

U.S.C.G. Merchant Marine Exam

Mate Less than 500-1600 Gross Registered Tons

Q141 Navigation Problems - Near Coastal

(Sample Examination)

Choose the best answer to the following Multiple Choice questions.

1. On 7 April in DR position LAT 27°42.0'N, LONG 114°03.0'W, you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears 076°psc. The chronometer reads 02h 10m 17s and is 01m 52s slow. Variation in the area is 8°E. What is the deviation of the standard magnetic compass?
- (A) 6.2°E
 - (B) 7.8°W
 - (C) 2.3°E
 - (D) 1.8°W

If choice D is selected set score to 1.

2. 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 gyro heading of 039°.

HEADING PSC-PGC	HEADING PSC-PGC	HEADING PSC-PGC
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) 0.8°E
- (B) 0.5°W
- (C) 0.0°
- (D) 1.0°W

If choice D is selected set score to 1.

3. What will be the velocity of the tidal current at Port Royal, VA, at 1505 DST (ZD +4) on 4 June 1983?
- (A) 0.7 knot
 - (B) 0.4 knot
 - (C) 0.0 knot
 - (D) 0.1 knot

If choice B is selected set score to 1.

4. You are on a voyage from Boston, MA to the South Pass, LA. The distance is 1870 miles, and the speed of advance is 13.6 knots. You estimate 16.5 hours for bunkering enroute at Port Everglades, FL. If you sailed at 0836 hours (ZD +5), 26 February, what was your ETA (ZD +6) at the South Pass?
- (A) 1736, 4 March
 - (B) 1136, 4 March
 - (C) 1236, 4 March
 - (D) 2336, 3 March

If choice A is selected set score to 1.

5. Your vessel receives a distress call from a vessel reporting her position as LAT 35°01'S, LONG 18°51'W. Your position is LAT 30°18'S, LONG 21°42'W. Determine the true course from your vessel to the vessel in distress by Mercator sailing.
- (A) 160°T
 - (B) 149°T
 - (C) 153°T
 - (D) 135°T

If choice C is selected set score to 1.

6. You are off the coast of Mexico and are taking a time tick for 1600. At approximately 1554, you hear the preparatory signal "VVVV de XDD" from the time signal station. Then you hear a series of 1 second dashes followed by a 9 second silent period and then a long 1.3 second dash. At the beginning of the long dash, your comparing watch reads 03h 59m 56s. When compared to the chronometer, the comparing watch reads 04h 01m 22s, and the chronometer reads 04h 02m 11s. What is the chronometer error?
- (A) 1m 26s fast
 - (B) 0m 04s slow
 - (C) 0m 45s fast
 - (D) 2m 15s slow

If choice C is selected set score to 1.

7. If the pitch of the propeller is 19.4 feet, and the revolutions per day are 96,713, calculate the day's run allowing 6% positive slip.
- (A) 308.6 miles
 - (B) 327.1 miles
 - (C) 290.1 miles
 - (D) 266.4 miles

If choice C is selected set score to 1.

8. If the pitch of the propeller is 20.6 feet, and the revolutions per day are 107,341, calculate the day's run allowing 3% positive slip.
- (A) 374.5 miles
 - (B) 352.7 miles
 - (C) 363.6 miles
 - (D) 389.1 miles

If choice B is selected set score to 1.

9. The mean tide level at Peaks Island, ME, is _____.
- (A) 3.2 feet (1.0 meters)
 - (B) 2.5 feet (0.8 meters)
 - (C) 4.5 feet (1.4 meters)
 - (D) 1.8 feet (0.5 meters)

If choice C is selected set score to 1.

10. On 12 June at 0919 zone time, your position is LAT 26°52'N, LONG 84°34'W.
The chronometer reads 03h 17m 00s. Chronometer error is 01m 40s slow.
At that time, an azimuth of the Sun is obtained. The bearing is 089.5° per standard magnetic compass.
Variation for this area is 4.5°E.
What is the deviation of the standard magnetic compass?
- (A) 9.5°W
 - (B) 5.2°W
 - (C) 9.5°E
 - (D) 5.2°E

If choice B is selected set score to 1.