

U.S.C.G. Merchant Marine Exam
Master/Chief Mate Offshore Supply Vessels
Q206 Navigation Problems – Near Coastal
(Sample Examination)

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

1. At 1845 zone time on 24 October, you depart Bimini Island, LAT 25°50.0'N, LONG 77°00.0'W (ZD +5). You are bound for Bishop Rock, LAT 49°40.0'N, LONG 6°34.0'W, and you estimate your speed of advance at 13.6 knots. The distance is 3,491 miles. What is your estimated zone time of arrival at Bishop Rock?
- A. 0627, 3 November
 - B. 1642, 3 November
 - C. 0939, 4 November
 - D. 1627, 4 November

Correct answer: D

2. On 10 November 2023 at 2130, you are inbound at Charleston Harbor Entrance Buoy "10" (ACT6611). Your vessel will transit 15nm and make good 12.5 knots to a berth where the nearest tidal current station is ACT6706. What will be the direction and velocity of the current as you approach the dock? See illustration D058NG.
- A. 0.4kts at 104°T
 - B. 0.4kts at 280°T
 - C. 2.0kts at 172°T
 - D. 2.0kts at 335°T

Correct answer: C

3. A vessel steams 1650 miles on course 077°T from LAT 12°47'N, LONG 45°10'E. What is the latitude and longitude of the point of arrival by Mercator sailing?
- A. LAT 19°06'N, LONG 72°36'E
 - B. LAT 19°02'N, LONG 72°44'E
 - C. LAT 18°54'N, LONG 72°58'E
 - D. LAT 18°58'N, LONG 72°52'E

Correct answer: D

4. On 9 September your 2043 ZT position is LAT 24°18'N, LONG 66°46'W. You observe Polaris bearing 001°pgc. At the time of the observation the helmsman noted that he was heading 031°pgc and 040°psc. The variation is 11°W. What is the deviation for that heading?
- A. 0°
 - B. 1°W
 - C. 3°W
 - D. 2°E

Correct answer: D

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5. Your vessel is steering course 243° psc. Variation for the area is 5° E, and deviation is 2° W. The wind is from the south-southeast, producing a 2° leeway. What true course are you making good?
- A. 242° T
 - B. 244° T
 - C. 246° T
 - D. 248° T

Correct answer: D

6. You are taking a time tick using the 1930 signal from Rio de Janeiro, Brazil. You hear the preparatory signal "CQ DE PPE" repeated several times followed by a short dash (0.4 sec), 60 dots (0.1 sec each) and another short dash. At the beginning of the last dash, the comparing watch reads 07h 30m 13s. When compared to the chronometer, the comparing watch reads 07h 31m 56s, and the chronometer reads 07h 30m 21s. What is the chronometer error?
- A. 1m 48s slow
 - B. 0m 13s fast
 - C. 1m 22s slow
 - D. 1m 43s fast

Correct answer: C

7. On 14 October 2023, you will be docking on the Southern Branch Elizabeth River, VA at the first high tide. The berth is located between NOAA reference tidal station #8638660 and reference station #8639348. What time (LST) will you be docking? See illustration D063NG.
- A. 0848
 - B. 0946
 - C. 0840
 - D. 0845

Correct answer: D

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. 389.1 miles
 - B. 352.7 miles
 - C. 374.5 miles
 - D. 363.6 miles

Correct answer: B

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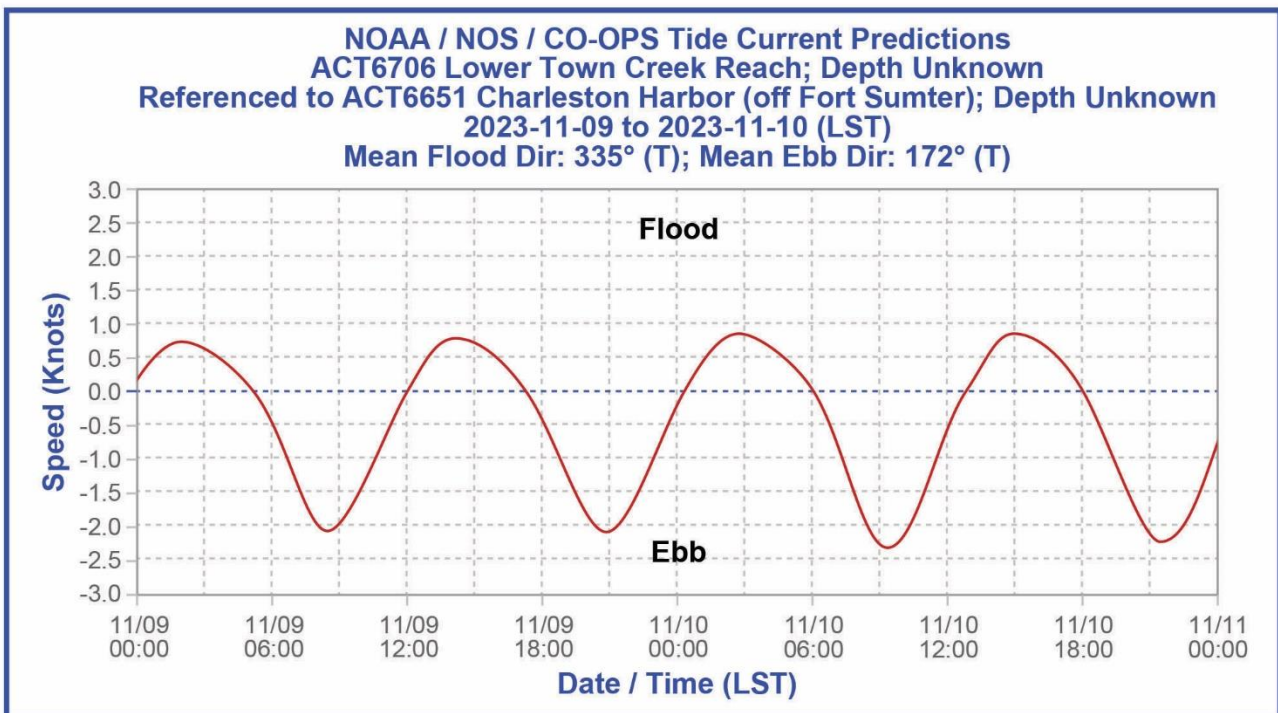
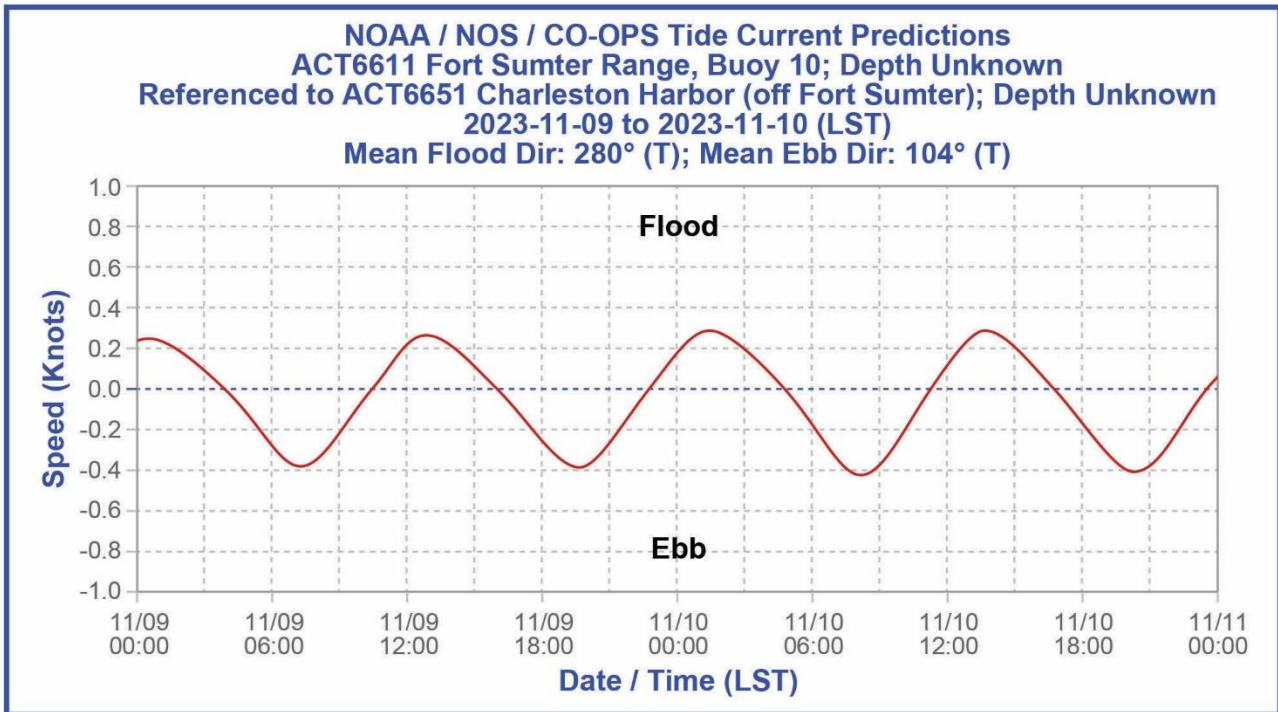
9. On 8 December in DR position LAT $21^{\circ}56.1'S$, LONG $17^{\circ}21.6'E$ you observe an amplitude of the Sun. The Sun's center is on the celestial horizon and bears $240.5^{\circ}psc$. The chronometer reads 05h 27m 21s and is 00m 47s fast. Variation in the area is $3.3^{\circ}E$. What is the deviation of the standard magnetic compass?
- A. $1.5^{\circ}W$
 - B. $0.3^{\circ}W$
 - C. $0.6^{\circ}E$
 - D. $1.5^{\circ}E$

Correct answer: D

10. You have steamed 746 miles at 14.0 knots and consumed 152 tons of fuel. If you have 201 tons of usable fuel remaining, how far can you steam at 10 knots?
- A. 1934 miles
 - B. 2263 miles
 - C. 1381 miles
 - D. 2707 miles

Correct answer: A

D058NG



Adapted for testing purposes only from National Oceanic and Atmospheric Administration (NOAA)
Current Predictions,

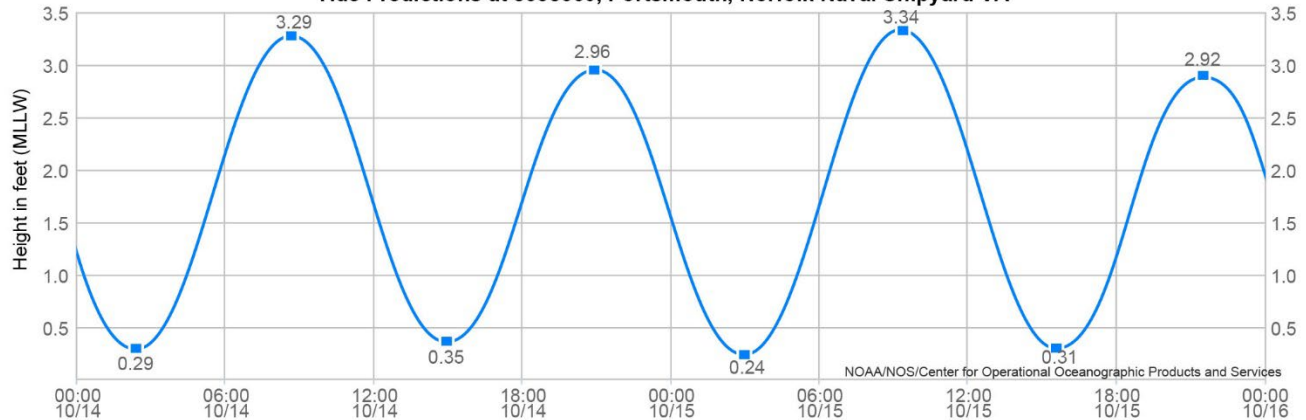
<https://www.tidesandcurrents.noaa.gov>

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D063NG

NOAA/NOS/CO-OPS

Tide Predictions at 8638660, Portsmouth, Norfolk Naval Shipyard VA



High/Low Tide Prediction Data Listing

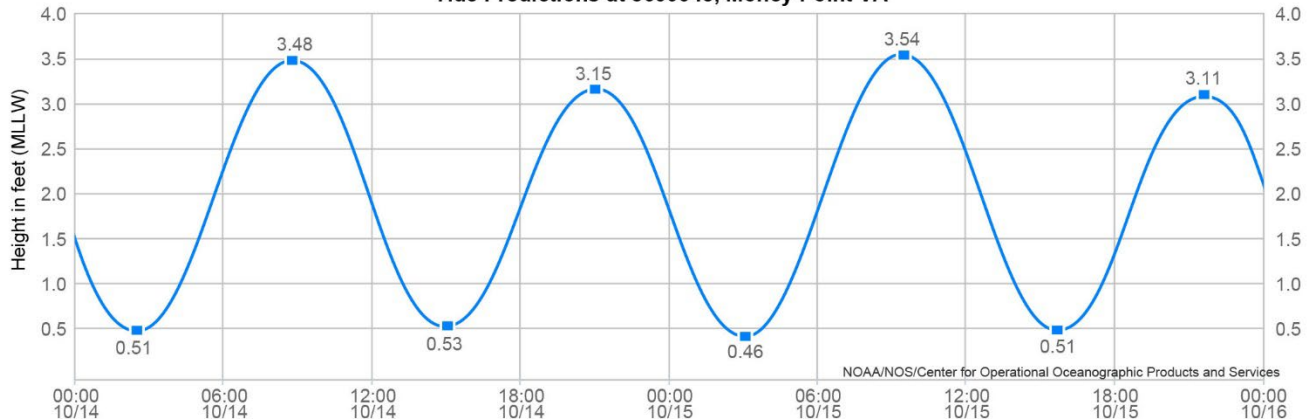
Station Name: Portsmouth, Norfolk Naval Shipyard, VA
 Action: Daily
 Product: Tide Predictions
 Start Date & Time: 2023/10/14 00:00
 End Date & Time: 2023/10/15 23:59

Source: NOAA/NOS/CO-OPS
 Prediction Type: Harmonic
 Datum: MLLW
 Height Units: Feet
 Time Zone: LST

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2023/10/14	Sat	02:25	0.29 L	08:40	3.29 H	14:58	0.35 L	20:53	2.96 H
2023/10/15	Sun	03:00	0.24 L	09:17	3.34 H	15:37	0.31 L	21:32	2.92 H

NOAA/NOS/CO-OPS

Tide Predictions at 8639348, Money Point VA



High/Low Tide Prediction Data Listing

Station Name: Money Point, VA
 Action: Daily
 Product: Tide Predictions
 Start Date & Time: 2023/10/14 00:00
 End Date & Time: 2023/10/15 23:59

Source: NOAA/NOS/CO-OPS
 Prediction Type: Harmonic
 Datum: MLLW
 Height Units: Feet
 Time Zone: LST

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2023/10/14	Sat	02:25	0.51 L	08:48	3.48 H	15:00	0.53 L	21:02	3.15 H
2023/10/15	Sun	03:01	0.46 L	09:25	3.54 H	15:40	0.51 L	21:40	3.11 H

Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
 Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

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 Tide Predictions,

<https://www.tidesandcurrents.noaa.gov>
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