

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)

June 2017 End Semester Examinations
B. SC (Nautical Science – Second Semester)

Chart Work & Collision Prevention Regulation – UG21T3206)

(AY 2016 - 17 batch onwards)

Date: 10.06.2017

Maximum Marks : 70

Time: 3 Hrs

Pass Marks : 35

Use BA Chart 2675/Instructional Chart 5049 (English Channel) for Chart work.
Use of Non-programmable type Scientific Calculator is allowed in the Exam Hall.

Note: Q. No. 1 is compulsory. Attempt any 6 questions out of the remaining 8 questions. Each question carries 10 marks.

1. A) Expand the terms: [1x5=5 marks]

- i) LAT
- ii) MHWS
- iii) MSL
- iv) ED
- v) Sp

B) Draw the relevant symbols as per Chart 5011. [1x5=5 marks]

- i) Flood tide stream (with mean spring rate of 3 knots)
- ii) Wreck, least depth 4 mtrs obtained by wire sweep or diver
- iii) Nature of sea bed-sand
- iv) Submarine Cable
- v) Established (mandatory) direction of traffic Flow

2. Write Short notes on : [2x5=10 marks]

- a) Mercator Charts
- b) Routeing Charts
- c) Luminous Range
- d) Compass Rose
- e) Isogonic Lines

3. From a vessel at anchor, the following compass bearings were observed:-
 Needles Pt. Lt. Ho. Bore 345° (C)
 St. Catherine Pt. Lt. Ho. Bore 015° (C)
 Nab Tower bore 039° (C)
 Find the Ship's position.
 (Note: The deviation card of this vessel was outdated and could not be used.) [10 marks]
4. a) At 1800 hours Casquets Lt. Ho. Bore 200° (T) and Alderney Lt. Ho. Bore 149° (T). Find the ships Position.
 b) From the position at 1800 hours, find the true course to a position with Pte. De Barfleur Lt. Ho. Bearing 180° (T), distance 10 miles off.
 c) From 1800 hours, find the true course to steer so as to make good the course as found in section (b) counteracting the current which was known to be setting 245° (T) at 3 knots. [10 marks]
5. a) At 1700 hrs. Dungeness Lt. Ho. Bore 270° (T) and South Foreland Lt. Ho. Bore 031° (T). Find the ship's position.
 b) The vessel then steered 225° (C). At 1900 hours Royal Sovereign Lt. Vessel bore 257° (C) and Dungeness Lt. bore 037° (C). Find the ship's position.
 c) Find the set and drift of the current, if the ship's speed was 13 knots.
 d) Also find the course and speed made good.
 (Variation 4° W. Deviation 9.3° E) [10 marks]
6. Define: [3+3+4=10 marks]
 a) Underway
 b) Look out
 c) Vessel Restricted in her ability to Manoeuver
7. Enumerate the factors to be taken into consideration for determining the safe speed as per Rule 6 of IRPCS, 1972, as amended. [10 marks]
8. Explain with respect to Rule 10 of IRPCS, 1972, as amended
 a) Regulation pertaining to joining a Traffic Separation Scheme.
 b) Regulation pertaining to crossing a Traffic Separation Scheme.

c) Regulation pertaining to entering a Traffic Separation Zone.

[3+3+4=10 marks]

9. Draw a diagram showing the arc of visibility of navigation lights of a Power Driven Vessel Less than 50 meters in length.

[10 marks]
