

# Indian Maritime University

(A Central University, Govt. of India)

End Semester Examinations - May/June 2024

Programme Name : Diploma in Nautical Science

Semester : 2

Subject Code : UD11T5202

Subject Name : Navigation IV: Advanced Bridge Equip, Watch-Keeping and Meteorology

Exam Date: 29-05-2024

Duration: 3 Hrs.

Max. Marks: 70

Pass Marks: 35

## General Instructions

1. All Sections (A, B & C) are to be attempted.
2. Options, if any, are specified in respective section.
3. Any other tables/charts to be used.

### SECTION A

Answer all the questions  
(10 x 1 = 10)

S.No	Question
1	NavIC is the GNSS system of China Japan Russia India
2	A vessel at anchor uses which sound signal to give warning of her position to an approaching vessel? One short, one prolonged and one short blast Continuous ringing of the bell One prolonged, two short blasts Four or less short blasts
3	When determining risk of collision, if there is any doubt, it _____. Shall be deemed to exist May exist Does not exist Should be confirmed with other vessel on VHF
4	On a Beaufort Scale, BF 3 corresponds to _____. Moderate breeze Light breeze Gentle breeze Fresh breeze
5	Which of the following is not a ship reporting system? INSPIRES AMVER AUSREP FISHREP
6	The instrument most commonly used for determining the relative humidity is Hydrometer, Hygrometer Barometer Anemometer
7	A vessel engaged in fishing, at anchor, shall show an anchor light sidelights and a stern light three lights in a vertical line, the highest and lowest being red, and the middle being white None of the above.

8	Auto Pilot must be changed to Hand Steering at least Once during the voyage Once a month Once every 24 hours Once every watch
9	In a narrow channel or fairway, if a vessel intends to overtake from Starboard- side, following signal(s) to be sounded to indicate the intention to vessel being overtaken. One short blast Two short blasts Two prolonged and one short blasts Two prolonged and two short blasts
10	Following is not the duty of Helmsman while performing Steering Duty on Navigational Bridge Properly execute all Rudder Orders. To Maintain Proper Lookout To Maintain and Steady the Course. Communicate course steering, to OOW

**SECTION B**  
Answer all the questions  
(5 x 2 = 10)

S.No	Question
1	Explain Col in brief.
2	Name at least six log books that are maintained on the bridge.
3	Write short notes on Radiation Fog
4	Write short notes on DGPS
5	Write short notes on Composition of a Bridge team under different manning levels?

**SECTION C**  
Answer any 5 out of 7 questions  
(5 x 10 = 50)

S.No	Question
1	a) List any 10 Distress signals as stated in Annex IV of COLREGS. (7 Marks) b) Explain what Range & Bearing Discrimination in Marine RADAR is. (3 Marks)
2	a. Explain the factors affecting RADAR detection. (5 marks) b. Explain Stationary front with a proper diagram. (5 marks)
3	a. With a suitable sketch explain Rule of 1-2-3 with respect to TRS. (5 marks) b. State the purpose and concept of BNWAS (5 marks)
4	a)List the Contents recorded in Deck Log Book while navigating at sea. (7 Marks) b)Define what is a Low or cyclone. (3 Marks)
5	a. Explain the bridge duties associated when restricted visibility is expected (5 marks) b. With suitable sketches explain a vessel which is restricted in her ability to Manoeuvre will exhibit (except mine clearance vessels). (5 marks)
6	Explain with a suitable sketch that a potential collision situation with vessels in sight of each other can be divided into four different stages