

INDIAN MARITIME UNIVERSITY

(A CENTRAL UNIVERSITY, GOVT.OF INDIA)

B.Sc. (NAUTICAL SCIENCE)

End Semester Examinations June-July 2019

SEMESTER II

Navigation (Terrestrial navigation and Voyage Planning)-II

(UG21T2207)

Date:08-07-2019

Max Marks: 70

Time:3Hrs

Pass Marks: 35

Note: Non Programmable Scientific Calculator is permitted.

Draw Sketches wherever required.

Norrie's table and Nautical Almanac are permitted.

PART- A (TERRESTRIAL NAVIGATION)

Marks: 30

Note: Answer any three questions from this section.

All questions carry equal marks.

1. Write short notes on:

5x2 = (10marks)

- (a) Position Line
- (b) Leading Lights
- (c) Luminous Range
- (d) Leeway
- (e) Estimated Position

2. From noon of 12th March a ship in DR position 06° 30' N 072° 00' E traverses the following during the next 24 hours.

From	To	Gyro course	Distance by Log
1200	1800	036°	73 M
1800	0100	038°	89 M
0100	0600	040°	75 M
0600	1200	041°	70 M

Gyro error was 1 low .find the position arrived.

3. With the help of a diagram explain the principle of a sextant. (10marks)

4. Write in detail all the adjustable and non adjustable errors of Sextant.
(10marks)

PART -B
(BA Chart 5049) VOYAGE PLANNING

Answer any four questions each carries equal marks (40marks)

5. Explain the following: 5x2=10marks.

- a. Nature of Sea bottom
- b. Chart Datum
- c. Depth contour
- d. Separation Zone on a TSS.
- e. Radio beacons

6. At 2000 hrs the compass bearings were observed:

Casquet's Lighthouse	061° (C)
Les Hanois Lighthouse	112° (C)
Roches Douvres Lighthouse	173° (C)

Find the ship's position at 2000 hrs and the deviation of the compass for the ship's head if variation was 2° E.

7. A 0900 hrs. Start Point Lt. bore 297⁰ (T) and at 0940 hrs. it bore 342⁰(T) and at 1040 hrs. it bore 038⁰ (T). if the current was setting 205⁰ (T) at 3 knots and her engine speed was 12 knots. Find the course made good and the vessel's position at 0900 hrs. and 1040 hrs.

8. 2x5=10

- a. How will you correct the Charts onboard Merchant vessel?
- b. What are T & P notices?

9. Write short notes on the following. 2x5=10

- a. Chart folio system
- b. Nominal range of a light house.
