
Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – December 2025
Programme Name: B.Sc. Nautical Science
Semester: III
Subject Code: UG21T6304
Subject Name: Cargo Work I

Date: 12.12.2025

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) All the Questions are compulsory
- (iii) Non Programmable Scientific Calculator is permitted

Section A

Answer all 10 Question (10x1mark = 10marks) MCQs/Fill in the Blanks/ T or F

1. *The Chain Register is used for recording:*

- A. Cargo manifest
- B. Deck log
- C. Details and tests of lifting gear
- D. Engine maintenance

2. How many sheaves are typically present in a Gun Tackle?

- A) 1
- B) 2
- C) 3
- D) 4.

3. Which of the following plays a role in determining whether condensation (sweat) will form inside a cargo hold?

- A) The amount of moisture present in the surrounding air
- B) The temperature at which air becomes saturated with moisture
- C) The internal temperature of the stowed cargo
- D) All of the above

4. What is the term for the sudden change in some solid bulk cargoes where, due to moisture and movement, they begin to behave like a liquid during transit?

- A) Liquidation
 - B) Condensation
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- C) Compression
 - D) Liquefaction

5. What does the abbreviation MFAG refer to in the context of maritime safety and medical emergencies?

- A) Marine Fire Assistance Guide
- B) Maritime First Aid Guide
- C) Medical First Aid Guide
- D) Marine Fuel Advisory Group

6. If it is found that the dew point of the outside air is less than the temperature of the air inside the hold, then only should ventilation be carried out. (True / False)

7. The Acronym of IMGS stands for _____

- A) Indian Medical Guide for Ships
- B) International Mythical Guide for Ships
- C) International Medical Gratuity for Ships
- D) International Medical Guide for Ships

8. The minimum size of a CSC Plate on container is _____

- A) 50mm x 100mm
- B) 200mm x 50mm
- C) 200mm x 100mm
- D) 100mm x 100mm

9. Which is not a frozen cargo?

- A) Lamb
- B) Egg
- C) Butter
- D) Meat

10. The Software used to check Ship's stability and the amount of cargo loaded is called _____

- A) Loadicator
 - B) Inclinator
 - C) Helm Indicator
 - D) Anemometer
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Section B

Answer all Five Questions (5 x 2 marks = 10 marks)

11. List any Four types of General Cargoes.
12. Define Safe Working Load (SWL) of the cargo gear
13. Define Angle of Repose
14. State any four Container Lashing Materials
15. Define Stowage Factor

Section C

Five Questions of 10 Marks each. All are compulsory.

- 16.a What is a cargo stowage plan and state the benefits of a cargo stowage plan? (6 marks)
- 16.b Explain the bay plan on a container ship. (4 marks)
17. a) Inspections and checks to be done before loading dangerous goods? (5m)
b) List the classes of cargo as per IMDG code? (5m)
18. A cargo hold 22x15x12 of bale capacity 3900 and of load density 5 t/m² is to be filled so as to maximize the freight earning. The cargo available is
Steel billets SF 0.7m³ /t Freight: \$ 70/ per tonne.
Cotton bales SF 2.8m³ /t Freight: \$ 50/ per tonne

How much of each cargo will you load and what is the freight earned, (7m) which cargo and quantity will you advice to Ship Owner to load based on maximum earning for the voyage? (3m)
19. A Gyn tackle rigged to advantage is used to lift a load of 6 tonnes.
 - i. Find the Effort on hauling part and the minimum size of polypropylene rope required.
(Assume friction per sheave as 12% and Factor of Safety 6) (7 marks)
 - ii. Also find out the efficiency of the system. (3 marks)
20. a) Describe the steps to be taken to clean the cargo hold before loading the cargo. (5 marks)
20. b) Describe the hazards associated with coal. (5 marks)

