

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – June 2023

Programme Name: DNS

Semester: ONE

Subject Code: UD11T5105

**Subject Name: NAVIGATION II: BRIDGE EQUIPMENT, WATCHKEEPING &
METEOROLOGY.**

Date: 28.06.2023

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) Tables (Steam/Log/Nautical Almanac etc.,) that can be used.
- (iv) Chart Work Booklets to be used.
- (v) Any other tables/charts to be used.

Section A

Answer all the question

Ten MCQs / True & False / Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable. (10 x 1 marks = 10 marks)

1. Which of the following option is true regarding Speed through Water.
 - a. GPS
 - b. Appropriate for Collision Avoidance.
 - c. Compulsory input in ECDIS.
 - d. All of Above.

2. The function of the mode select switch on Steering console is to ____
 - a. Select between hand steering, Auto pilot and NFU steering.
 - b. Select the telemotor to use.
 - c. Select between steering system 1 & 2.
 - d. Adjust the weather conditions on the auto pilot.

3. . Navtex is used on ships for
 - A - Receiving weather reports and navigational warnings
 - B - Transmitting distress information

C - Transmitting weather reports by ships

D - For recording weather parameter

4. When two power-driven vessels are crossing, the vessel which has the other to starboard must keep out of the way, if _____
- She is the faster vessel
 - The situation involves risk of collision
 - The vessels will pass within half a mile of each other
 - Whistle signals have been sounded.
5. Rule 14 describes the action to be taken by vessels meeting head on. Which of the following conditions must exist in order for this rule to apply?
- Both vessels must be power-driven.
 - They must be meeting on reciprocal or nearly reciprocal courses.
 - The situation must involve risk of collision.
 - All of the above.
6. According to the Rules, A sailing vessel is NOT restricted in her ability to manoeuvre. True / False
7. When two power-driven vessels are crossing, the vessel which has the other to starboard must keep out of the way if _____
- she is the faster vessel.
 - the situation involves risk of collision.
 - the vessels will pass within half a mile of each other.
 - whistle signals have been sounded.
8. Fall is atmospheric pressure with distance is called Pressure Gradient.
True / False
9. The defining characteristic of the Troposphere is its _____
- poorly mixed atmospheric gases.
 - Paucity of weather.
 - environmental temperature lapse rate.
 - precipitation lapse rate.
10. Average atmospheric pressure at the earth's surface is about _____

Section B

Answer all the questions (5 x 2 marks)

11. What is a vessel "Not Under Command"?
12. Define "Vessel engaged in Fishing".
13. Define stern light of a vessel.
14. What is Relative Humidity?
15. Define DALR & SALR.

Section C

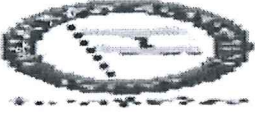
Answer any five out of seven questions (5 x 10 marks = 50 marks)

- 16a) Explain the principle of the sextant with the help of a sketch. (5 Marks)
- 16b) Describe the purpose of "Off-Course" alarm and its limitation. (5 Marks)
- 17a) Explain Rule-7 "Risk of Collision" in your own words. (5 Marks)
- 17b) Enlist any 10 navigational equipment's & sketch the layout of the bridge with its navigational equipment's. (5 Marks)
- 18a) What is a vessel "Restricted in Her Ability to Manoeuvre"? (5 Marks)
- 18b) Explain with suitable diagram the working of a course recorder and state contents of recording paper. (5Marks)
- 19a) What are the advantage and disadvantages of a Magnetic Compass over Gyro compass? (5 Marks)
- 19b) Enumerate, in proper sequence, the procedure for changing over from Automatic mode of Steering to Manual Streering. (5 Marks)
- 20a) What are the duties of a lookout person? (5 Marks)
- 20b) Explain in your own words what action you will take to avoid collision as per COLREGS Rule 8. (5 Marks)
- 21a) Sketch and explain the working of Aneroid Barometer. (5 Marks)
- 21(b) Explain heat exchange process: conduction, convection, and radiation (5 Marks)

22a) Explain with diagram Hydrological cycle with reference to evaporation, condensation and precipitation. (5 Marks)

22b) Explain semi diurnal variation and semi diurnal range of Atmospheric pressure. (5 Marks)

Tolani



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DNS - UD11T5105 - Clarification - reg.

1 message

ESE IMU HQ <imuese@imu.ac.in>
To: ESE IMU HQ <imuese@imu.ac.in>
Bcc: shishirs@tmi.tolani.edu

Wed, Jun 28, 2023 at 11:03 AM

Sir/Madam,

Please refer to today's (28.06.2023) exam of DNS - UD11T5105. In this regard please note the following for Q No 7:

For : When two power-driven vessels are crossing, the vessel which has the other to starboard must keep out of the way if

- a. she is the faster vessel.
- b. the situation involves risk of collision.
- c. the vessels will pass within half a mile of each other.
- d. whistle signals have been sounded.

Read : Mast Head Light's Total Arc of visibility horizon is

- a. 112°
- b. 22.5°
- c. 135°
- d. 225°

Thanks & Regards,

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