

Indian Maritime University

(A Central University, Govt of India)

End Semester Examinations – December 2023

Programme Name: B Sc (NS) Semester: 3

Subject Code: UG21T5304

Subject Name: Chart Work & Collision Prevention Regulations

Date: 11.12.2023

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.
- (iii) Chart BA 813 (South Coast of Srilanka) to be provided by the exam centre

Section A

Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable.

1. On a chart a line connecting points of equal water depth is known as _____
 - (a) Depth lines
 - (b) Depth Range
 - (c) Chart Datum
 - (d) Contour lines
2. Magnetic variation is caused due to _____
 - (a) Ship's magnetism
 - (b) Alteration of course
 - (c) Change in ship's heading
 - (d) Earth's magnetism
3. As per Rule 6 of COLREGS, every vessel shall at all times proceed at a _____
 - (a) Safe draft
 - (b) Safe course
 - (c) Safe speed
 - (d) Slow speed
4. _____ to mariners is published every 6 months, showing corrections for last 2 years.
 - (a) Annual notice
 - (b) Cumulative notice
 - (c) Weekly notice
 - (d) Shipping notice

5. If there is sufficient sea room, _____ may be the most effective action to avoid a close-quarters situation
- (a) Alteration of course
 - (b) VHF Communication
 - (c) Reduction of speed
 - (d) Keeping a lookout
6. Sound signal in a narrow channel when you intend to overtake from port side
- (a) One short blast,
 - (b) Two short blasts,
 - (c) One short followed by two prolonged blasts,
 - (d) Two prolonged followed by two short blasts
7. A light of which the duration of light is more than darkness is called an _____
- (a) Occulting Light,
 - (b) Isophase light,
 - (c) Flashing Light,
 - (d) Alternating Light
8. Temporary corrections are done on chart using _____
- (a) Correction pens
 - (b) Highlighters
 - (c) Marker pens
 - (d) Pencil
9. Modern Admiralty surveys are planned for Chart Datum approximately equal to _____
- (a) M.L.W.
 - (b) M.L.W.N
 - (c) L.A.T
 - (d) L.W
10. The Geographical range of a light is based on _____
- (a) The Elevation of the light house
 - (b) The Distance from the light House
 - (c) The State of visibility
 - (d) The Intensity of the Light

Section B

Five Questions of 02 Marks each

- 11. List the Different types of the chart.
- 12. Briefly explain what is chart datum.
- 13. Define Vessel Constrained by her draft.
- 14. Define Restricted Visibility.

15. If the height of eye of the observer is 45 ft and Height of light house is 145 ft, calculate the Geographical range of the light.

Section C

Answer all five Questions (5x10marks=50marks)

16. Explain what is Nominal range, Geographical range and Meteorological range of a Light?

17. A vessel is 4.5M to W of Beruwala Point light house ($06^{\circ}25.7'N, 079^{\circ}58.0' E$). Find the course and distance to a position 6M to SW of Colombo light ($06^{\circ}56.5N, 079^{\circ} 49.7'E$).

18. From a W bound ship Little Basses Reef Lt was 12 NM off & Great Basses Reef Lt was 15 NM off. Find position of ship. From there find the course to pass Dondra head light at a distance of 7M.

19. a) At 0800 hrs Sangama Kanda Point bore 320° (T) Distance 16 miles.
Find the vessel's position at 0800 Hrs. (3 Marks)

b) Thereafter vessel continued her course 198° (T) at speed of 15 kts, vessel observed transit bearing of Little Bass Reef Light and Great Bass Reef light bore 228° (T). Calculate time of transit bearing and find out vessel's position. (3 Marks)

c) Vessel intends to pass Little Basses Reef Lt at distance of 10.5 miles,
Calculate the Beam Bearing and ETA to Beam Bearing for Little Basses Lt. (4 Marks)

20. a) Explain Rule 13 (Overtaking) in your own Words (5 Marks)

b) Explain Rule 15 (Crossing Situation) in your own Words (5 Marks)

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