

## U.S.C.G. Merchant Marine Exam

Mate Less than 500-1600 Gross Registered Tons

Q330 Chart 12221TR

(Sample Examination)

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

1. The following questions are based on Chart 12221TR, Chesapeake Bay Entrance, and the supporting publications.

The draft of your vessel is 9.0 feet (2.75 meters)

Gyro error is 2°W

Variation is 10°W

"Per standard magnetic compass" is abbreviated "psc"

"Per gyrocompass" is abbreviated "pgc"

**DEVIATION TABLE**

***Magnetic***

***Heading      Deviation***

000°	1.5°E
030°	2.0°E
060°	1.0°E
090°	0°
120°	1.0°W
150°	1.5°W
180°	2.5°W
210°	1.5°W
240°	1.0°W
270°	0.5°W
300°	0°
330°	0.5°E

On 31 July, you are anchored at LAT 37°22.4'N, LONG 75°39.9'W

You get underway at 0240 enroute to Yorktown, VA

What is the course psc from the anchorage to point A located 0.5 mile east of Cape Charles Lighted Bell Buoy 14?

- A. 194°psc
- B. 190°psc
- C. 180°psc
- D. 187°psc

Correct answer: A

2. Which of the following describes the coast between Great Machipongo Inlet and Cape Charles?

- A. broken by the mouths of several major rivers
- B. low, with sandy beaches bordered by marsh and woodlands
- C. composed of high, rocky bluffs and wooded uplands
- D. marked by prominent, isolated, barren hills

Correct answer: B

3. If your engines turn for 6.5 knots, and you encounter a 0.5 knot southerly current, what is your ETA at point A?
- A. 0511
  - B. 0400
  - C. 0450
  - D. 0501

Correct answer: C

4. What is the course to steer per gyrocompass from the anchorage to point "A" if easterly winds are causing 3° of leeway?
- A. 181°pgc
  - B. 178°pgc
  - C. 189°pgc
  - D. 185°pgc

Correct answer: A

5. At 0250, Great Machipongo Inlet Light "5" (37°21.8'N, 75°43.7'W) bears 279°pgc.  
At 0320, the light bears 320° pgc.

If you are making good 6.5 knots, what is the position of your 0320-running fix?

- A. LAT 37°17.95'N, LONG 75°39.95'W
- B. LAT 37°18.10'N, LONG 75°39.55'W
- C. LAT 37°18.10'N, LONG 75°39.30'W
- D. LAT 37°18.00'N, LONG 75°39.75'W

Correct answer: B

6. At 0400, you obtain the following information:  
Sand Shoal Inlet South Light bearing 303° true at 7.1nm

What is your 0400 position?

- A. LAT 37°14.2'N, LONG 75°40.7'W
- B. LAT 37°14.0'N, LONG 75°40.7'W
- C. LAT 37°14.1'N, LONG 75°41.3'W
- D. LAT 37°14.1'N, LONG 75°40.5'W

Correct answer: B

7. The visibility is about 5 miles. Which statement about Cape Charles Light is TRUE?
- A. The light has been visible since you departed the anchorage.
  - B. The light was visible at about 0400.
  - C. The light will not be visible until you enter the inbound leg of the traffic separation scheme.
  - D. You will not see the light until you are within 5 miles of the light.

Correct answer: B

8. Which statement about your 0400 position is TRUE?
- A. You are within the territorial sea and contiguous zone.
  - B. The ocean floor is composed of shale.
  - C. Anchoring, trawling and fishing are prohibited.
  - D. You are governed by the Inland Rules of the Road.

Correct answer: A

9. At 0405, you increase speed.  
At 0500, your position is LAT 37°06.0'N, LONG 75°41.1'W.

What is the approximate depth of the water under the keel?

- A. 46 feet (13.9 meters)
- B. 62 feet (18.8 meters)
- C. 66 feet (20.0 meters)
- D. 54 feet (16.4 meters)

Correct answer: A

10. At 0600, you are entering the inbound leg of the traffic separation scheme at position LAT 36°59.2'N, LONG 75°47.6' W. Course is 250°T.

At 0605, Cape Henry Light bears 249°T

At 0610, Cape Henry Light bears 248°T

At 0625, Cape Henry Light bears 247°T

Based on this, you know you are \_\_\_\_\_.

- A. being set to the north
- B. running with a current from dead ahead
- C. being set to the south
- D. meeting a current from dead ahead

Correct answer: A

11. Which of the following is a characteristic of the abandoned lighthouse at Cape Henry?

- A. black, skeleton structure
- B. gray, pyramidal tower
- C. octagonal, black and white tower
- D. mound of broken rubble

Correct answer: B

12. Weather broadcasts for the Norfolk area are broadcast on which frequency?

- A. 162.55 MHz
- B. 162.35 MHz
- C. 162.30 MHz
- D. 162.50 MHz

Correct answer: A

**13.** When Cape Henry Light is abeam, what is the approximate distance to Yorktown?

- A. 55 miles
- B. 34 miles
- C. 42 miles
- D. 58 miles

Correct answer: B

**14.** As you pass between trestle "B" and trestle "C" of the Chesapeake Bay Bridge - Tunnel, you sight along the trestle "C" when it is in line. The trestle bears 057° per standard magnetic compass while the vessel is heading 320°T. Which of the following can be determined from this information?

- A. compass error is 12°W
- B. deviation table is correct for that bearing
- C. vessel should be swung to check the deviation table
- D. deviation is 10°W

Correct answer: C

**15.** The wind is easterly and will cause 2° of leeway. The current is 180° at 0.5 knot. If your engines are turning for 8.0 knots, what should you steer to remain in York River Entrance Channel?

- A. 304°T
- B. 315°T
- C. 310°T
- D. 307°T

Correct answer: B