

Indian Maritime University
(A Central University, Govt of India)
B Sc (Nautical Science)
June 2018 End Semester Examinations
Semester-II
UG21T3206 - Chart Work & Collision Prevention Regulations

Duration:3 Hrs

Max Marks:70 Marks

Date: 15.06.2018

Pass Marks:35 Marks

Note:Question No. 1 is compulsory.

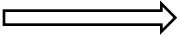
Solve any 5 questions from remaining 6 questions.

Use of Chart No. 813 (South Coast of Sri Lanka)

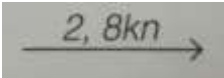
Non Programmable Scientific Calculator is permitted.

Deviation Card as given in Question Paper

Q1. a) Identify the following chart symbols:

i. 

ii. 

iii. 

iv. 

(1x4=4marks)

b) Elaborate the differences between ocean chart & harbour chart.

(4 marks)

c) With reference to the Chart 813(South Coast of Sri Lanka)

i. Write the Scale of the chart.

- ii. What are the corrections applied to satellite derived positions on this chart?
- iii. What is the next adjoining chart on the eastern side of this chart?
- iv. What is the Mean High Water Springs (MHWS) at Colombo?

(1x4=4marks)

d) With respect to IRPCS, 1972 as amended, define:

- i. Underway
- ii. Vessel Constraint by her draught

(2+2=4 marks)

e) With respect to IRPCS, 1972 as amended, define:

- i. Masthead Light
- ii. Stern Light

(2+2=4 marks)

Q2. a) Explain 'Luminous Range Diagram' and its use. (5 marks)

b) Explain 'Routeing Charts' & its use. (5 marks)

Q3. a) At 0500 hrs, a ship on the course of 030° (C) observed 'Great Basses Reef'[Fl.15s34m25M] bore 265° (C) & 'Little Basses Reef' [VQ(2)10s34m27M] bore 005°(C) at the same time. (5 marks)

Find the ship's position at 0500 hrs. (Variation 3°W);

Extract of Deviation card of the ship:

Ships Heading by Compass	Deviation
10°	4° W
20°	3° W
30°	2° W
40°	1° W

b) A ship observed 'Nilewelli Point' (approx. position $05^{\circ}57.5'N$ $080^{\circ}43'E$) and 'Kolonna Point' (approx. position $05^{\circ} 58.5'N$ $080^{\circ}44'E$) in transit bearing & at the same time 'Dondra Head' [Fl.5s47m28M] was 9 miles off from the ship . Find the position of the ship. (5 marks)

- Q4. a) At 1600 hrs, a ship observed 'Point De Galle' [Fl.(2)15s28m25M] bearing 090° (T) at a distance of 13.3'. Find the Ship's position at 1600 hrs.
 b) From position at 1600 hrs as found in a), the ship steered a course of 340° (T). At 1800 hrs. 'Barberyn' [Fl.20s46m27M] was observed bearing 060° (T) at a distance of 11 Miles. (Ship's Speed 14 knots)
 i. Find the set & drift experienced by the vessel.
 ii. Find the 'Course Made Good' & 'Speed Made Good' of the Ship.(10 marks)

Q5 A Ship's position at 1000 hrs was found with 'Sangma Kanda Point' [Fl.5s10M] bearing 290° (T) at a distance of 10 miles. Find the compass course to steer so as to pass 'Little Basses Reef' [VQ(2)10s34m27M] 15 miles off to starboard, counteracting a current known to be setting 140° (T) at 5 knots. Also find the speed made good. (10 marks)
 (Variation $3^{\circ}W$; Ship's Engine Speed 12 knots)

Extract of Deviation card of the ship:

Ships Heading by Compass	Deviation
180°	$1^{\circ} W$
190°	$2^{\circ} W$
200°	$3^{\circ} W$
210°	$4^{\circ} W$
220°	$5^{\circ} W$

Q6 With respect to IRPCS, 1972 as amended:

- a) State Rule No. 5. (3 marks)
- b) List all the rules under Part B- Section II: 'Conduct of Vessels in sight of one another'. (4 marks)
- c) Write in your own words Rule No. 14. (3 marks)

Q7. a) List the Day & Night Signals exhibited by:

- i. Vessel 'Not Under Command' (2 marks)
- ii. Vessel 'Constrained by her draught' (2 marks)
- iii. Power Driven Vessel underway whose length is greater than 50 meters. (2 marks)
- iv. Vessel 'Restricted in her ability to manoeuvre' (2 marks)

b) List the signal sounded by a power driven vessel in restricted visibility when: (1+1 = 2 marks)

- i. Making way through water.
- ii. Underway but stopped and making no way through water.