

6589XHJK

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

Sep/Oct'25 SE

Programme Name: BSc (NS)

Semester: VI

Subject Code: UG21T5602

Subject Name: Naval Architecture II

Date: 02.09.2025	Max Marks: 70
Duration: 03 Hrs	Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) The required Hydrostatic particulars have already been provided in the question.

Section A

MCQs (01 Mark each) – Choose the correct answer as applicable.

1. The inclining experiment is carried out (Choose the correct option)

- A- Every 5 years B- Every 2.5 years C- Prior new delivery
D – When ownership changes

2. You will most likely find the loadicator on a ship in:

- A-Ship's office B: Engine room C: Master's office D: Main deck

3. _____ is one of the major output parameters in a loadicator.

- A- Ullage B- Ship Particulars C-SF/BM D-Temperature

4. Following is an example of Critical structure area:

- A- Bridge B- Main deck C- Fore peak tank D- Aft poop deck

5. Annual inspections may be done within following intervals of the anniversary date of the certificates:

- A: +/- 6 Months B: +/- 3 Months C: +/- 5 Months D: +/- 1 Month

6. _____ issues the trading certificates to the vessel after the requisite surveys.
- A. Class (classification Society) B. Company C. Ship Yard
D. Master
7. The time period between the stern and the bow taking the blocks is called _____.
- A. Dangerous period B. Critical period C. Critical instant D. Righting Moment
8. The vessel is kept trimmed by _____ during dry docking.
- A. Stern B. Head C. No trim should be kept D. As per requirement.
9. Cathodic system is useful for:
- A. Stress prevention B. Corrosion prevention of hull C. Pollution control
D. Survey planning
10. If the coating of a tank has only "minor spot rusting" then it's condition is defined as:
- A. Excellent B. Very poor C. Bad D. Good

Section B

Five Questions of 02 Marks each

11. Describe the effect of increasing the beam on ship's stability with the help of GZ curve
12. What data's must be fed into the loadicator by the ship's officers and what will be the output received?
13. Explain shearing force & bending moments experienced by a vessel.
14. Enlist any 4 precautions taken during the inclining experiment.
15. Enlist any 4 functions of Classification Societies.

Section C

Five Questions of 10 Marks each.

16. M.V Vijay enters a SW drydock drawing 3 m forward and 5.2 m aft. KG 9m, FSM 1200 tm. Calculate the virtual GM and the moment of statical stability at 0.5 deg Heel when she is just about to take blocks fwd.

Following Hydrostatic particulars from the table are given: LBP = 140 m, AF for mean draft = 72.113m.

[For Hyd draft of 4.067 m: W = 7853.1 t, MCTC = 158.403 t, AF = 72.118 m KM for the new displacement = 9.887]

17. Define following:

Bulkhead deck, Margin Line, Floodable length, Permissible length, Factor of subdivision.

18. Describe the testing procedure of a Loadicator in detail.

19. a) What is corrosion and what are the factors affecting the same?
b) Describe methods of corrosion control on a ship.

20. a) What is the Harmonized System of Survey and Certification and what are its benefits?
b) How is a ship prepared for an enhanced survey?

