

INDIAN MARITIME UNIVERSITY
Time Bound Assignment
B Sc (NS) Arrear Examinations
September/October 2020
UG21T3501
Coastal Navigation & Collision Prevention Regulations

Date: 21/09/2020

Max Marks: 70

Duration: 3 Hrs

Pass Marks: 35

Note: Question No. 1 and Question No. 7 is compulsory.

Answer any 6 questions from remaining 8 questions (each of 10 marks).

Scientific Calculator is permitted if required.

Use a scale, compass and protractor to draw the sketch where required. Free hand sketches will not be marked

SECTION A (Coastal Navigation)

(Question No. 1 is compulsory. Solve any 4 question from remaining 5 questions.)

Q.1 Find the tidal predictions for Drummore for 10th April, given the following information from the Admiralty Tide Table (Volume I). Assume seasonal variation as (-) 0.1 for both Standard and Secondary Port

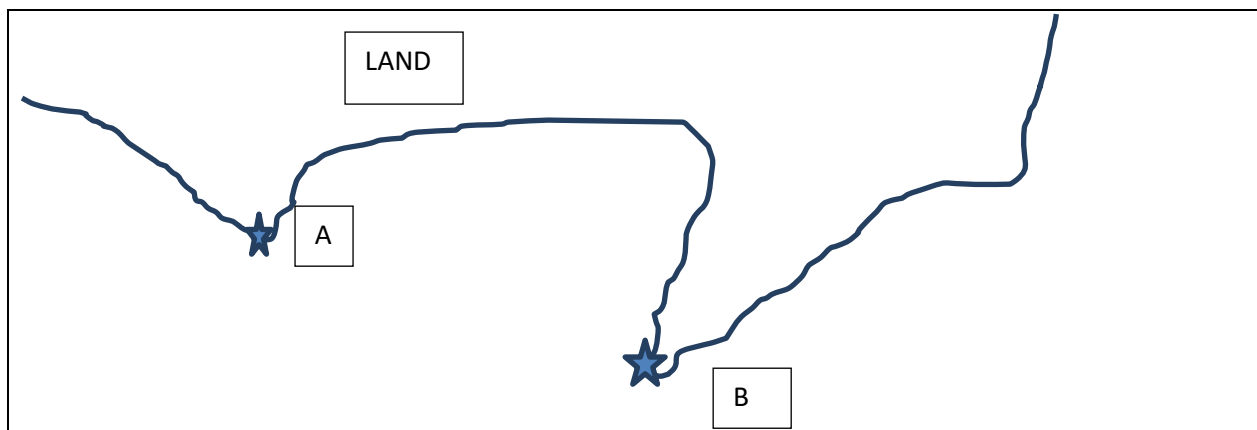
Part I:	10	0338	8.0
		1030	2.4
		1623	7.7
		2255	2.8

Part II:

No.	PLACE	TIME DIFFERENCE				HEIGHT DIFFERENCE			
		High Water	Low Water			MHWS	MHWN	MLWN	MLWS
452	LIVERPOOL	0000	0600	0200	0800				
		and	and	and	and	9.3	7.4	2.9	0.9
		1200	1800	1400	2000				
420	Drummore	+0030	+0040	+0015	+0020	-3.4	-2.5	-0.9	-0.3

(10 marks)

Q2. Refer Sketch below –



Replicate a similar sketch in your answer sheet.

Indicate the vessels position at 1000 hours if at that time, The Horizontal sextant angle of 70° was found between Light 'A' and Light 'B' and the Vertical sextant angle subtended by light 'B', whose charted elevation is 43m, was $00^\circ 10'$.

Construct a neat sketch to mark your answer.

Describe step wise your construction.

Use a suitable scale for the range and indicate the same on the sketch,
(Say 1cm= 1NM)

(10 marks)

Q3. Differentiate between IALA Region 'A' and Region 'B' with respect to Port lateral marks, Starboard lateral Marks, Preferred Channel to Port and Preferred Channel to Starboard

(10 marks)

Q4. At 1900 hours, Light house 'A' was observed bearing $180^\circ(T)$ at a distance of 10 miles. The vessel steered a course of $090^\circ(T)$ with an engine speed of 12 knots. Indicate her position at 2100 hours if the current was setting $180^\circ(T)$ at 2 knots and a North Easterly Force 6 was causing a leeway of 2° throughout. Also indicate the Course Made Good and the Speed made Good.

Construct a neat sketch to mark your answer.

Describe step wise your construction.

Use a suitable scale for the range and indicate the same on the sketch,
(Say 1cm= 1NM)

(10 marks)

Q5. At 1800 hours, the vessel observes Light 'L' at a bearing of $000^\circ(T)$ 10 miles away. She wishes to make good a course of $270^\circ(T)$, given Engine speed 13 knots,

N'ly wind causing a leeway of 2 degrees and that the current is setting NE at 3 knots, Indicate the Speed made Good and the course to steer to counteract the current and leeway.

Construct a neat sketch to mark your answer.

Describe step wise your construction.

Use a suitable scale for the range and indicate the same on the sketch, (Say 1cm= 1NM)

(10 marks)

Q6. (a) You are to plan a passage between Port X and Port Y. Sequentially list out how you will use the Admiralty Catalogue to identify the charts that you will require to complete the passage safely. **(5 marks)**

(b) In your own words describe what point are covered in the 3rd stage of passage planning – "Execution" **(5 marks)**

SECTION B (Collision Prevention Regulations)

(Question No. 7 is compulsory. Solve any 1 question from remaining 2 questions.)

Q.7.

- (a) Define Masthead Light
- (b) Define "Vessel constrained by her draught"
- (c) State – When is a vessel deemed to be overtaking
- (d) State Rule 5
- (e) State the duration of a prolonged blast

(2 x 5 = 10 marks)

Q8. You are on a power driven vessel transiting a TSS in the correct lane in good visibility. You see on the horizon for the first time another power driven vessel about 3 points on the starboard bow, crossing. Sequentially state your actions and justify them with suitable rules from the Collision Prevention Regulations

(10 marks)

Q.9. You are on a power driven vessel navigating in restricted visibility with engines ready for immediate behavior. Your Radar is on a 6-mile range scale. You observe a target 2 points on the port bow at the extremity of the PPI. Sequentially state your actions and justify them with suitable rules from the Collision Prevention Regulations

(10 marks)

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