

INDIAN MARITIME UNIVERSITY
(A Central University Government of India)
Sep/Oct'25 SE
Programme Name: DNS
Semester – II
Subject Code: UD11T6207
Subject Name: Bridge Electronic Equipment & Watch Keeping

Date: 16.09.2025
Time: 03 Hours

Max. Marks: 70
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.**

Section A

Following are Ten MCQs/Fill in the Blanks/ True & False of 01 Mark each - Choose the correct answer as applicable.

1. Auto Pilot must be changed to Hand Steering at least
 - a) Once during the voyage
 - b) Once a month
 - c) Once every 24 hours
 - d) Once every watch
2. The primary function of the Echo Sounder is to measure _____.
3. Once the BNWAS is put in to operation, the dormant period should be between:
 - a) 5 to 10 minutes
 - b) 3 to 12 minutes
 - c) 3 to 10 minutes
 - d) 5 to 12 minutes
4. The X-band radar operates at a frequency of approximately _____ GHz
5. VDR is akin to ----- of the aeroplane.
 - a) Gyro compass
 - b) Autopilot
 - c) Black box
 - d) Radar
6. The SART transmits signals on the _____ MHz frequency.
7. What is the primary purpose of parallel indexing?
 - a) Determine target speed
 - b) Track a ship's position along a fixed course
 - c) Predict storm movement

- d) Determine gyro error
8. The function of the ARPA system is to track and display _____
9. The purpose of the Doppler Log on a ship is to _____
10. What principle does a gyrocompass work on?
- a) Magnetic attraction
 - b) Gyroscopic inertia
 - c) Hydraulic pressure
 - d) Electric pulses
10. CPA in Radar means _____

Section – B

Five Questions of 02 Marks each (Short Questions)

- 11. Explain S-VDR.
- 12. List two advantages of using ECDIS over paper charts.
- 13. Explain Bridge manning levels?
- 14. Explain range discrimination in Radar.
- 15. Explain purpose of LRIT?

Section – C

Five Questions of 10 Marks each. All Questions are Compulsory.

- 16.
- a.) Draw a simple block diagram of a Marine Radar. 05 Marks
 - b.) Explain the duty of Officer on Watch (OOW) in restricted visibility. 05 Marks
17. List out important steps to bear in mind when taking over and handing over navigational watch whilst the vessel is coasting. (10 Marks)
18. Explain BNWAS. What are the different stages and alerting sequences of BNWAS? 10 Marks
19. Differentiate between AIS & LRIT 10 Marks
20. Explain the watch keeping duties while ship is at anchor. 10 Marks
21. Explain the working of the Gyro Compass and compare it with the Magnetic Compass. (10 Marks)
22. What information is transmitted by AIS as Dynamic Data & Static Data? (10 Marks)