

INDIAN MARITIME UNIVERSITY
(A Central University Government of India)
END SEMESTER EXAMINATIONS-June-July 2019
Diploma in Nautical Science
Semester -I
CARGO HANDLING, STOWAGE & SEAMANSHIP I
(UD11T3106)

Date:29-06-2019

Max.Marks:70

Time: 2 hours

Pass Marks:28

Part – A

Note: Question no.1 is compulsory and Answer any **three** from the remaining questions. All questions carry equal marks.

Use of Non Programmable Scientific Calculator permitted.

Part A: CARGO HANDLING AND STOWAGE

(Q. No. 1 is compulsory and any 3 other Questions from this Part)

1. The dimensions of a compartment are 20m x 15m x 6m with a permissible load density of 6.0 t/m². Given SF of steel rails 0.45 m³/t and SF of Rice bags 4.4m³/t. Find max quantity of steel rails to be loaded at the bottom and levelled, and how much quantity of Rice bags to be overstowed on top of first cargo so the load density is not exceeded and hold gets filled up?
(10 Marks)
2. Write Short Notes (2 x 5 = 10 Marks)
 - (a) Chemical Tanker
 - (b) Bulk Carrier
 - (c) Load density
 - (d) Bale Capacity
 - (e) Deadweight Cargo
3. (a) What is a cargo stowage plan and state the benefits of a cargo stowage plan. (5 Marks)

(b)What are the powers' & duties' of Dock Labor Inspector (5 Marks)
4. (a) How will you go about preparing a cargo hold for Coal cargo which had earlier carried Iron Ore cargo. (5 Marks)

(b) Discuss factors you would consider while deciding on securing Cargo onboard a ship. (5 Marks)
5. (a) What is: i) Ship Sweat, ii) Cargo sweat. (5 Marks)

(b) List the sources of water ingress into a hold, and ways to prevent water ingress. (5 Marks)

Part B: SEAMANSHIP THEORY & SAFE WORKING PRACTICES

(Answer any 3 Questions from this Part)

6. A 25 tonne, block needs to be lifted with a three-fold purchase, which is rigged to advantage. Find the efficiency of the system if assumed friction is 7 %, calculate the minimum size of grade II chain which may be safely used in the purchase.
(10 Marks)
7. (a) Explain the procedures for care and maintenance of natural fibre ropes on board a vessel. (5 Marks)
(b) Draw and label parts of a stockless anchor. (5 Marks)
8. (a) State the Causes of corrosion, and explain how can, corrosion be prevented on board. (5 Marks)
(b) State all precautions to be taken while you are on the mooring stations. (5 Marks)
9. (a) Explain the following terms: Sledge hammer, Scupper plug and Sen-house slip. (5 Marks)
(b) What are the precautions to be taken while using portable ladders'. (5 Marks)
