

INDIAN MARITIME UNIVERSITY
(A Central University Government of India)
Diploma in Nautical Science (DNS)
Semester-II
Sep/Oct'25 SE
UD11T5202

Advanced Bridge Equipment, Watchkeeping & Meteorology

Max. Marks: 70
Date : 10.09.2025

Pass Marks: 35
Time: 3 hours

Note: Section A (20 Marks) – Q1 & Q2 are compulsory.
Section B (50 Marks) - Answer any 5 questions from Q3 to Q9

Section – A

Q.1 MCQ / Fill in the blanks / True or False – 1 x 10 = 10 Marks)

- i) AIS operates in the :
- a) Very High Frequency band
 - b) Medium Frequency Band
 - c) Ultra High Frequency Band
 - d) Low Frequency Band
- ii) In AIS, MMSI number of the ship is programmed in the :
- a) Static data
 - b) Dynamic Data
 - c) Voyage related data
 - d) All of the above
- iii) 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
- iv) BNWAS has :
- a) three stages of operation
 - b) Two stages of operation
 - c) One stage of operation

- d) Four stages of operation
- v) VDR is akin to ----- of the aeroplane.
- Gyro compass
 - Autopilot
 - Black box
 - Radar
- vi) X band radar operates in the frequency range of_____.
- 9.2 to 9.5 Ghz
 - 2.9 to 3.1 Ghz
 - c) 9.2 to 9.5 Khz
 - d) 9.2 to 9.5 Mhz
- vii) A Prolonged Blast lasts for _____ to _____ seconds.
- viii) TRS originate in Latitudes between _____ & _____
- ix) Labrador Current is the name of a _____ current.
- x) ITCZ, is a belt of low pressure, which circles the Earth generally near the equator where the trade winds of the Northern and Southern Hemispheres come together. (True / False)

Q.2 Short Answer Questions (2 x 5 = 10 Marks) :

- What sound signals are made by a vessel if she intends to overtake another vessel & what is the sound signal made by the vessel, which agrees to be overtaken (as per rule 34)?
- In restricted visibility what sound signals are prescribed for a Power driven vessel making through water & a power driven vessel underway, stopped and making no way through water?
- Explain S-VDR.
- Explain Pressure Gradient.
- Explain Sea Breeze.

Section – B

Q.3 (2 x 5 = 10 Marks)

- Draw a basic block diagram of a Marine Radar & label it.
- Explain the duty of a Lookout.

Q.4 (2 x 5 = 10 Marks)

- What information is transmitted by AIS as Dynamic Data & Static Data?

b) Differentiate between Mist & Fog.

Q.5

(2 x 5 = 10 Marks)

- a) Explain BNWAS. What are the different stages and alerting sequences of BNWAS?
- b) Explain Drift current with example.

Q.6

(2 x 5 = 10 Marks)

- a) Describe lights and shapes to be shown by a power driven vessel underway, stopped & not making way through the water, when not under command.
- b) Describe origin, movement and life span of TRS.

Q.7

(2 x 5 = 10 Marks)

- a) List five Distress Signals as described in Rule 37 (Annex IV).
- a) Explain Front. Describe Warm Front & Cold Fronts.

Q.8

(2 x 5 = 10 Marks)

- a) List the circumstances under which the Master should be called on Bridge.
- b) What entries are to be made in deck log book while ship is at sea?

Q.9

(2 x 5 = 10 Marks)

- a) Explain the watch keeping duties while ship is at anchor.
- b) Describe two examples of precautions, which may be required by the ordinary Practice of Seaman or by special circumstances of the case.

-----End of question paper-----

