

4. On 10th Oct. 1992 at, a ship in DR Long. 003° 10 , found the sextant altitude of Polaris to be 45° 12', at GMT 18h 17 m 19s. If the IE was 2.0' on the arc and HE was 14m, find the Latitude and the direction of the position line. (10 Marks)
5. a) Explain how time is kept on board ship with change of Longitude as the ship proceeds on its voyage from India to Singapore. (5 Marks)
 b) Describe the composition of Solar System. (5 Marks)

Section - II

(Question no 6 is compulsory. Attempt any 3 from the remaining)

6. What are the advantages of Electronic chart over paper chart? (5 Marks)
7. At 1700 hrs. , a vessel at anchor observed following compass bearings:-
- | | |
|-----------------------------|--------|
| i. Casquet's Lt.Ho. | 234°C |
| ii. Alderney Lt. Ho. | 179 °C |
| iii. C. de la Hague Lt. Ho. | 131°C |

Find the position of the ship and also deviation for the ship's head, if the Variation was 4°E. (10 Marks)

8. a) At 0300hrs while steering a course of 099°T at 12 knots, Pte. de Barfleur Lt bore 150°T. The same light bore 215°T at 0400 hrs. During this time the ship experienced a current setting 042°T at 3 knots and Northerly wind causing Leeway 3°. Find the position of the ship at 0300hrs and 0400hrs. (5 Marks)
- b) Find the estimated time when C. d'Antifer Lt. will be abeam. (5 Marks)

9. A vessel drawing 7.2mtrs sails out of Vancouver Harbour on 16th of Sept. Find the depth of water she will have under her keel when crossing 6.4 meters patch at 1400hrs Standard time. The extract of from ATT is given below:-

	TIME	HEIGHT
16 TH Sept	0445	4.4
	1120	0.3
	1810	4.3
	2315	3.0

(10 Marks)

10. a) Describe following IALA buoys:-

i) Lateral buoys ii) Isolated Danger buoy iii) Safe water buoy

b) List Ten books/Publications that are required during the appraisal stage of passage planning.

(10 Marks)
