

**Indian Maritime University**  
**(A Central University, Govt of India)**  
**End Semester Examinations – Dec 2023**  
**Programme Name: B Sc (NS)**  
**Semester: V**  
**Subject Code: UG21T4501**

**Subject Name: Coastal Navigation & Collision Prevention Regulations**

Date: 18.12.2023

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) A.T.T Vol II tidal graph to be used.
- (iv) BA Chart 2675/5049 to be used

**Section A**

Choose the correct answer as applicable.

**(1 X 10 Marks)**

1. The set and drift of current is the -
  - a) course and distance between the D.R position and the observed position
  - b) course and distance between the observer position and the D.R position
  - c) course and distance between the estimated position and the D.R position
  - d) None of the above
2. Neap tide occurs on a Full Moon Day.
  - a) True
  - b) False
3. In Region B of IALA system
  - a) The cardinal marking buoys are coloured red and black
  - b) Isolated danger marking buoys are black and yellow in colour
  - c) Starboard hand lateral buoy Light can have any rhythm
  - d) Port hand lateral buoys are green in colour
4. During the day, a vessel displaying two black cones with their apexes together in a vertical line indicates that the vessel is:
  - a) vessel aground
  - b) engaged in underwater diving operations
  - c) engaged in trawling or engaged in fishing
  - d) a sailing vessel
5. To find course to steer to reach desired position counteracting current and leeway:
  - a) first counteract the leeway and then counteract the current

- b) first allow the leeway and then counteract the current
  - c) first counteract the current and then counteract the leeway
  - d) none of the above
6. Mariner's Handbook (NP 100) gives information on -
- a) Ocean routes
  - b) Time signal
  - c) Ice and navigational hazards associated with ice navigation
  - d) None of the above
7. The term 'Short blast' means a sound signal having a duration of about:
- a) 2 secs
  - b) 4 to 6 secs
  - c) 1 sec
  - d) None of the above
8. The statement, "vessels shall be deemed to be in sight of one another" means:
- a) When one can be observed on the radar of the other
  - b) Only when one can be observed visually from the other
  - c) When one can be observed on the AIS of the other
  - d) All choices
9. Time of HW and LW given in tide table is-
- a) Standard Time of the Port
  - b) GMT
  - c) Local mean time
  - d) UTC
10. A pilot vessel on pilotage duty in restricted visibility may in addition to the prescribed signals, sound an identity signal consisting:
- a) one short blast
  - b) two short blasts
  - c) three short blasts
  - d) four short blasts

### **SECTION B**

**(All questions to be answered. Each of 2 marks)**

- 11. When you sight a vessel on your bow how will you determine if risk of collision exists?
- 12. Define: i) Range of tide ii) Drying Height
- 13. Define as given in IRPCS: i) Masthead light ii) Sidelights
- 14. What is the difference between the tidal predictions of Standard ports and Secondary ports?
- 15. What additional lights are required to be exhibited by a power-driven vessel constrained by her draught?

### SECTION C

(Answer **any Five questions** out of the Seven Questions.)

**16.** A) List at least 6 notices and alerts that are marked on the chart during planning stage? (6 Marks)

B) Describe the dimensions of ball, cone, cylinder, and diamond displayed by vessels as per Annex I of IRPCS. (4 Marks)

**17.** A) At 1400 hours the position of the ship was found to be lat  $50^{\circ} 20' N$  long  $002^{\circ} 27' W$ . Plot the position of the ship. From the above position find the course to steer to pass Start Point Lt 8 miles off counteracting a current setting  $280^{\circ} T$  at 4 knots and NW'ly wind causing a leeway of  $3^{\circ}$ .

B) Find the time and the distance off when Start Point Lt will be abeam. (Ship speed 14 knots). (6+4 Marks)

**18.** At 2100 hours a ship steering  $080^{\circ} G$  at 16 knots, Casquets Lt Ho bore  $140^{\circ} G$  and at 2200 the same Lt Ho bore  $225^{\circ} G$ . If the ship experienced a current setting  $040^{\circ} T$  at 3 knots, find the position of the ship at 2100 hrs and 2200 hrs. Also find the course and speed made good. (G error  $2^{\circ} H$ ). (10 Marks)

**19.** A) Find the height of tide Mumbai on 4<sup>th</sup> of Sept at 1630 hrs (S.T). the extract from ATT is given for reference:

Extract from the A.T. T		
4 <sup>th</sup> Sept.	0052	4.4 m
	0705	0.8 m
	1315	4.2 m
	1905	1.0 m

(6 Marks)

B) What are cardinal marking buoys. Draw and describe South Cardinal buoys with Shape, top mark, colour and light. (4 Marks)

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**20.** A) In a situation where risk of collision exists, what action should the give way vessel take as per rule 8 and 16? (6 Marks)

B) What Lights and shapes will be displayed by A vessel engaged in trawling with dredge net making way through water whose net has come fast over an obstruction. (4 Marks)

21. At 0600 hrs Eddystone Rocks Lt. Ho. distance was 18nm by radar. She steered a course  $250^{\circ}$  T at 16 knots. At 0645 hrs the distance of Lizard Point Lt. Ho. was 14nm. During the above period the ship experienced a current setting  $120^{\circ}$  T at 4knots. Find the position of the ship at 0600 hrs and 0745 hrs. (10 Marks)

22. A) What information we get from following nautical publication?  
i) Sailing Directions (Pilots) ii) Ocean Passages For the World (NP136) (4 Marks)  
B) Explain Rule 13 of IRPCS. (6 Marks)

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