S.Y. Terrestrial Navigation Oct - 08

Con. 228-08. second year Applied Terrestial Navigation Technology Paper - II **VA-7640**

(3 Hours) **[Total Marks : 100**

Nautical Technology. **[Pass Marks : 70**

N.B. : (1) Use of Non-scientific **calculator** ; Nories/Burtors Tables, Tide Tables and Nautical almanac is **permitted**.

(2) Attempt any **two** questions from **Section 1** and any **three** questions from **Section II**, a total of **five** questions. **All** questions carry **equal** marks.

(3) If question is sub-divided into parts, unless otherwise expressly **provided** against **each part, all parts** shall carry **equal** marks.

(4) Chart BA 5049 (English Channel) is to be used. Dev as per card.

Section I

1. (a) What are transit lights ? What can they be used for ?

   (b) Write short note on List of Lights and its contents.

2. Describe briefly how you would go about planning a passage, say from west coast India to U.K. and Continent.

3. Describe the IALA lateral system. What is the difference between system A & B ?

Section II

4. At 0600 hrs, a ship in D. R. Lat. 49° 50' N, Long 3° 40' W, a star sight gave an intercept of 6.1' AWAY and an Azimuth of 050° (T). The ship then continued on her course 065° (T) at 12 Knots until 1000 when Bill of Portland bore 015° (T). Find ships position at 1000 hours.

5. At 1000 hrs Wolf Rock Lt (Off Lands End) bore 310° (T) and at 1040 hrs it bore 000° (T) and at 1110 hrs the same light house bore 040° (T).
   The vessel during this time steamed at a uniform speed of 15 knots. Find the course made by the ship.

6. Les Hanois Lt . bore 074°(T)., and 3 hrs later it bore 146°(T). Ship steamed 042°(T) at 8 knots through a current setting S. 58° W (Mag) at 2 knots. Find the position on both bearings. Variation from chart.

7. Your vessel has a draft of 15 metres. Plan and Draw your passage from the port of Plymouth to Dover. Give the true courses and distances to be steamed and also give the various reasons for choosing the courses that you have drawn.
(Where ever these courses overlap other answers, they may be drawn in broken lines to differentiate the same.)

8. (a) What are Spring and Neap tides ?

(b) Given the following extracts from the tide tables, find the standard time during the afternoon on 28th Feb at which there will be 5 mtrs of water over a shoal patch where the chart shows 2 mtrs sounding, off the port of Darwin (Australia).

TIME	HEIGHT
0010	2.5m
0549	6.0m
1218	1.3 m
1825	7.0 m

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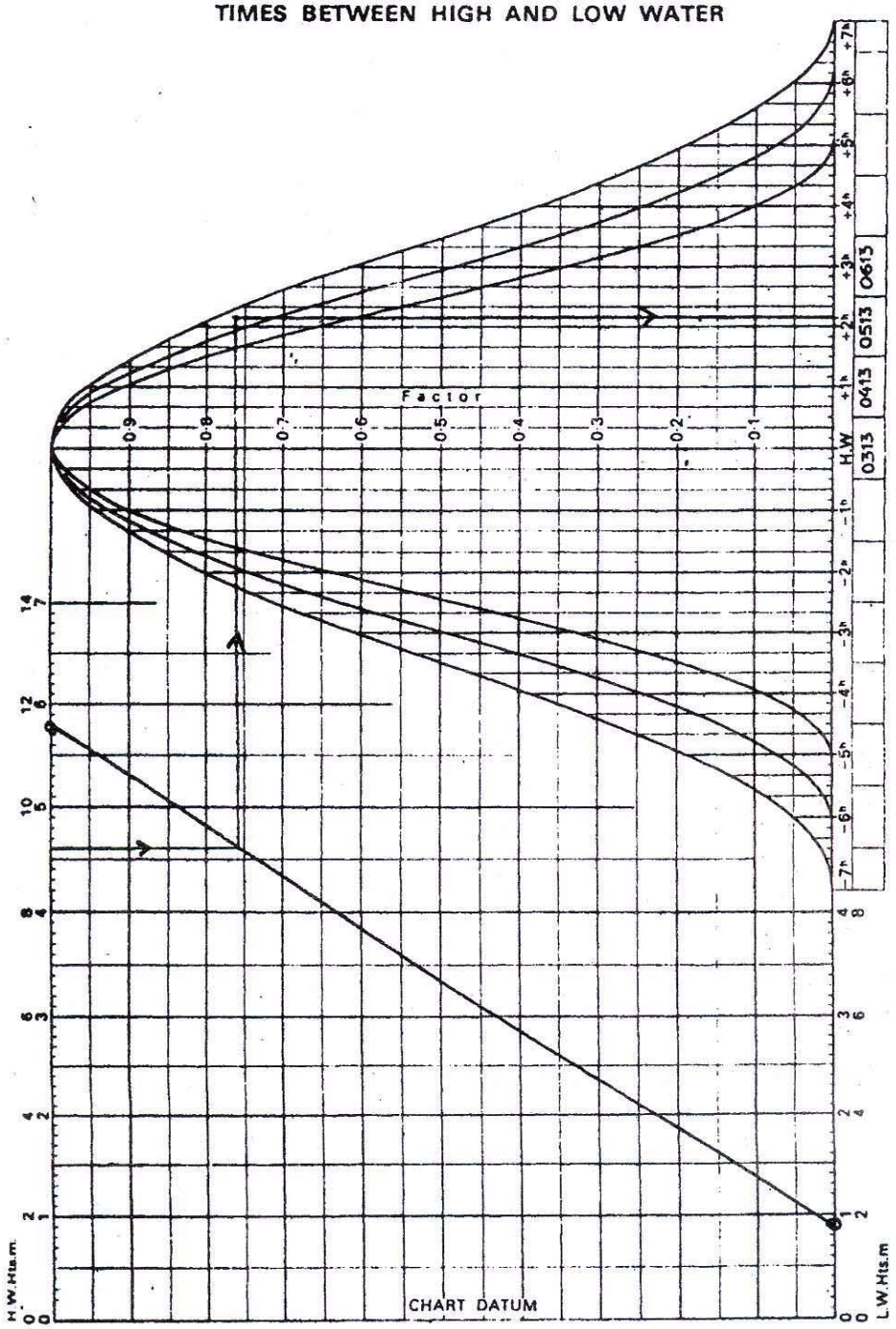
FOR FINDING THE HEIGHT OF THE TIDE AT TIMES BETWEEN HIGH AND LOW WATER



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DEVIATION CARD II

Ship's Head by Compass	Deviation	Ship's Head by Compass	Deviation
000°	12.5°E	180°	12.5°W
010°	11.5°E	190°	11.5°W
020°	10.5°E	200°	10.0°W
030°	9.0°E	210°	8.0°W
040°	7.0°E	220°	6.5°W
050°	5.0°E	230°	4.5°W
060°	3.0°E	240°	2.5°W
070°	1.0°E	250°	1.0°W
080°	0.5°W	260°	0.5°E
090°	2.0°W	270°	2.0°E
100°	3.5°W	280°	3.5°E
110°	5.0°W	290°	5.5°E
120°	7.0°W	300°	7.0°E
130°	8.5°W	310°	9.0°E
140°	10.0°W	320°	10.0°E
150°	11.0°W	330°	11.5°E
160°	12.0°W	340°	12.0°E
170°	13.0°W	350°	12.5°E
180°	12.5°W	360°	12.5°E