

INDIAN MARITIME UNIVERSITY
(A Central University, Govt. of India)

DIPLOMA IN NAUTICAL SCIENCE - SEMESTER - I
December 2015 Semester Examinations
(August 2015 batches only)

NAVIGATION - I
Terrestrial & Celestial
Subject Code: UD11T3104

Time : 3 hrs
Date: 17.12.2015

Max.Marks :70
Pass Marks: 35

Note: Use BA Chart 813 (South Coast of Sri Lanka) for Chart Work
Use of selected pages of Nautical Almanac 2008, Norie's Tables and Non-
Programmable
Type Scientific Calculator allowed in exam hall.

SECTION - A

TERRESTRIAL NAVIGATION

Question No 1 is compulsory and carries 5 Marks.

Attempt any 3 out of the remaining 4, they carry 10 marks each.

1. Correct the following Sextant Altitude applying each correction separately:
Sun's UL : $47^{\circ}17.1'$ IE: 2' off the Arc, Height of Eye :12.8 meters on 14 Oct 2008
2. Write Short Notes on

a) Parallels of Latitude	b) D'Long	c)Nautical Mile
d) Meridional Parts	e)D'Lat	
3. a) A ship in position $20^{\circ}45'N$ $178^{\circ}20'E$ steered along a parallel of latitude Eastward and covered 300 miles. What is here final position?
b) Find the course and distance made good by a ship, if she made a Departure of 160 Miles East and a D'Lat of $265'$ North.



4. a) A vessel makes a D Lat of $01^{\circ} 44'$ North and a D Long of $5^{\circ} 34'$ West in sailing a distance of 250 Miles. What course did she make good and between what latitudes did she sail? (5 Marks)
- b) Find the true course for a compass course of 035° , deviation $15^{\circ} E$, Variation $10^{\circ} W$ (2 Marks)
- c) Find the Compass Course to steer if True Course was $225^{\circ} T$ Dew $3^{\circ} W$ Var $5^{\circ} E$ (3 Marks)
5. A vessel sailed from lat $27^{\circ} 12' N$, long $178^{\circ} 42' E$ doing 15 Kts by engines. She steered $067^{\circ}(C)$ (Dev $3^{\circ} E$) for 10 Hrs. Course was then altered to $096^{\circ}(C)$ (Dev $1^{\circ} E$) and this course was maintained for 8 hrs. Thereafter she steered $230^{\circ}(C)$ (dev $3^{\circ} W$) for another 6 hours. Find the position arrived, if she experienced a current setting of 324 (T) at 2.5 kts throughout. Also find the course and distance she made good. Variation $7^{\circ} W$ throughout.

SECTION - B

CHART WORK

Note : Question No 6 is compulsory and carries 5 Marks.

Attempt any 3 out of the remaining 4, they carry 10 marks each.

Question 6

Identify the following symbols and Abbreviations

a)



b)



c)



d)



e)



7. Write short notes on:

a) Natural Scale of a Chart
d) Deviation

b) Meteorological Charts
e) Plan charts

c) True Course



