

**Indian Maritime University**  
**(A Central University, Govt. of India)**  
**End Semester Examinations – December 2024**  
**Programme Name: B Sc (NS)**  
**Semester: III**  
**Subject Code: UG21T5306**

**Subject Name: BRIDGE EQUIPMENT & WATCHKEEPING PAPER I**

Date: 18.12.2024

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.

**Section A**

Attempt all Questions (10x1mark = 10marks)

Ten MCQs/Fill in the Blanks, Choose the correct answer as applicable.

1. A pilot card is
  - 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 Pilot creates for his own use
  - d. A card given by the port authorities to the pilot
  
2. What is the full form of NAVTEX
  - a. Navigational Telecommunications
  - b. Navigational Technology
  - c. Navigational Telex
  - d. None of the above
  
3. All vessels must test the emergency steering system every
  - a. 2 months
  - b. 3 months
  - c. 6 months
  - d. 4 months
  
4. Own ship's course is  $041^\circ$  (T). Variation is  $6^\circ$  E, Deviation is  $4^\circ$  W. My compass course is
  - a.  $039^\circ$  (M)
  - b.  $039^\circ$  (C)
  - c.  $043^\circ$  (M)
  - d.  $043^\circ$  (C)

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5. In restricted visibility, it is statutory legal requirement for the watch keeping officer to
  - a. Inform the company
  - b. Inform the Master
  - c. Inform your home
  - d. Inform the DPA
6. \_\_\_\_\_ is a fixed line on the compass binnacle parallel to the ship's fore and aft line.
7. When at sea, hand steering must be tried
  - a. At least every watch
  - b. Every six hours
  - c. Every twelve hours
  - d. Every twenty-four hours
8. The portable battery of the daylight signaling lamp should be able to operate the lamp for not less than
  - a. 5 hours
  - b. 4 hours
  - c. 3 hours
  - d. 2 hours
9. Each vessel shall be fitted with at least
  - a. One engine order telegraph
  - b. Two engine order telegraph
  - c. Three engine order telegraph
  - d. Master's Decision
10. The lookout must report sighting of
  - a. Floating debris
  - b. Marine crafts
  - c. Discolored waters
  - d. All the above

### **Section B**

All five questions are compulsory (5x2marks=10marks)

11. What is Janus configuration in doppler log
12. Write short notes on Integrated Bridge System.
13. What is side error in a sextant and how will you correct it?
14. State the different ways to call the Master on the bridge.
15. Explain the systematic procedure to changeover from hand steering to autopilot on the steering console

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### Section C

Answer any five out of seven questions, (5x10marks=50marks)

16. a. Compare 'ranging' and 'phasing' in an echosounder (5 marks)
- b. State the different correctors and their purpose a compass adjuster uses to compensate for deviation in a magnetic compass (5marks)
- 17 a. State the procedure for taking over a navigational watch at sea (5 marks)
- b. State the procedure to follow when making corrections to the deck logbook entries (5 marks)
- 18 a. List the sound signaling equipment on a vessel more than 100 metres in length (5 marks)
- b Explain the purpose and working of the course recorder. (5 marks)
19. a. Explain the different checks you will do to check to ensure the pilot ladder is correctly rigged (5 marks)
- b. State the duties of the officer on an anchor watch as per STCW (5 marks)
- 20 a. List the Entries OOW should make in the Deck Logbook when keeping a Navigational watch at Sea (5 marks)
- b. How does the electromagnetic log measure the ship's speed (5 marks)
- 21 a. List any ten instruments in the wheelhouse used for safe Navigation of a ship (5 marks)
- b. State the duties of the watchkeeper when keeping a lookout (5 marks)
- 22 State the different situations when you as a OOW will call the Master on the Wheelhouse (Bridge) (10 marks)

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