Indian Maritime University
(A Cent2ral University, Govt of India)
End Semester Examinations – December 2024
Programme Name: B Sc (NS)
Semester: III
Subject Code: UG21T5304
Subject Name: Chart Work & Collision Prevention Regulations

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
(ii) All the Questions compulsory
(iii) Non-Programmable Scientific Calculator is permitted.
(iv) Chart work materials such as Parallel ruler, Compass, Divider etc., permitted
(v) BA Chart 813 will be supplied by the Examination Centre

Section A

Fill in the Blanks/ Choose the correct answer as applicable – (10x1mark=10marks)

1. Risk of collision is deemed to exist when _____.

a) bearing of an approaching target is changing.
b) bearing of the target is constant with increasing range.
c) bearing of the target is not taken.
d) bearing of an approaching target remains constant.

2. Chart folio divides the charts published by a hydrographic office into different sections based on the_____.
a) geographic location.
b) chart number.
c) scale of the chart.
d) publisher of the chart.

3. Chart Datum is the level of sea water at the _____.
a) Highest level of astronomical tide
b) Mean high water springs
c) Lowest level of astronomical tide
d) Mean high water neap

4. Admiralty publication numbers NP 247(1) and NP247(2) stand for_____.
a) Cumulative notices to mariners.
b) Annual notices to mariners.
c) Weekly notices to mariners.

d) Symbols and abbreviations used on Admiralty charts.

5. ITZ with reference to a traffic separation scheme stands for _____.

a) Inshore Transverse Zone.
b) Inshore Tanker Zone
c) Inshore Traffic Zone
d) Inshore Token Zone

6. Transit bearings may be used to determine the compass error.

a) True
b) False

7. In an occulting light, the period of darkness is _____ the period of light.

a) lesser than
b) greater than
c) equal to
d) brighter than

8. Mariners should always use the _____ scale chart for navigation.

a) smallest
b) largest
c) latest
d) latitude

9. Small scale navigation charts are used during passage planning.

a) True
b) False

10. Magnetic variation changes with _____.

a) Position
b) Time
c) Heading
d) Position and Time

Section B

Five Questions of 02 Marks each

11. What is Chart Datum ? Briefly explain

12. State two disadvantages of Mercator projection

13. In respect of Traffic Separation Scheme differentiate between 'Separation Zone' and 'Inshore Traffic Zone'.

14. If the height of the Observer is 49 meters and the height of light house is 121 m, Calculate the Geographical range of the light

15. What are leading lights ? What purpose do they serve

Section C

Answer all five questions to be answered (5 x 10marks = 50 marks).

16. (a) Briefly explain **(2x 5marks = 10marks)**

(i) Vessel engaged in fishing
(ii) Vessel not under command

(b) Differentiate between
(i) Vessel restricted in her ability to manoeuvre, and
(ii) Vessel constrained by her draught

17. (a) Write a short note on Admiralty Chart Catalogue (NP131) **(2x5 =10)**
(b) State the information that can be obtained from Routeing Chart

18. (a) When is a vessel deemed to be overtaking? Briefly explain Rule 13 in your own words
(b) Explain Rule 15 (Crossing situation) in your own words. **(2x5 =10)**

19. (a) Plot a position: $05^0$40'N 080^0 35'E. What is the bearing and distance of Dondra Head Light from here.
(b) A vessel is 4.5 M to West of Beruwala Point Light House, plot a position & Co to reach 6M to SW of Colombo light. What is the Co and distance to make good. **(2x5 = 10marks)**

20. On a southward course at 1900 hrs, Colombo light FL (3) 10s 26m 25M was last seen and Barberyn light FL 20s 46m 27M was first seen at the same time. Prevailing visibility 10M. Height of eye 36m. Find the position of the vessel at 1900 hrs.
From this position the vessel steered a course to keep Point De Galle light at distance of 20M on the port side. Find the course steered. No wind or current observed. (10 marks)

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