

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – December 2024
Programme Name: DNS
Semester: 1
Subject Code: UD11T6104
Subject Name: Terrestrial Navigation

Date: 13.12.2024

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted. And All the Questions are compulsory
- (ii) Norrie's Tables/Nautical Almanac/ Meridional parts table can be used.
- (iii) Tidal standard curve charts will be provided by the college
- (iv) Non-programmable scientific calculator is permitted

Section A

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable. (10 x 1mark = 10marks)

1. The Nautical mile has been internationally accepted as
 - a. 1853.22 meters
 - b. 1852.0 meters
 - c. 1851.78 meters
 - d. 1855.33 meters
2. D'long between A: 10° S 150° W to B 15° N 170° W is
 - a) 70° E
 - b) 20° W
 - c) 70° W
 - d) 10° E
3. Distance along a parallel of latitude is also referred to as
 - a. DMP
 - b. Departure
 - c. D'long
 - d. D'lat
4. Mean latitude between A: 18° N 050° W to B 28° N 020° W is
 - a. 5° S
 - b. 10° S
 - c. 23° N

d. 06° S

5. The Quadrantal form of the course 190° is

- a. S 10° E
- b. S 10° W
- c. N 30° W
- d. N 30° E

6 It is a circle on the surface of a sphere, the plane of which does not pass through the centre of the sphere.

- a. Meridian
- b. Small Circle
- c. Great Circle
- d. Equator

7. The cause of deviation is due to

- a. Ship's magnetism
- b. isogonal line
- c. Magnetic lines due to magnetic needle
- d. earth's magnetism

8. It is the ratio that the distance between two points on the chart bears to the actual distance between them on the earth

- a. D'long
- b. DMP
- c. Natural Scale
- d. D'lat

9 The first stage of passage planning is

- a. Planning
- b. Appraisal
- c. Execution
- d. Monitoring

10. On the days of Neap Tides

- a. Range of Tide is lower than usual
- b. Low water falls more than normal
- c. Range of tides is higher than usual
- d. High water rises more than normal

Section B


Section B (All Questions are compulsory)

Five Questions of 02 Marks each

11. Define Departure and Great Circle **(2 Marks)**

12. Briefly explain Meridional Part **(2 Marks)**

13. Identify the symbols of the following as per 5011 **(2 Marks)**

a. 

b. 

14. Briefly explain SENC **(2 Marks)**

15. List the names of 4 important Nautical publications required for passage planning **(2 marks)**

Section C

Five Questions of 10 Marks each. All Questions are compulsory.

16

a) Differentiate between ENC and Paper Chart **(5 marks)**

b) Define Geographical Range and Nominal Range **(5 Marks)**

17

Find the height of tide at 1200hrs on 8th Nov at standard port Time zone -0700 extract from ATT - **(10 marks)**

0132 hrs	1.5m
0832 hrs	3.2m
1440 hrs	1.4m
2115 hrs	3.0m

18

Find Initial Course & Great Circle distance from $41^{\circ}40'N$, $175^{\circ}25'E$ to $07^{\circ}00'N$, $080^{\circ}50'W$. Draw a neat sketch to illustrate your understanding of direction of travel **(10 Marks)**

19 a) Why is passage planning necessary? Very briefly explain 4 stages of passage planning **(5 Marks)**

b) What is Safety Depth and Safety Contour? **(5 marks)**

20. Find by Mercator Sailing the course and distance between following position
Lat A: $24^{\circ} 00' N$ Long A: $74^{\circ} 15' W$ & Lat B: $46^{\circ} 00' N$ Long B: $053^{\circ} 45' W$

(10 marks)
