

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – June 2025

Programme Name: B Tech (ME)
Semester: VI

Subject Code: UG11T4606

Subject Name: Shipboard Safety Management

Date: 11 th June 2025	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

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

1. The breaking stress of the weak link of Life Raft securing is _____.
- (A) 1.8 KN +/- 0.5 KN
 - (B) 2.0 KN +/- 0.4 KN
 - (C) 2.2 KN +/- 0.4 KN
 - (D) 2.4 KN +/- 0.2 KN

2. Which of the following ship spaces would have highest permeability?

- (A) Cargo Spaces
- (B) Void Spaces
- (C) Machinery Spaces
- (D) Stores

3. EEBD sets should not be used for

- (A) firefighting
- (B) Primary breathing apparatus for prolonged use.
- (C) Enclosed space entry
- (D) All of these.

4. The flash point of lifeboat engine fuel, as per SOLAS regulations must be not less than _____.

- (A) 35 deg C
- (B) 43 deg C
- (C) 48 deg C
- (D) 50 deg C

5. Totally enclosed Lifeboats are capable of withstanding Fire when waterborne for a duration of _____ minutes.

- (A) 6 min
- (B) 8 min
- (C) 10 min
- (D) 12 min

6. Which of the following is not an item concerning damage control plan of a ship ?

- (A) Sounding Pipes
- (B) Loading Computer
- (C) Bilge pumping system
- (D) Quick Closing Valves

7. Thermal Conductance of TPA shall not be more than _____.

- (A) 5,000 W/m²/K
- (B) 6,000 W/m²/K
- (C) 7,800 W/m²/K
- (D) 8,500 W/m²/K

8. Which of the following alarms is silent on-board ?

- (A) SOPEP
- (B) UMS
- (C) MOB
- (D) SSAS

9. What is the correct order of priorities for Safety out at sea ?

- (A) Life- Ship- Environment
- (B) Life- Environment- Ship
- (C) Ship- Life- Environment
- (D) Environment- Life- Ship

10. For passenger ships engaged in international voyages, lifeboats must have a total capacity to accommodate at least _____ of the total number of persons on board.

- (A) 50 percent
- (B) 75 percent
- (C) 100 percent
- (D) 200 percent

Section B

Five Questions of 02 Marks each

11. What is SOLAS training manual? Where it is kept for easy access for crew?
12. How does HRU works in Life raft?
13. Define: 1) Floodable length 2) Permeability of a space
14. What are possible emergencies on-board the ships?
15. Classify portable fire extinguishers.

Section C

Seven Questions of 10 Marks each of which any 05 questions to be answered.

16. Briefly explain the following terms
(A) Floodable Length Curve (3 Marks)
(B) Permeability (3 Marks)
(C) Deterministic and Probabilistic Damage Assessment (4 Marks)
17. Explain the procedure of launching life rafts using davits and manually. (10 Marks)
18. (A) What is Shipboard Safety Committee? What are the role and functions of it? (4 Marks)
(B) List types of Fire and suitable methods to extinguish it. (6 Marks)
19. (A) What is Inert Gas system. Draw a diagram for the same. Which ships are supposed to be fitted with it? (5 Marks)
(B) What measures can be taken if inert gas main leading to mast riser is found to be leaking? What temporary and permanent solution can be applied to it? (5 Marks)
20. Briefly explain the purpose of the following equipments with specifications
(A) EPIRB (5 Marks)
(B) SART (5 Marks)
21. A) Discuss procedure of a fire drill on-board the ships. (7 + 3)
B) What are the contents of fireman outfit?
22. (A) List the contents of SOLAS Training Manual on-board the ships. (5 Marks)
Where do you find it onboard?
(B) Briefly enumerate the purpose of painter in a Life Raft and a Life boat.