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. If the speed necessary for reaching port at a designated time is 23.7 knots and the pitch of the propeller is 20.8 feet, how many revolutions per minute will the shaft have to turn, assuming a 7% negative slip?

   A. 124 RPM
   B. 112 RPM
   C. 108 RPM
   D. 116 RPM

   Correct answer: C

2. On 15 October 2023, you will be docking on the Southern Branch Elizabeth River, VA at the second 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. 2238
   B. 2136
   C. 2132
   D. 2140

   Correct answer: B

3. You depart LAT 49°45.0'N, LONG 06°35.0'W, and steam 3599 miles on course 246.5°T. What is the longitude of your arrival by Mercator sailing?

   A. LONG 78°14.0'W
   B. LONG 78°22.6'W
   C. LONG 77°02.8'W
   D. LONG 76°36.2'W

   Correct answer: C

4. While proceeding up a channel on course 010° per gyrocompass, you notice a pair of range lights in alignment with the masts of your vessel when viewed forward. A check of the chart shows the range to be 009°T and the variation to be 15°W. If the ship's course is 026°psc, what is the deviation for the present heading?

   A. 2°W
   B. 2°E
   C. 1°W
   D. 1°E

   Correct answer: A

5. 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 08s. When compared to the chronometer, the comparing watch reads 07h 31m 48s, and the chronometer reads 07h 32m 16s. What is the chronometer error?

   A. 0m 36s fast
   B. 0m 28s slow
   C. 0m 08s fast
   D. 1m 40s slow

   Correct answer: A

6. You swung ship and compared the magnetic compass against the gyrocompass to find deviation. Gyro error is 2°W. The variation is 8°W. Find the deviation on a magnetic compass heading of 022°.

NP-0121

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

   A. 1.5°E
   B. 0.5°E
   C. 0.0°
   D. 0.5°W

   Correct answer: C

7. You are underway on course 241°T at a speed of 18.2 knots. You sight a daymark bearing 241°T at a radar range of 3.9 miles at 1006. If you change course at 1009, what is the course to steer to leave the daymark abeam to starboard at 1.0 mile?

   A. 222°T
   B. 218°T
   C. 257°T
   D. 260°T

   Correct answer: A

8. You are underway on course 106°T at a speed of 15.3 knots. You sight a buoy bearing 109°T at a radar range of 3.6 miles at 1725. If you change course at 1728, what is the course to steer to leave the buoy abeam to port at 0.5 mile?

   A. 100°T
   B. 117°T
   C. 120°T
   D. 125°T

   Correct answer: C

9. While on a course of 138°T, a light bears 14° on the starboard bow at a distance of 8.6 miles. What course should you steer to pass 3 miles abeam of the light leaving it to starboard?

   A. 141°T
   B. 135°T
   C. 138°T
   D. 132°T

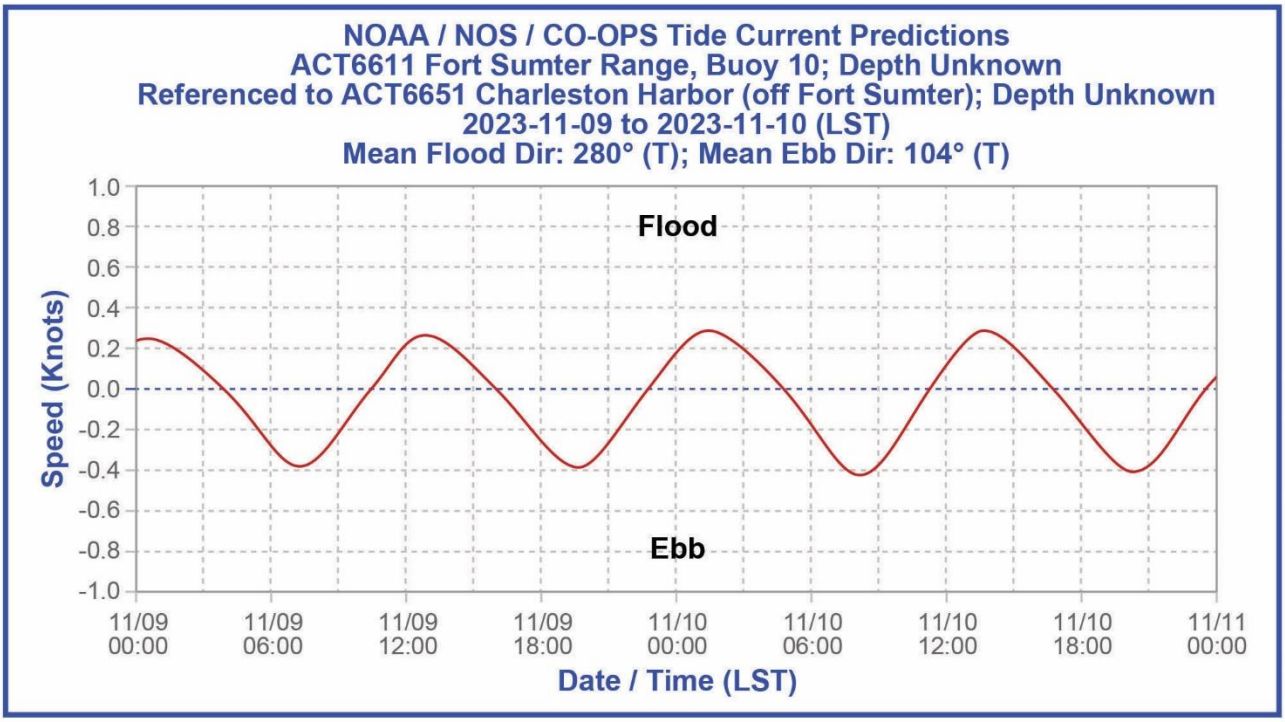
   Correct answer: D

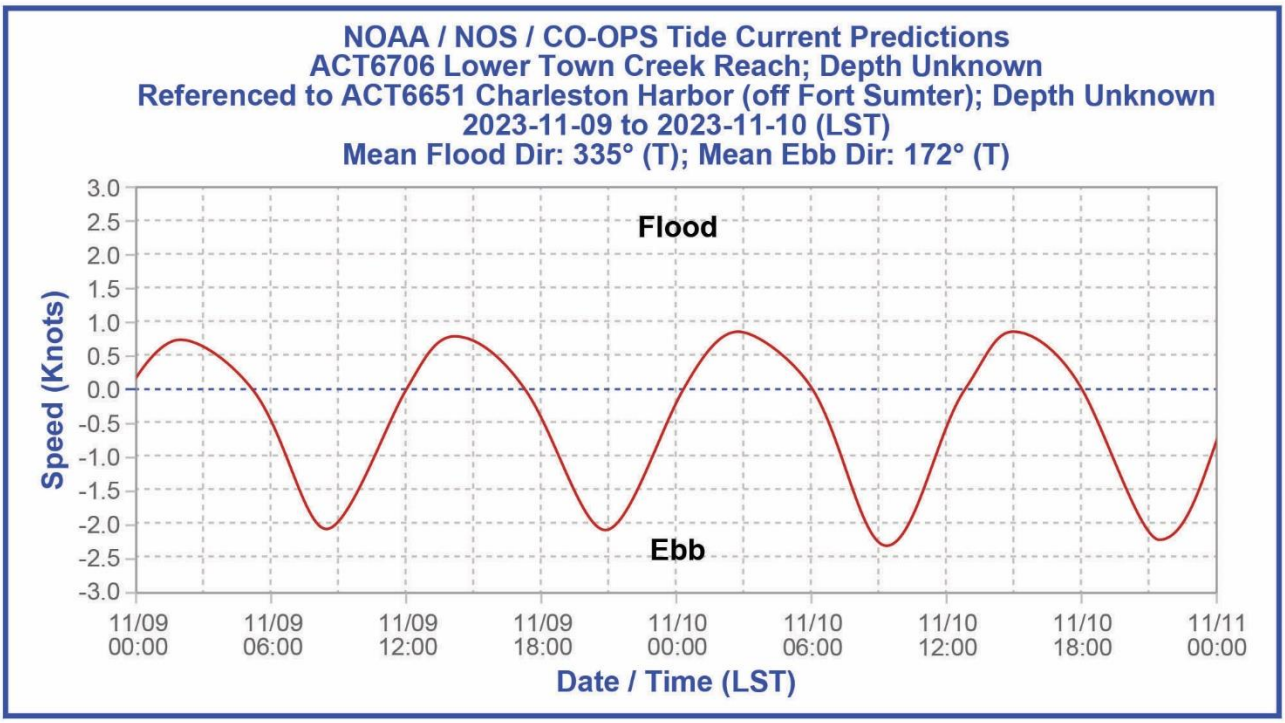
10. On 9 November 2023 at 0130, you are inbound at Charleston Harbor Entrance Buoy “10” (ACT6611). Your vessel will transit 15nm and make good 10.0 knots to a berth where the nearest tidal current station is ACT6706. What will be the direction and velocity of the current as you approach the dock? See illustration D058NG.

    A. 0.2kts at 280°T
    B. 0.6kts at 172°T
    C. 0.2kts at 104°T
    D. 0.6kts at 335°T

    Correct answer: D

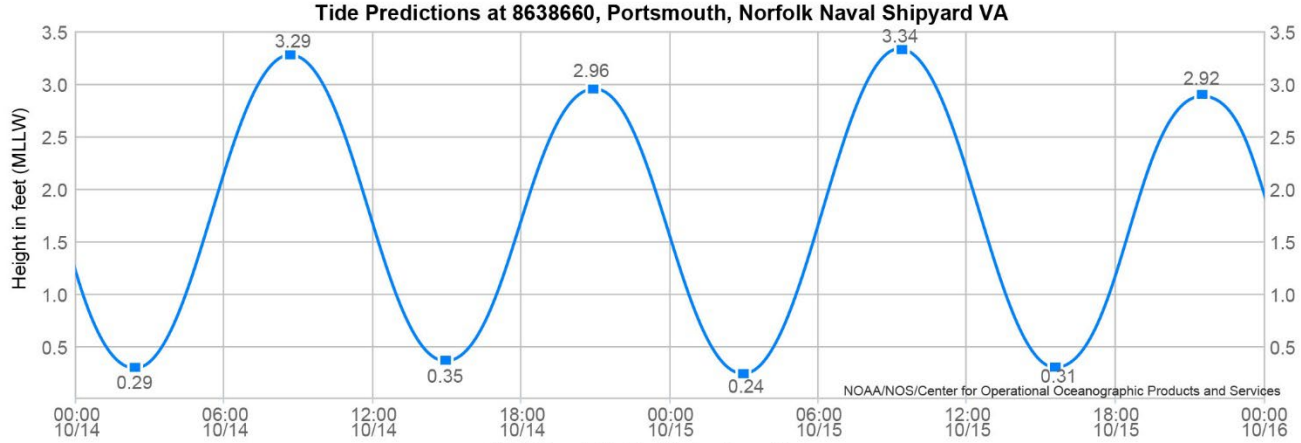
D058NG





D063NG

NOAA/NOS/CO-OPS
Tide Predictions at 8638660, Portsmouth, Norfolk Naval Shipyard VA



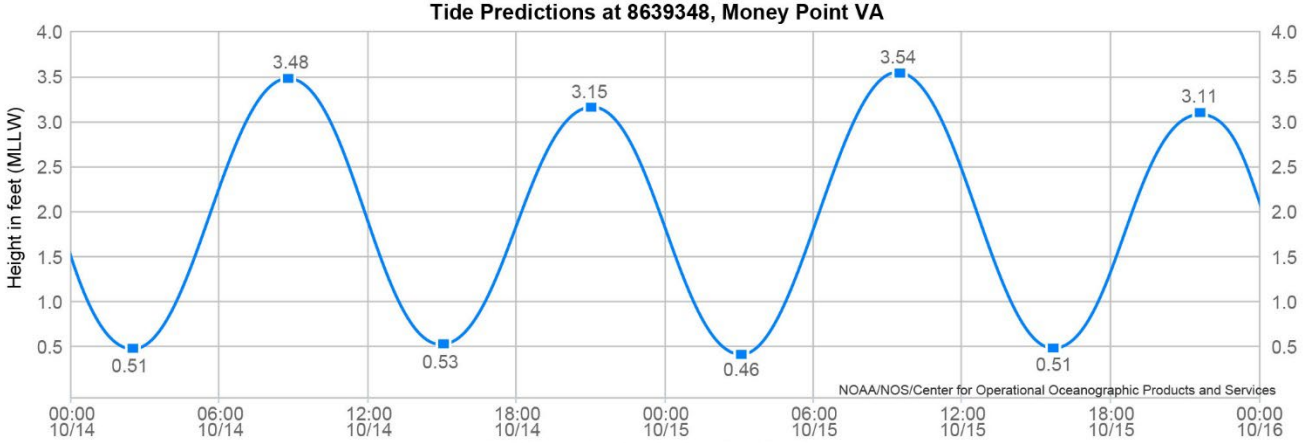
High/Low Tide Prediction Data Listing

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.