Cruise of the Power Cruiser "SWAG"

Necessary Information:
Length: 7.8 metres
Draft: 1 metre
Single screw diesel, displacement hull
Equipped as per Small Vessel Regulations
Electronics: VHF radio, Loran-C, handheld GPS
Height of eye: 3.7 metres
Variation as shown on the chartlet
Deviation Table as given in the Student's Notes, Appendix, p2.

You depart the fairway buoy marking Digby Gut (SE corner of chartlet) at 0730 Atlantic Daylight Time, heading for the position L 44°45.0'N, Lo 66°39.5'W, at a speed of 6.0 knots.

The current is estimated at set 250°, drift 1.5 kn.

Keep a Log Throughout the Voyage

All DRs, estimated positions, and fixes, should be plotted as taught by CPS.

1. **What are the co-ordinates of the departure position?**

2. **In which publication may additional information about this aid to navigation be found?**

3. **A. What is the plotted track?**

   B. What compass course should you steer to compensate for the given set and drift? Use Table 15.1 to get your answer.

   C. What is your estimated Speed of Advance?

4. **What are the coordinates of the 0900 DR?**

5. **A Loran fix at 1000 (L 44°44.0'N, Lo 66°12.1'W) shows you approaching the Vessel Traffic Management (VTM) lane.**

   A. Should you advise anyone of your position?

   B. Who should you contact, and why?

   Plot new DRs, based upon the Loran position in #4.

6. **A second Loran fix at 1100, taken to see whether the current has pushed you clear of the VTM lane, places you at L 44°44.8'N, Lo 66°18.5'W.**

   A. Are you clear of the VTM lane?

   B. If not, what may have happened?

7. **Using the 1000 and 1100 fixes, and the course to steer as calculated in Question 3B, what is the new set and drift of the current?**

   Set:

   Drift:

8. **Using Table 15.1 to allow for the set and drift as calculated in Question 7, what is the new compass course to steer to your destination?**

9. **What is the calculated Speed Over Ground?**

10. **Based on your calculated SOG, what is the new ETA for your destination?**

11. **Name three (3) possible ways to determine your arrival at your destination.**

12. **Using the heading calculated in Question 8, what would be the values of the compass bearings on Swallow Tail Light (1) and Great Duck Island Light (2) that you could use to confirm your arrival at your destination?**

13. **What are the characteristics of the Swallow Tail Light, as shown on the chart?**

En route from your 1100 Fix, your Loran fails due to a blown fuse. No problem! It is time to try that GPS birthday present.

Rats! It is "No go".

Your teenage son confesses to using the GPS batteries for his Discman. You are tempted to consider murder! Instead, you have to go back to basics, and take visual bearings as described in Question 12.

You have arrived at your destination position at 1414, confirmed by your visual bearings. You decide to stop the engine and drift, in hopes of seeing whales, and also to try to track down the electrical problems which shut down the Loran.

14. A. **Using the set and drift calculated in Question 7, how far would you expect to drift in two-and-a-half (2½) hours?**

    B. **What would be your estimated position at the end of that time?**

15. **When it is time to start home toward Saint John, visibility is excellent. Can you see the Swallow Tail and Great Duck Island Lights from your EP?**

16. **At 1644, on a compass heading of 100°, compass bearings on Swallow Tail Light (1) and Great Duck Island Light (2), lights are 274° and 243°, respectively. Plot these bearings, and determine your position.**

17. A. **Using your DR speed, what is your ETA for the fairway buoy at the entrance to Saint John harbour?**

    B. **Disregarding current, what is your compass course?**

18. **An inspection of the tide and current tables shows a time of approximately 6 hours between turns. How might this affect your ETA in Question 17?**

19. **What is your 1700 DR position?**

20. A. **Assuming the current turns at 1700 to a rate of 1.5 knots, with a set of 250°, what is the compass course to steer from your 1700 DR?**

    B. **What is your estimated speed over the ground?**

    C. **What is your revised ETA?**

21. **What is the rule of thumb for averaging the current rate?**

22. **At 1900, compass bearings on Pt. Lepreau Light (1), and Chance Harbour Light (2) are 320° and 008°, respectively. Plot the fix. Are you on course?**

23. **List three(3) reasons which might cause you to be off course.**

24. **At 2038, you obtain relative bearings on Chance Harbour Light (1) of 221°, and on Mushquash Head Light (2) of 249°. Plot the fix. Are you on course?**

25. **What are the co-ordinates of the 2038 fix?**

26. **What has been your average Speed Over the Ground since the 1900 fix?**

27. **Assuming this SOG will continue, what is the new ETA for the Saint John Mo(A) buoy?**

28. **It has been a long day. You have missed the slack time for going through the Reversing Falls. You decide to head for Chance Harbour, as visibility is dropping. You plan to run down the bearing of 268° into the harbour. Ignoring current, what is your compass course?**

29. **There is approximately 1 hour and 32 minutes of ebb left. You calculate your SOG as 7.5 kn. What is your ETA at the mouth of Chance Harbour?**

30. **What chart would you use to enter the harbour?**

You enter the harbour at 2140. You will rest tonight and set off to Saint John tomorrow. Don't forget to have the Loran receiver checked, and to buy a supply of batteries for both your GPS and your son's Discman!

DECK LOG FORM

DECK LOG - VESSEL: **NAVIGATOR:**

Time	Obser-vation	Latitude	Longitude	T	V	M	D	C	Speed	Dist.	E T A	Remarks Use two lines if necessary