

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – June 2025
Programme Name: DNS
Semester: I
Subject Code: UD11T6105
Subject Name: Cargo Work I

Date: 16.06.2025

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) Surface ventilation is effective for
 - a. Grain in bags
 - b. Rice in bags
 - c. Coal
 - d. For steel cargo

- 2) Breaking strength of Manilla rope is
 - a. $2D^2/300$
 - b. $3D^2/300$
 - c. $4D^2/300$
 - d. $5D^2/300$

- 3) What potential hazard can arise from inadequate ventilation in a cargo hold?
 - a. Increased cargo stability
 - b. Reduced loading time
 - c. Accumulation of toxic gases
 - d. Enhanced cargo quality

- 4) Your vessel is being loaded with explosive substances. A storm is brewing. What should you do?
 - a. Continue to load if the shore facility is equipped with a Lightning conductor
 - b. Immediately distance the vessel from the trans-shipment Facility
 - c. Suspend loading during the storm

- d. Continue to load until the competent port authority for the Trans-shipment facility prohibits continuation of loading
- 5) When a ship goes from warm place to cold place then _____ is formed.
- 6) _____ is the space between packages which remains unfilled.
- 7) The perforated box protecting the cargo hold bilge suction pipe opening is called _____ .
- 8) Cargo tanks in a chemical tanker are coated with which of the following materials?
- Anti-rust paint
 - Primer
 - Zinc Primer
 - Epoxy paints
- 9) The cargo liable to slide during rolling, such as steel rails, should be stowed:
- Port and starboard
 - Fore and aft
 - Diagonally
 - All of these
- 10) The software that is used to calculate the stability of the ship is called
- Loading app
 - Loadicator
 - Indicator
 - Ballast app

Section B, Short Answer Questions

Answer All Five Questions (2 Marks each)

11. Write any 5 types of general cargo.
12. State 4 different methods of securing cargo.
13. What is cargo sweat?
14. What are the objectives of IMDG code?
15. What is factor of safety?

Section C, Long Answer Question

Answer All Five Questions (10 Marks each).

16. The dimensions of a tween deck are 20m x 15m x 3m. Find the maximum weight of general cargo that can be loaded in the compartment if the Stowage Factor is 2.0 m³/t and broken stowage is 10%. Will the quantity of cargo be

different if the load density of the deck is 1.25 t/m^3 ? Give reasons for your answer.

17. a) What is Dunnage, and what are its different types? (4 Marks)

b) What are the reasons for using dunnage? (6 Marks)

18. a) A Gyn tackle reeved to advantage is used to lift a load of 22 tonnes. Find the stress on the hauling part and also find the maximum size of 6x37 wire to be used in this tackle. (5 Marks)

b) Describe the importance of safe working load. (5 Marks)

19. Explain the importance of monitoring the temperature of holds carrying coal cargo, detailing the reasons why, the methods used for monitoring, and the recommended frequency of measurements. (10 Marks)

20. Classify the dangerous goods as per the IMDG Code and give examples.

