

INDIAN MARITIME UNIVERSITY

(A Central University Government of India)

END SEMESTER EXAMINATIONS-June/July 2019

B.Sc Nautical Science

Semester-I

CHART WORK & COLLISION PREVENTION REGULATIONS (UG21T3206)

Date: 06-07-2019

Maximum Marks: 70

Duration: 3 hrs.

Pass Marks: 35

Note: Question No. 1 is compulsory.

Solve any 5 questions from remaining 6 questions.

Use of Chart No. 813 (South coast of Sri Lanka), Scientific Calculator are permitted.

Institute to provide : Deviation Card & Luminous Range diagram.

Part A

Q.1

a) Explain the following chart symbols: (4 x 5 = 20 Marks)

1)  , 2)  , 3)  , 4) 

b) Explain what are Mercator charts and Gnomonic charts?

c) Provide the following information from the exam Chart No 813

1) Date of publication, 2) Unit & reference Datum regarding height and depth, 3) Scale of the Chart, 4) Projection.

d) Define the following

1) Vessel constrained by her draft, 2) Vessel not under command

e) Define the following:

Mast head light, Stern light

Q.2 (5 x 2 = 10 Marks)

a) Write short note regarding 'Dates of Surveys and Source Data given on a chart

b) What are Routeing charts? Explain any 5 important information obtained from a routeing chart.

Q.3 (5 x 2 = 10 Marks)

a) Find the Latitude and Longitude of a position from where Colombo Light house will bear $041^{\circ} T X 9'$ off.

b) Find the bearing and distance of Colombo light from a position 10M SW of Beruwala Point.

Q.4 (10 Marks)
At 1000 hrs Vessel in position with Little Basses reef light brg $010^{\circ}T$ X 9.2', steering a course $200^{\circ}T$, Give brg and distance and time when Great Basses reef is (a) nearest (b) abeam. Also find the CMG and SMG.
(Ship's speed- 13 Kts, Current known to be setting $140^{\circ}T$ at 2 Kn, wind on port quarter caused leeway of 5°)

Q.5 (10 Marks)
(a) At 0600 hrs, vessel in position with Rassamunai Pt ($05^{\circ}57'N$, $080^{\circ}25'E$) 9 NM and Dondra Head point 6NM. From here find a Cos to steer which will allow Galle light to be passed on Stbd side at 6NM Also find time and bearing when Rassamunai pt will be abeam (current setting $200^{\circ}T$, X 2.5 kts, Ship's speed 12 kts)

(b) What course will have to be steered if a starboard side wind caused a leeway of 4° ?

Part-B

Q.6 (4 + 3 + 3 = 10 Marks)
a) State : Rule No. 2
b) Write down sections of COLREGS 1972.
c) Explain in your own words Rule no. 17

Q.7 Describe Lights and Shapes exhibited by following vessels: (2 x 5 = 10 Marks)
a) A power driven vessel length 50 M or more when underway.
b) A vessel not under command
c) A vessel constrained by her draft
d) A vessel engaged on pilotage duty.
e) Describe the sound signals used by a fishing vessel in restricted visibility.
