December, the lower limb of the Moon is observed with a sextant having an index error of 2.5' on the arc. The height of eye is 32 feet. The sextant altitude (hs) is 3°38.8'. What is the observed altitude?

- ☐ (A) Ho 4°18.6'
- ☒ (B) Ho 4°29.1'
- ☐ (C) Ho 4°36.3'
- ☐ (D) Ho 4°42.2'

If choice B is selected set score to 1.

14. Which is a feature of a special daymark?

- ☐ (A) A green square
- ☐ (B) A red-and-white octagon
- ☐ (C) A daymark with a yellow stripe on it
- ☒ (D) A yellow diamond

If choice D is selected set score to 1.

15. In the horizon system of coordinates what is equivalent to the declination of the equator system?

- ☐ (A) Nadir
- ☒ (B) Altitude
- ☐ (C) Azimuth angle
- ☐ (D) Zenith distance

If choice B is selected set score to 1.

16. Information markers, when lighted, will display which color light?

- ☐ (A) Yellow lights
- ☐ (B) Green lights
- ☐ (C) Red lights
- ☒ (D) White lights

If choice D is selected set score to 1.

17. What is the gyrocompass error resulting from your vessel's movement in OTHER than an east-west direction?

- ☒ (A) Speed error
- ☐ (B) Damping error
- ☐ (C) Quadrantal error
- ☐ (D) Ballistic deflection

If choice A is selected set score to 1.

18. On 6 July, at 1000 zone time, you cross the 180th meridian steaming westward. What is your local time?

- ☐ (A) It is 2200, 7 July.
- ☐ (B) It is 1000, 6 July.
- ☐ (C) It is 1000, 5 July.
- ☒ (D) It is 1000, 7 July.

If choice D is selected set score to 1.

19. You are entering an African port and see ahead of you a red can-shaped buoy. What action should you take?

- ☐ (A) Alter course to leave the buoy to starboard
- ☒ (B) Alter course to leave the buoy to port
- ☐ (C) Pass the buoy close aboard on either side
- ☐ (D) Pass the buoy well clear on either side

If choice B is selected set score to 1.

20. You are on course 312°T. To check the speed of your vessel you should observe a celestial body on which bearing?

- ☒ (A) 312°
- ☐ (B) 222°
- ☐ (C) 090°
- ☐ (D) 000°

If choice A is selected set score to 1.

21. Which theoretical minimum number of measurements from satellites does a GPS receiver need in order to provide an exact three-dimensional position?

- ☐ (A) Five
- ☒ (B) Four
- ☐ (C) Three
- ☐ (D) Two

If choice B is selected set score to 1.

22. In mid-ocean, the characteristics of a wave are determined by three factors. What is NOT one of these factors?

- ☐ (A) Fetch
- ☐ (B) Wind velocity
- ☐ (C) Length of time a wind has been blowing
- ☒ (D) Effect of the moon's gravity

If choice D is selected set score to 1.

23. What is a sling psychrometer used to measure?

- ☐ (A) The engine temperature
- ☐ (B) The sea water temperature
- ☒ (C) The dry bulb and wet bulb temperatures
- ☐ (D) The barometric pressure

If choice C is selected set score to 1.

24. ECDIS must give an alarm for which of the following cases?

- ☐ (A) If the ship, within a specified time set by the watch officer, is going to cross a safety contour
- ☐ (B) When the specified limit for deviation from the planned route is exceeded
- ☐ (C) If the ship, within a specified time set by the watch officer, is going to cross the boundary of a prohibited area
- ☒ (D) All of the above

If choice D is selected set score to 1.

25. What does a slow rise in the barometric pressure forecast?

- ☐ (A) High seas
- ☐ (B) Rainy weather for the next 48 hours
- ☐ (C) Deteriorating weather conditions
- ☒ (D) Improving weather conditions

If choice D is selected set score to 1.

26. Ascending and descending air masses with different temperatures is part of an important heat transmitting process in our atmosphere. Which term is given to this process?

- (A) Convection
- (B) Barometric inversion
- (C) Radiation
- (D) Conduction

If choice A is selected set score to 1.

27. In which source could you find the number of a chart for a certain geographic area?

- (A) Chart No. 1
- (B) American Practical Navigator
- (C) Catalog of Charts
- (D) U.S. Coast Guard Light List

If choice C is selected set score to 1.

28. A Doppler speed log indicates speed through the water _____.

- (A) in the bottom return mode
- (B) at all times
- (C) only when there is no current
- (D) in the volume reverberation mode

If choice D is selected set score to 1.

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

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

If choice C is selected set score to 1.

30. Information about the pilotage available at Miami harbor may best be obtained from which publication?

- (A) Sailing Directions
- (B) World Port Index
- (C) United States Coast Pilot
- (D) Pilot Chart

If choice C is selected set score to 1.

31. Where will you find information about the duration of slack water for ports on the Atlantic Coast of North America?

- ☐ (A) American Practical Navigator
- ☐ (B) Sailing Directions
- ☒ (C) Tidal Current Tables
- ☐ (D) Tide Tables

If choice C is selected set score to 1.

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

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

If choice C is selected set score to 1.

33. Under the IALA-B Buoyage System, when entering from seaward, a buoy that should be left to port will be which color?

- ☒ (A) Green
- ☐ (B) Yellow
- ☐ (C) Black
- ☐ (D) Red

If choice A is selected set score to 1.

34. If several navigational lights are visible at the same time, each one may be positively identified by checking all of the following EXCEPT what against the Light List?

- ☐ (A) Color
- ☐ (B) Rhythm
- ☒ (C) Intensity
- ☐ (D) Period

If choice C is selected set score to 1.

35. How can you follow the approach of a dangerous cyclonic storm?

- ☐ (A) By monitoring the change in the sea temperature
- ☐ (B) Review the Coast Pilot or Sailing Directions
- ☒ (C) By a newspaper, a weather map, a weather fax, or a weather forecast
- ☐ (D) Utilizing the National Weather Service Observing Handbook No.1, Marine Surface Observations

If choice C is selected set score to 1.

36. A body can only be observed at lower transit when _____.

- ☐ (A) the algebraic sum of the colatitude and declination exceeds 90°
- ☒ (B) the body is circumpolar
- ☐ (C) the observer is in high latitudes above either polar circle
- ☐ (D) the declination is the opposite name to the latitude

If choice B is selected set score to 1.

37. You are anchored in the Aleutian Island chain and receive word that a tsunami is expected to strike the islands in six hours. What is the safest action?

- ☐ (A) Plant both anchors with about a 60° angle between them, and let out a long scope to each anchor.
- ☐ (B) Increase the scope of the anchor cable and drop the second anchor underfoot at short stay.
- ☐ (C) Get underway and be close inshore on the side of the island away from the tsunami.
- ☒ (D) Get underway and be in deep, open-ocean water when the tsunami arrives.

If choice D is selected set score to 1.

38. Which term refers to the direction a current is flowing?

- ☐ (A) Drift
- ☒ (B) Set
- ☐ (C) Stand
- ☐ (D) Vector direction

If choice B is selected set score to 1.

39. What causes the error of collimation with regards to the four adjustments to a sextant?

- ☒ (A) Telescope not parallel to the frame
- ☐ (B) The frame and index mirror not perpendicular
- ☐ (C) Personal error
- ☐ (D) The frame and horizon glass not perpendicular

If choice A is selected set score to 1.

40. Which term is given to the mechanical lifting of air by the upslope slant of the terrain?

- ☐ (A) Advective lifting
- ☐ (B) Convective lifting
- ☒ (C) Topographic lifting
- ☐ (D) Vertical lifting

If choice C is selected set score to 1.

41. What does the expression "the air is saturated" mean?

- ☐ (A) The vapor pressure is at its maximum for the prevailing temperature
- ☐ (B) The cloud cover is 100%
- ☒ (C) The relative humidity is 100%
- ☐ (D) The precipitation has commenced

If choice C is selected set score to 1.

42. Which is the term given to the time required for a lighted aid to complete a full cycle of light changes?

- ☐ (A) Set
- ☐ (B) Frequency
- ☐ (C) Function
- ☒ (D) Period

If choice D is selected set score to 1.

43. What is the approximate geographic range of Point Judith Light, Rhode Island, if your height of eye is 62 feet (18.9 meters)? Refer to "Reprints from the LIGHT LISTS AND COAST PILOTS". (use charted range of 20 miles as nominal range)

- ☐ (A) 9.6 nm
- ☐ (B) 16.5 nm
- ☒ (C) 18.6 nm
- ☐ (D) 20.7 nm

If choice C is selected set score to 1.

44. You are underway on course 328°T when you sight a buoy broad on your port bow. Which would indicate that you are in the best navigable water?

- ☐ (A) The buoy is a western quadrant buoy
- ☐ (B) The buoy is painted yellow on the top half and black on the bottom
- ☐ (C) The buoy has a topmark of two cones with points down
- ☒ (D) The buoy exhibits a light with the characteristic of VQ(3)5s

If choice D is selected set score to 1.

45. If an observer in the Northern Hemisphere faces the surface wind, where is the center of low pressure located?

- ☒ (A) To the right, and slightly behind
- ☐ (B) To the left, and slightly in front
- ☐ (C) To the right, and slightly in front
- ☐ (D) To the left, and slightly behind

If choice A is selected set score to 1.

46. When is the greatest directive horizontal force exerted on the magnetic compass of a vessel?

- (A) When the vessel is near the magnetic equator
- (B) When the vessel is near the magnetic poles
- (C) When the compass needles are nearly in line with the meridian
- (D) When the variation is near zero

If choice A is selected set score to 1.

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

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

If choice B is selected set score to 1.

48. What is the average speed of movement of a hurricane prior to recurvature?

- (A) 4 to 6 knots
- (B) 6 to 8 knots
- (C) 10 to 12 knots
- (D) 15 to 20 knots

If choice C is selected set score to 1.

49. The vertex of a great circle track is in LONG 109°E. Which longitude would an eastbound vessel cross the equator?

- (A) 19°E
- (B) 161°E
- (C) 19°W
- (D) 161°W

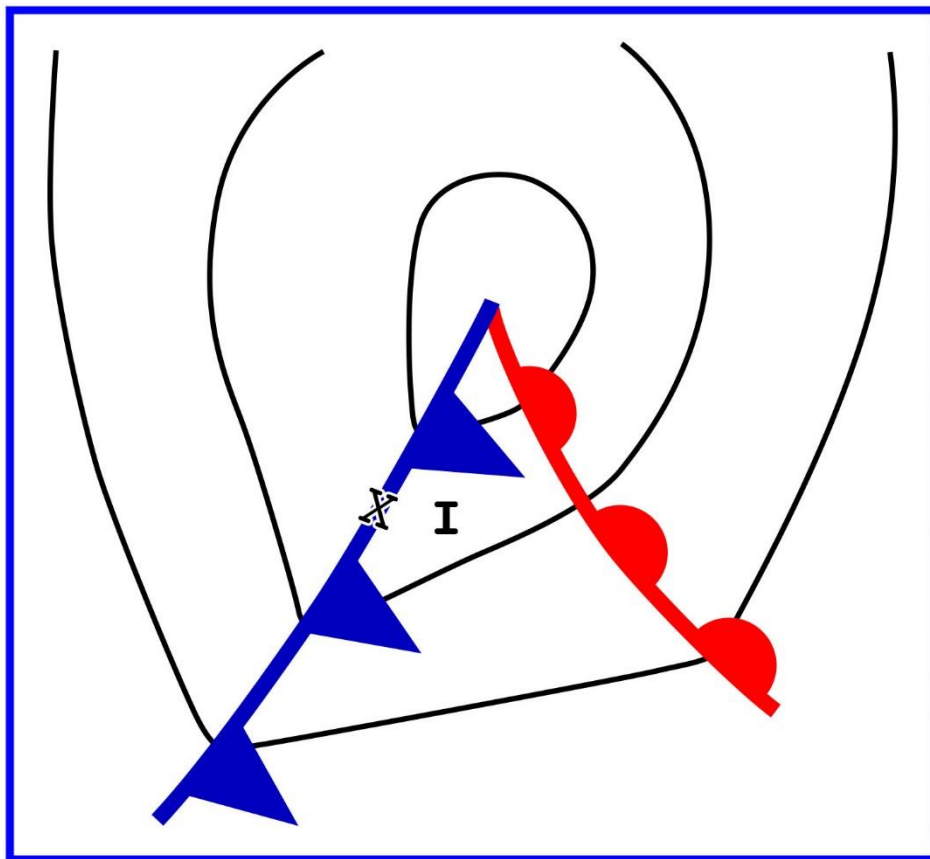
If choice D is selected set score to 1.

50. Weather observations provided by each weather station include all of the following except which item?

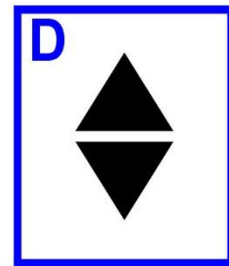
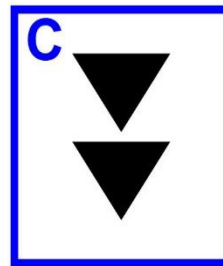
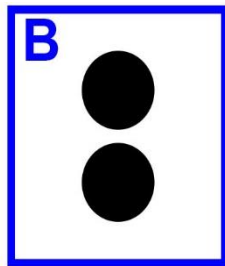
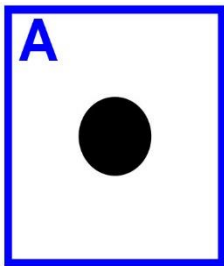
- (A) Barometric pressure and change in the last three hours
- (B) Visibility
- (C) Predicted weather for the next twelve hours
- (D) Temperature

If choice C is selected set score to 1.

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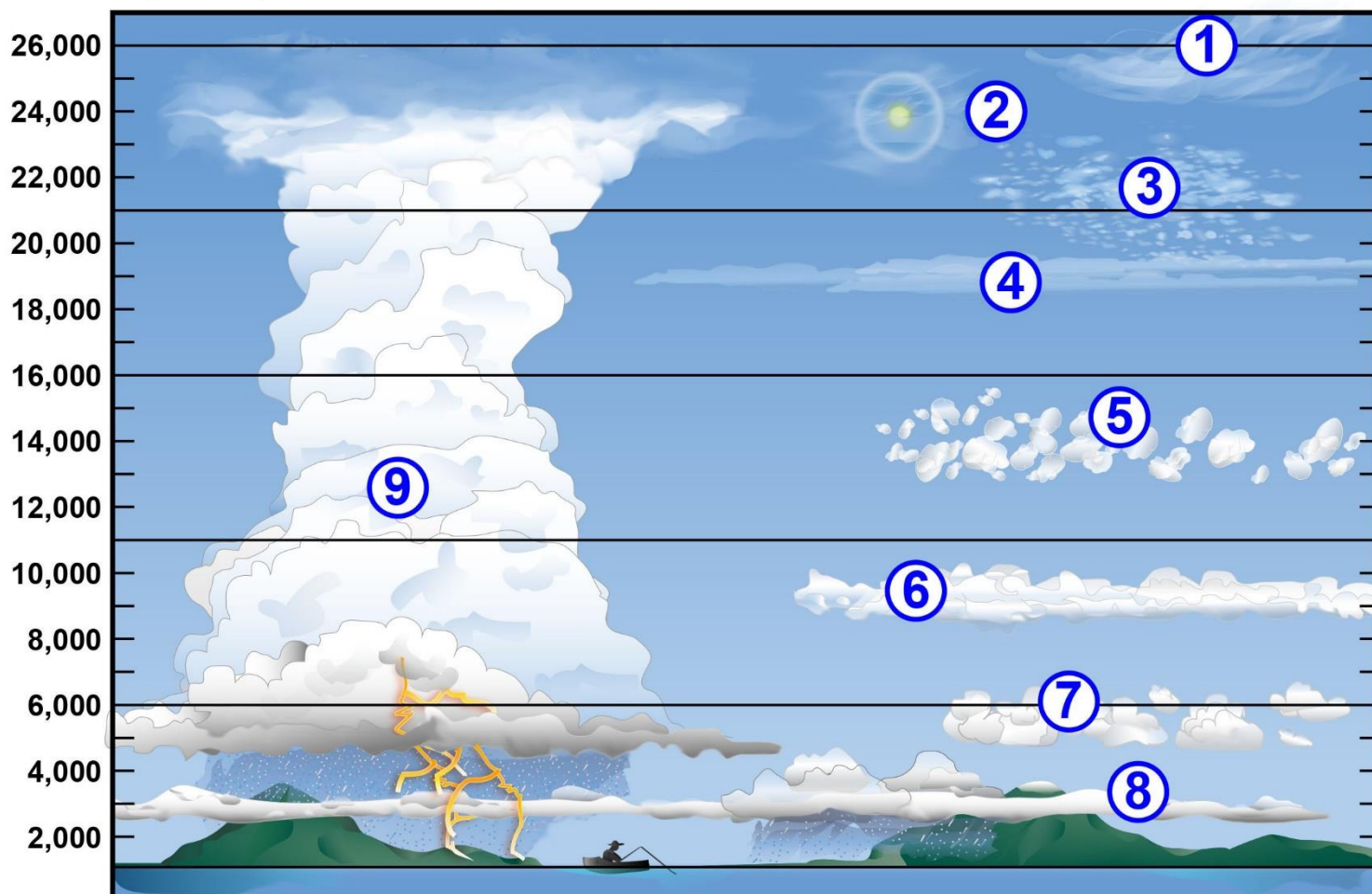
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D039NG

Altitude (in feet)



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