

U.S.C.G. Merchant Marine Exam  
Mate Uninspected Fishing Vessels  
Q193 Navigation Problems - Near Coastal  
(Sample Examination)

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

1. You are underway on course  $160^{\circ}\text{T}$  at 10 knots. The current is  $210^{\circ}\text{T}$  at 0.9 knots. What is the course made good?
- (A)  $169^{\circ}\text{T}$
  - (B)  $160^{\circ}\text{T}$
  - (C)  $156^{\circ}\text{T}$
  - (D)  $164^{\circ}\text{T}$

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

2. You are steering  $202^{\circ}\text{T}$ , and a light is picked up dead ahead at a distance of 14.6 miles at 2234. You change course to pass the light 5 miles off abeam to starboard. If you are making 21 knots, what is your ETA at the position 5 miles off the light?
- (A) 2310
  - (B) 2313
  - (C) 2316
  - (D) 2319

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

3. You are taking a time tick using the 2000 signal from Kekaha-Kauai, Hawaii (WWVH). You hear a series of 1 second dashes followed by a 9 second silent period, then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 07h 59m 54s. When compared to the chronometer, the comparing watch reads 08h 00m 00s, and the chronometer reads 08h 00m 06s. What is the chronometer error?
- (A) No error
  - (B) 0m 06s fast
  - (C) 0m 12s fast
  - (D) 0m 06s slow

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

4. If the speed necessary for reaching port at a designated time is 19.2 knots and the pitch of the propeller is 22.7 feet, how many revolutions per minute will the shaft have to turn, assuming a 4% positive slip?
- (A) 103
  - (B) 82
  - (C) 89
  - (D) 96

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

5. A vessel at LAT 32°14.7'N, LONG 66°28.9'W, heads for a destination at LAT 36°58.7'N, LONG 75°42.2'W. Determine the distance by Mercator sailing.
- (A) 300.2° miles
  - (B) 538.2° miles
  - (C) 241.2° miles
  - (D) 270.2° miles

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

6. You swung ship and compared the magnetic compass against the gyro compass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a magnetic compass heading of 210°.

HEADING	HEADING	HEADING
<u>PSC-PGC</u>	<u>PSC-PGC</u>	<u>PSC-PGC</u>
358.5°-354°	122.5°-114°	239.5°-234°
030.5°-024°	152.0°-144°	269.0°-264°
061.5°-054°	181.0°-174°	298.0°-294°
092.0°-084°	210.0°-204°	327.5°-324°

- (A) 0.5°W
- (B) 0.5°E
- (C) 1.0°E
- (D) 0.0°

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

7. Your vessel is proceeding up a channel, and you see a pair of range lights that are in line dead ahead. The chart indicates that the direction of this pair of lights is 093°T, and the variation is 6°E. If the heading of your vessel at the time of the sighting is 097° per standard magnetic compass, what is the correct deviation?
- (A) 5°E
  - (B) 10°E
  - (C) 5°W
  - (D) 10°W

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

8. The wind at Frying Pan shoals has been south-southwesterly at an average velocity of 30 knots. The predicted set and drift of the rotary current are 232° at 0.8 knot. What current should you expect?
- (A) 092° at 1.3 knots
  - (B) 224° at 0.4 knot
  - (C) 139° at 0.6 knot
  - (D) 065° at 1.2 knots

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

9. Off Barnegat, NJ, with the wind coming out of the east, the wind-driven current will be flowing approximately \_\_\_\_\_.

- (A) 106°
- (B) 254°
- (C) 016°
- (D) 286°

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

10. Your vessel will be docking at Chester, PA, during the evening of 22 April 1983. The chart shows a depth of 20 feet (6.1 meters) at the pier. What will be the depth of water available at 1856 EST (ZD +5)?

- (A) 22.4 feet (6.8 meters)
- (B) 24.9 feet (7.6 meters)
- (C) 25.7 feet (7.8 meters)
- (D) 23.4 feet (7.2 meters)

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