

**Indian Maritime University**  
**(A Central University, Govt of India)**  
**End Semester Examinations – December 2022**  
**Programme Name: B Sc (NS)**  
**Semester: V**  
**Subject Code: UG21T4501**

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

Date: 12.12.2022

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) Scientific Calculator is permitted.
- (iv) Norrie's Table permitted
- (v) BA Charts 2675 chart will be supplied by the Examination Centre

**Section A**  
**(1 mark each)**

1. Depths on chart are measured from this datum
  - a) MSL
  - b) MHWN
  - c) MHWS
  - d) LAT
  
2. Set and Drift is measured from
  - a) DR position to Observed Position
  - b) Initial Fix to Final Fix
  - c) Initial Position to DR
  - d) Estimated Position to DR position
  
3. A buoy displaying a characteristic of Fl (2)10s is
  - a) A North Cardinal Buoy
  - b) An East Cardinal Buoy
  - c) An Isolated danger buoy
  - d) A Safe Water mark

4. Leeway is applied to the Course Made Good

- (a) True                      (b) False

5. In Running Fix, the transferred Position line is parallel to the 2<sup>nd</sup> bearing obtained

- (a) True                      (b) False

6. The process of gathering together all information relevant to the contemplated passage is called

- a) Appraisal
- b) Planning
- c) Execution
- d) Monitoring

7. The close and continuous observation of the ship's progress along the pre-planned track is better known as

- a) Appraisal
- b) Planning
- c) Execution
- d) Monitoring

8. Which vessel, when anchored at night, would NOT be required to show anchor lights

- a) Vessel on Pilotage duty
- b) Dredger
- c) Vessel restricted in her ability to manoeuvre
- d) Vessel constrained by her draught

9. While underway in fog, you hear two prolonged blasts at interval of not more than two minutes from another vessel. Which vessel would sound this signal?

- a) Sailing Vessel
- b) Anchored Vessel
- c) Power driven vessel making way through water
- d) Power driven vessel underway, not making way through water

10. The audibility range of the whistle fitted on a ship whose length is more than 200 m is

- a) 2 NM
- b) 3 NM
- c) 4 NM
- d) 5 NM

**Section B  
(2 Marks each)**

11. Define Range of Tide

12. Between a buoy and a beacon, which would you use to plot a position and why?

13. Provided there is no current, what information is available when one uses the technique of doubling the angle on the bow?

14. Give the title and the Publication number of the source from where you can determine the charts and Publications required for the voyage

15. State Rule 5

**Section C**

**Answer five out of seven questions. (10 Marks Each)**

16.

- a) You have to place a North Cardinal buoy to indicate a hazard to Navigation. Draw a neat sketch to indicate not only the position but also indicating the colour of the buoy, nature of the top mark and the characteristic of the light. (5)
- b) At 1800 hours, VSA of Bill of Portland Light House (Height = 44.2m) was  $0^{\circ}17'$  and the bearing was  $000^{\circ}$  (T). Find the Ship's position assuming no Index Error (5)

17.

Find the heights and times of High Water and Low Water at the Secondary Port on the 16<sup>th</sup> of December given the following data –

Part I:	16	0113	2.8
		0759	0.0
		1441	2.5

## Part II:

PLACE	TIME DIFFERENCE		HEIGHT DIFFERENCE			
	High Water	Low Water	MHHW	MLHW	MHLW	MLLW
Standard			2.7	2.4	1.1	0.4
Secondary	+0035	+0025	-1.2	-1.1	-0.2	0.0

Seasonal Change for Standard Port = (-0.1)

Seasonal Change for Secondary Port = (+0.1)

(10 marks)

18.

- Itemize any 10 data that you would acquire during the Appraisal stage of Passage Planning
- Enumerate any 10 items that you would mark on the chart during the Planning stage of passage planning

(5+5 = 10 marks)

19.

- At 1530 hours, St Catherine Light bore  $310^\circ$  (T) and Nab Tower bore  $022^\circ$  (T). Find the ships position. Engine speed 13 knots.
- Find the course to steer to pass Start Point light 7 miles off, counteracting a current setting  $160^\circ$  (T) @ 4 knots, Wind North Leeway  $3^\circ$ .
- Find the time when Bill of Portland Light will be abeam

(3+3+4 =10 marks)

20.

- At 2100 hours, while steering a course of  $099^\circ$  (T) at 12 knots, Pte de Barfleur light bore  $150^\circ$  (T) and at 2200 hours the same light was observed at  $215^\circ$  (T). The vessel was experiencing a current setting  $042^\circ$  (T) @ 3 knots, Wind North, Leeway  $3^\circ$ . Find the ships position at 2200 and 2100 hours
- Find the estimated time and distance off when Cap d'Antifer light will be abeam.

(5+5= 10 marks)

21. You are the OOW on a Power driven vessel in open sea when visibility is less than 1 nautical mile.

On your Radar you observe a target 2 points on your starboard bow. List out our actions sequentially to avoid a close quarter situation. For every action listed, state the rule that justifies your action.

(10 marks)

22. You are on a Power driven vessel in open sea with clear visibility. You observe another Power driven vessel 3 points on your port bow crossing. List out our actions sequentially to avoid a close quarter situation. For every action listed, state the rule that justifies your action.

(10 marks)

Tolam

