

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – June 2023
Programme Name: B Sc (NS)
Semester: Three
Subject Code: UG21T5306

Subject Name: Bridge Equipment & Watch keeping I

Date: 22.05.2023

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) Scientific Calculator is permitted.

Section A

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

1. At the commencement of a sea voyage the Master, a Pilot, the OOW and 2 ratings are present on the bridge. Who is in charge?
 - a) The Master can designate either the Pilot or the OOW to be in charge.
 - b) Either the Pilot or the Master in accordance with the owner's instructions.
 - c) Always the Master.
 - d) Always the Pilot whenever he is on board.
2. A sextant is used to measure vertical & horizontal angles? True/False.
3. What is a pilot card?
 - a) A card certifying that the pilot is licensed.
 - b) A list of the vessel's essential particulars which is given to the pilot.
 - c) A card that the pilot should sign to record his presence onboard.
 - d) A card given by the Port Authorities to the pilot.

4. This is when the telescope is not parallel to the plane of the sextant?
 - a) Index error.
 - b) Shade error.
 - c) Error of collimation.
 - d) Side error.

5. In The Echo sounder thin ----- plates are used to produce the acoustic pulse which is sent from under the keel of the ship.
 - a) Copper.
 - b) Brass.
 - c) Aluminium.
 - d) Nickel.

6. Following entries made in deck log book by deck officer.
 - a) Position of ship
 - b) Speed of ship
 - c) Details of distress signal
 - d) All of the above

7. What is the full form for "NAVTEX" as per Bridge lay out is concerned.
 - a) Navigational Transmitter.
 - b) Navigational Telex.
 - c) Navigational Technology.
 - d) None of the options.

8. When must a proper look-out be kept?
 - a) at all times.
 - b) only between the hours of sunset and sunrise.
 - c) only when entering and leaving port
 - d) only in fog

9. The main duties of the lookout are
 - a) Floating objects.
 - b) Discoloured water.
 - c) Shoals.
 - d) All of the options.

10. Rudder position is shown on the bridge by the _____.
 - a) Rudder angle indicator.

- b) Telemotor position.
- c) RPM Meter.
- d) Anemometer.

Section B

Five Questions of 02 Marks each. SHORT ANSWER TYPE QUESTIONS

- 11. Define the principle of a sextant?
- 12. How compass course can be converted to true course?
- 13. Differentiate between speed over ground and speed over water.
- 14. Give two uses of day light signaling lamp?
- 15. What do you understand by the term "stylus" in echo-sounder?

Section C

Answer five out of seven questions. (10 Marks Each)

16

- a) Name any 10-equipment found on ships bridge, used for Navigation and mention their use in brief. (05 Marks)
- b) Explain "Janus Configuration" in Doppler Log System. (05 Marks)

17

- a) Describe with the help of a diagram the binnacle and arrangement of correcting devices provided in a Magnetic compass on ship. (05 Marks)
- b) State what steps will you take for the care & Maintenance of the Magnetic compass on board ship. (05 Marks)

18

- a) Explain the Principle of Electro-Magnetic speed log. (05 Marks)
- b) Identify the main components in a simple block diagram of an echo sounder and states the function of each. (05 Marks)

19

- a) Describe the operation of the course recorder log (05 Marks)
- b) Describe the Electric telegraph and explain its operation. (05 Marks)

20

- a) Lists the entries which should be made in the logbook at Sea. (05 Marks)
- b) Describe the principles to be observed while keeping a safe navigational watch & lookout. (05 Marks)

21

- a) Explain the circumstances in which the Officer on Watch (OOW) should call the Master. (05 Marks)
- b) State the indications of anchor dragging on board ship. (05 Marks)

22

- a) State the Navigation duties of the OOW with Pilot embarked. (05 Marks)
- b) Describe the Pilot transfer arrangements, as per SOLAS, & its upkeep. (05 Marks)

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