U.S.C.G. Merchant Marine Exam

Master Less than 500-1600 Gross Registered Tons

Q126 Navigation Problems – Near Coastal

(Sample Examination)

Q126-Navigation Problems-Near Coastal
U.S.C.G. Merchant Marine Exam
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Illustrations: 2

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

1. On 2 October 2023, you will be docking at the Dundalk Marine terminals in Baltimore, MD at the first high tide. The berth is located between NOAA reference tidal station #8574680 and subordinate station #8574821. What time (LST) will you be docking? See illustration D056NG.

   A. 0912
   B. 0812
   C. 1430
   D. 0856

   Correct answer: B

2. On 14 January your 0746 zone time DR position is LAT 26°37.0'N, LONG 153°19.0'W.

   At that time, you observe the Sun bearing 123°psc.
   The chronometer reads 05h 49m 16s, and the chronometer error is 02m 29s fast.
   The variation is 3°W.

   What is the deviation of the standard magnetic compass?

   A. 1.4°W
   B. 1.6°E
   C. 3.4°E
   D. 4.4°W

   Correct answer: A

3. While steaming at 16.5 knots, your vessel consumes 349 barrels of fuel oil per day. In order to reduce consumption to 189 barrels of fuel oil per day, what is the maximum speed the vessel can turn for?

   A. 14.6 knots
   B. 12.1 knots
   C. 15.4 knots
   D. 13.5 knots

   Correct answer: D

4. On 10 November 2023 at 0130, you are inbound at Charleston Harbor Entrance Buoy “10” (ACT6611). What is the direction and velocity of the current you are encountering as you pass Buoy “10”? See illustration D058NG.

   A. 0.3kts at 280°T
   B. 0.3kts at 104°T
   C. 0.8kts at 172°T
   D. 0.8kts at 335°T

   Correct answer: A

5. On 12 November, you are taking a time tick using the 1600 GMT BBC Broadcast. You hear five pulses followed by a longer pulse. At the start of the longer pulse you start a stopwatch. You stop the stopwatch at the same time reading the chronometer with the following results: stopwatch 03m 19s, chronometer 15h 59m 46s. What is the chronometer error?

   A. 03m 33s slow
   B. 03m 19s fast
   C. 01m 14s slow
   D. 06m 54s slow

   Correct answer: A

6. On 15 July in DR position LAT 22°19.0'N, LONG 154°37.0'W, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 298°psc. The chronometer reads 04h 45m 19s and is 01m 56s slow. Variation in the area is 7.5°W. What is the deviation of the standard magnetic compass?

   A. 2.7°W
   B. 3.0°E
   C. 3.6°W
   D. 3.9°E

   Correct answer: B

7. At 0915 zone time on 6 March you depart Sydney, LAT 33°51.5'S, LONG 151°13.0'E (ZD -10). You are bound for Kodiak, LAT 57°47.0'N, LONG 152°25.0'W, and you estimate your speed of advance at 21 knots. The distance is 6,222 miles. What is your estimated zone time of arrival at Kodiak?

   A. 0732, 17 March
   B. 2132, 17 March
   C. 0732, 18 March
   D. 2132, 18 March

   Correct answer: B

8. The vessel's course is 116°psc, the variation for the locality is 25°W and the deviation is 6°W. What is the true course made good if a northerly wind produces 1° leeway?

   A. 084°T
   B. 086°T
   C. 148°T
   D. 085°T

   Correct answer: B

9. 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 18°58'N, LONG 72°52'E
   C. LAT 19°02'N, LONG 72°44'E
   D. LAT 18°54'N, LONG 72°58'E

   Correct answer: B

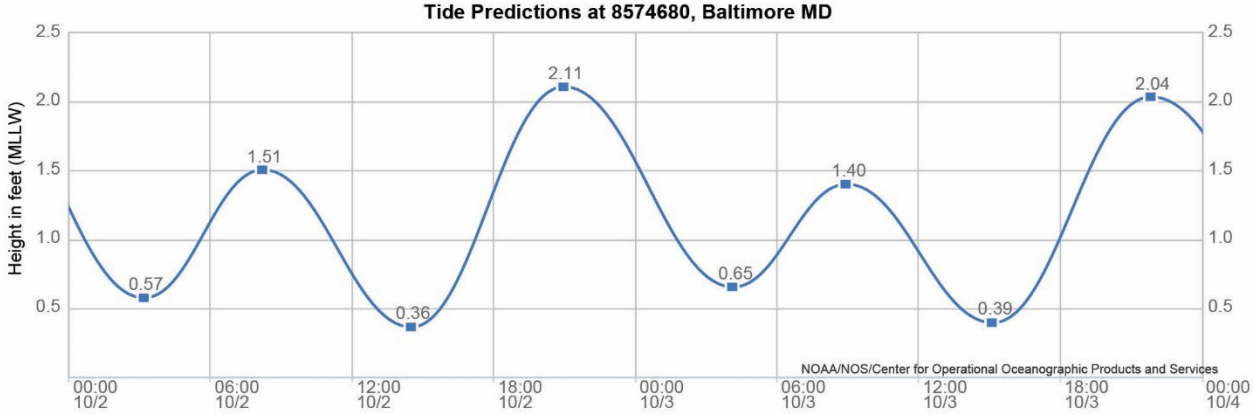
10. If the speed necessary for reaching port at a designated time is 21.6 knots and the pitch of the propeller is 22.5 feet, how many revolutions per minute will the shaft have to turn, assuming a 2% positive slip?

    A. 99 RPM
    B. 95 RPM
    C. 81 RPM
    D. 87 RPM

    Correct answer: A

D056NG

NOAA/NOS/CO-OPS
Tide Predictions at 8574680, Baltimore MD



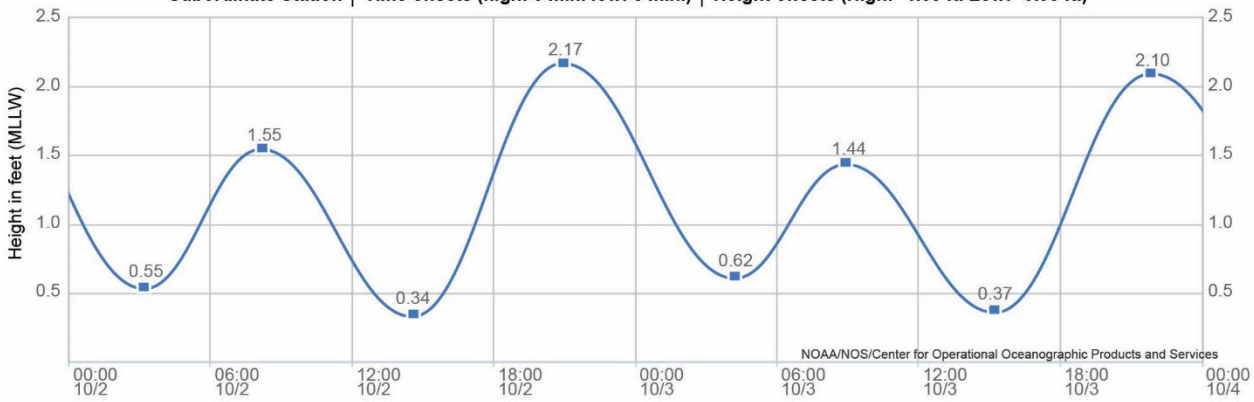
High/Low Tide Prediction Data Listing

Station Name: Baltimore, MD
Action: Daily
Product: Tide Predictions
Start Date & Time: 2023/10/2 00:00
End Date & Time: 2023/10/3 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
2023/10/02	Mon	03:10	0.57 L	08:12	1.51 H	14:30	0.36 L	20:57	2.11 H
2023/10/03	Tue	04:08	0.65 L	08:56	1.40 H	15:08	039 L	21:50	2.04 H

NOAA/NOS/CO-OPS
Tide Predictions at 8574821, Hawkins Point, Patapsco River, MD
Subordinate Station | Time offsets (high: 0 min. low: 6 min.) | Height offsets (High: *1.03 ft. Low: *0.95 ft.)



High/Low Tide Prediction Data Listing

Station Name: Hawkins Point, Patapsco River, MD
Action: Daily
Product: Tide Predictions
Start Date & Time: 2023/10/2 00:00
End Date & Time: 2023/10/3 23:59

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

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2023/10/02	Mon	03:16	0.55 L	08:12	1.55 H	14:36	0.34 L	20:57	2.17 H
2023/10/03	Tue	04:14	0.62 L	08:56	1.44 H	15:14	037 L	21:50	2.10 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.

D058NG