

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)

June 2017 End Semester Examinations
Diploma in Nautical Science – First Semester

Navigation I: Terrestrial & Celestial (UD11T 2104)
(Aug' 2012 to Feb' 2015 batches onwards)

Date: 19.06.2017
Time: 2 Hrs

Maximum Marks : 70
Pass Marks : 35

Note: All Questions are compulsory in Section - A & Section – B.
Use of Non-Programmable Scientific Calculator, Nories Table, Selected Pages from Nautical Almanac 2008 is permitted
'South Coast of Sri Lanka' Chart to be provided by the Exam Centre.

Section - A

1. Write Short Notes on: (5x2=10 Marks)
a) Prime Meridian b) Equator c) Nautical Mile d) D'Long e) DMP
2. Find the Position arrived If the vessel's starting position is
Lat $50^{\circ} 00.6'N$ Long $081^{\circ} 10.4'W$ was steering a course of 132° (T)
and sailed a distance of 290nm (10 Marks)
3. a. Write down the factors which cause Compass Error on board a ship
(5 Marks)
b. If Compass course is 333° (C) Variation 15° W and Deviation 17° E Find
the Magnetic course and True Course. (5 Marks)
4. Find the course and distance by Mercator sailing if a ship sails from
Lat $40^{\circ} 18'N$ Long $100^{\circ} 20'W$ to Lat $68^{\circ} 00'N$ Long $140^{\circ} 10'E$. (10 Marks)

SECTION- B

5. Draw chart symbols for the following:- (5x2=10 Marks)
- (i) Wreck showing any portion of hull or superstructure at level of Chart Datum
 - (ii) Ebb Stream – 2 Knots
 - (iii) Pilot Boarding Point
 - (iv) Underwater Rock of known depth, not dangerous to Surface Navigation
 - (v) Submarine Power Cable
6. (a). While sailing, at 0900 hrs, a vessel observed Great Basses Reef Lt. Ho. to bear 265° (T) at a distance of 20 miles. From this Position find the Range and Bearing of Little Basses Reef Lt. Ho. (5 marks)
- (b). Write short notes on Admiralty sailing directions (5marks)
7. At 0900 hrs the Colombo light house was bearing 010° (T), at 1100hrs the same light was bearing 100° (T) during the above period the vessel was steering a course of 300° (T) with the engine speed of 15 knots. Find position at 0900 and 1100 hrs. (10marks)