

Indian Maritime University
(A Central University, Govt. of India)

Sep/Oct'25 SE

Programme Name: NS

Semester: II

Subject Code: UG21T6204

Subject Name: BRIDGE EQUIPMENT AND COLREGS

Date: 04.09.2025	Max Marks: 70
Duration: 03 Hrs	Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted. All Questions compulsory.
- (ii) Options, if any, are specified in respective section.

Section A

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable.

1. The ship's course recorder
 - a. Tells the OOW how well the helmsman or autopilot is steering
 - b. Can be used as evidence in a court of law
 - c. Keeps a record of the course steered
 - d. All the above

2. The error of collimation in a sextant occurs when
 - a. Horizon glass is not parallel to the plane of the instrument
 - b. Horizon glass is not parallel to the index mirror
 - c. Telescope is not parallel to the plane of the instrument
 - d. None of the above

3. Anemometer shows the reading of
 - a. True wind direction and true speed
 - b. Relative wind direction and relative speed
 - c. True wind direction and relative speed
 - d. Relative wind direction and true speed

4. What is the full form of NAVTEX
 - a. Navigational Telecommunications
 - b. Navigational Technology
 - c. Navigational Telex
 - d. None of the above



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- 5 When the pilot is on board the vessel the person in charge of the vessel is
- The Pilot
 - The Master
 - The OOW
 - Any of the above
- 6 A vessel of less than 20 metres in length or a sailing vessel shall not impede the passage of a vessel which can safely navigate only within narrow channel or fairway.
- 7 The weight of the portable battery of the daylight signaling lamp shall not exceed
- 6 kgs
 - 6.5 kgs
 - 7 kgs
 - 7.5 kgs
- 8 In an echo sounder, thin _____ plates are used to produce the acoustic pulses.
- Copper
 - Brass
 - Nickel
 - Aluminum
- 9 A pilot card is
- A card certifying that the pilot is licensed
 - A list of the vessel's essential particulars which is given to the pilot
 - A card that the pilot must sign to record his presence
 - A card given by the port authorities to the pilot
- 10 Every vessel must test the emergency steering at least once in
- 3 months
 - 4 months
 - 5 months
 - 6 months

Section B


Answer all the questions (5x2marks = 10 marks)

- 11 Sketch the single letter flag 'H' and state its meaning
- 12 What is error of perpendicularity in a sextant and how is it rectified?
- 13 Define Vessel Constrained by Her Draught
- 14 Define the term vessel Not Under Command.
- 15 What is the principle of operation of the electromagnetic log

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Section C
Answer All 5 questions (5x10marks = 50 marks).

- 16 a. List and state the purpose the different correctors in a magnetic compass (5 marks)
- b. Draw a block diagram oof the main components of the echo sounder and state their function (5 marks)
- 17 a. Write short notes on adaptive autopilot (3 marks)
- b. What are the different control settings for the auto pilot? (7 marks)
- 18 a. List the vessels considered as 'vessel restricted in her ability to manoeuvre' (5 marks)
- b. As per rule 6 list the safe speed criteria 'by vessels fitted with operational radar' (5 marks)
- 19 a. How will you detect that the vessel is dragging her anchor (5 marks)
- b. List the entries to be made in a deck logbook related to navigation (5 marks)
- 20 Draw a diagram and state the following details for each of the navigational buoys – colour, buoy shape, top mark (if any), light colour (when fitted) and light rhythm (when fitted)
- a. South Cardinal Mark (5marks)
- b. Safe Water Mark (5 marks)

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