INDIAN MARITIME UNIVERSITY

(A Central University, Government of India)

End Semester Examination Dec 2019/Jan 2020

B.Sc. (Nautical Science)

Semester -V

UG21T3501- Coastal Navigation & Collision Prevention Regulations

Date: 09.12.2019 **Max Marks: 70**

Time: 3 Hours **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.

PART A (Coastal Navigation)

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

Q.1 Find the tidal predictions for Navlakhi on 01.03.92 given the following data.

From Part I

	0028 (Hrs.)	3.7 (M)
	0653(Hrs.)	1.9 (M)
1st	1222(Hrs.)	3.3 (M)
	1810(Hrs.)	1.2 (M)

From Part II

		TIME DIFFERENCE (Hrs.)		HEIGHT DIFFERENCE (Meters)			
No.	**PLACE**	**MHW**	**MLW**	**MHWS**	**MHWN**	**MLWN**	**MLWS**
4359	**Bombay**			**4.4**	**3.3**	**1.9**	**0.8**
4331	Navlakhi	+0250	+0330	+2.8	+2.9	+0.2	0.0

Seasonal Changes in Mean Level:

No.	March
4359	-0.1 (M)
4331	-0.1 (M)

(10 marks)

Q2. At 1500 hours the vertical sextant angle of Bill of Portland light house (145 feet or 44.2m) was 00° 20' and the bearing of the same light house was 000° (T). If the sextant error was 3' on the arc, Find the ships position. (10 marks)

Q3. Draw a neat sketch of the following buoys, clearly indicating the colours

a) Starboard hand buoy in an IALA 'A' region while entering a port
b) Preferred channel to port buoy – 'IALA A' region
c) Port hand buoy in an IALA 'B' region while entering a port
d) South Cardinal buoy
e) Safe Water Buoy (10 marks)

Q4. Find the course to steer from a position at 1900 hours with Beachy Head light bearing 000° (T) at 10 miles to a position 12 miles off St. Catherine Point light, counteracting a current setting 315° (T) @ 2 knots and Southerly wind causing a leeway of 3°. Given ships speed is 12 knots, also determine the CMG and SMG.

(10 marks)

Q5. Given: Ship steering 100° (T), Engine speed 12 knots, current setting 040° (T) @ 3 knots, Wind North Leeway 3°.

At 2100 hours on 1st of December, Point de Barfleur light bore 150° (T). At 2200 hours the same light was bearing 215° (T).

Find the ships position at 2200 hours.

Also find the estimated time and distance off when Cap de Antifer light will be abeam. (10 marks)

Q6. (a) List out any five publications used as source for Appraisal during passage planning. Name any one data obtained from each of those publications.

(5 marks)

(b) While planning a passage on the chart, list out any five items you would mark. (5 marks)

PART B (Collision Prevention Regulations)

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

Q7. (2 x 5 =10 marks)

(a) Define Vessel

(b) Define Vessel Not Under Command.

(c) Define Vessel constrained by her draught

(d) As per Annex II state the additional signals for Trawlers, more than 20m in length.

(e) Draw arc of visibility of the Starboard side light

Q8. You are on a power driven vessel making way through water in clear visibility. You observe another power driven vessel on the horizon three points on the starboard bow, crossing. Sequentially state your actions and justify the same by quoting the relevant rules.

(You may assume that there is no appreciable change in bearing initially)

(10 marks)

Q9. State the factors affecting safe speed. (10 marks)

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