

Indian Maritime University

(A Central University, Govt of India)

End Semester Examinations – June 2026

Programme Name: B Tech (Marine Engineering)

Semester: 6

Subject Code: UG11T4606

Subject Name: SHIPBOARD SAFETY MANAGEMENT

Date: 12.06.2026

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

1. What is the maximum weight of a Portable Extinguisher?
(A) 5 KG
(B) 9 KG
(C) 15 KG
(D) 23 KG
2. According to SOLAS/LSA Code, Life jacket(L/J) must be capable of turning an unconscious person into which position.
A. Face-down position.
B. Horizontal position.
C. Face-up slanting position
D. Vertical position.
3. During the maintenance of cross-flooding arrangements, which of the following should be checked?
(A) Blockages or obstructions in the passageways
(B) Proper functioning of automatic or manual valves
(C) Corrosion or structural damage
(D) All of the above
4. The flash point of fuel used in Life Boat(L/B) engine as per SOLS must not be less than.....

A. 35 deg celcius

B. 43 deg celcius

~~C. 48 deg celcius~~

4. 50 deg celcius.

5. Totally Enclosed Life boat(L/B) are capable to withstand the fire around when water born for a duration of minutes.

A. 6 minutes.

B.8 minutes

C.10.minutes

D.12 minutes

6. How are communications between the command team and the emergency teams typically carried out on a ship?

(A) By using visual signals such as flags and hand gestures.

(B) Through designated communication systems like VHF radios, internal telephones, and public address systems.

(C) By sending written messages through crew members.

(D) Through loudspeakers installed only in the engine room.

7. How are Type A and Type B ships distinguished for the purpose of freeboard computation?

(A) Type A ships are passenger ships, while Type B ships are cargo ships.

(B) Type A ships have greater reserve buoyancy and stricter subdivision requirements than Type B ships.

~~(C) Type A ships are tankers with smaller freeboard, while Type B ships are general cargo ships with larger freeboard.~~

(D) Type A ships are always smaller in size compared to Type B ships

8. When launching a lifeboat or life raft in heavy weather conditions, which of the following is the safest approach?

(A) Launch the lifeboat immediately and let the waves carry it away from the vessel.

(B) Lower the lifeboat quickly without securing it to avoid damage from rough seas.

(C) Ensure all crew members board before launching and release it on the lee side of the vessel.

(D) Inflate the life raft on deck and throw it into the windward side for quick deployment.

9. Damage to compartments may cause a ship to sink due to progressive flooding. What is the primary reason for this?

(A) The ship's engines stop working.

(B) Excessive list or trim reduces stability, leading to further flooding.

(C) Water-tight doors prevent the spread of water.

(D) The ship's hull automatically repairs itself over time

10. What is the significance of the 'Factor of Subdivision' in ship design?

- (A) It determines the number of decks a ship must have.
- (B) It influences the degree of watertight subdivision required for a ship's safety.
- (C) It is used to calculate the ship's speed in different sea conditions.
- (D) It defines the ship's fuel efficiency and consumption rates.

Section B

Answer all Questions

[5 x 2 = 10 Marks]

11. Discuss the ways by which ship's crew can be motivated to participate in Drills.

12. How does HRU works in a Life Raft or Man over Board (MOB) marker.

13. What is the SOLAS training manual?

14. What is International Shore coupling?

15. Describe methods of fighting fires.

Section C

Answer any 5 Questions

[5 x 10 = 50 Marks]

16. (a) Explain "Intact stability" (4 marks)

(b). Prepare contingency plans to deal with fire and/or explosion (including coordination with shore facilities in port, taking account of the ship's fire control plan) in cargo space (6 marks)

17. Write short Notes on:

A. Muster List. (5 marks)

B. Drills conducted on board. (5 marks)

18. a. a) Describe the precautions to be taken before entry to a compartment where a fire has been extinguished (4 marks)

b. Prepare schedules for the conduct of fire drills and abandon ship drills so that all required drills and equipment are covered within required timeframes (6 marks)

19. a. Explain the specific duties assigned to some crew members for mustering and control of passengers (5 marks)

b. Explain how to prepare for the survey of life-saving, fire-fighting and other safety systems on board (5 marks)

20. a. Explain the SOLAS regulation for water-tight doors. (5 marks))

b. What are the critical steps involved in the routine maintenance and inspection of watertight doors on a maritime vessel? (5 marks)

21. a. Describe the role of ship board safety committee? (5 marks)

b. Explain the concept of risk assessment in the context of ship board safety Management. (5 marks)

22. Briefly explain the following terms:

a) Floodable length curve? (3 marks)

b) Permeability? (3 marks)

c) Deterministic & probabilistic damage assessment. (4 marks)

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