

INDIAN MARITIME UNIVERSITY
(A Central University Government of India)
END SEMESTER EXAMINATIONS- DECEMBER 2019
Diploma in Nautical Science
Semester I
CARGO HANDLING, STOWAGE & SEAMANSHIP I
UD11T4106

Date: 14.12.2019

Time: 2Hrs

Max. Marks: 70

Pass Marks: 35

Q. No. 1 is compulsory and answer any 3 other Questions from Part A;
Answer any 3 Questions from Part B;
All Questions carry equal marks;
Use of Non Programmable Scientific Calculator permitted.

Part A
CARGO HANDLING AND STOWAGE

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

Q1. A tween deck is 18m × 15m × 4m and has a permissible load density of 5 t/m². Steel billets of SF 0.35 m³/t and general cargo of SF 3.0 m³/t are to be loaded therein to fill all the available space. Find the maximum quantity of steel billets that can be loaded and the quantity of over stowed general cargo so that the load density is not exceeded.

(10 marks)

Q2. Write Short Notes on following

(5 x 2 = 10 Marks)

- a) Grain Capacity
- b) Stowage factor
- c) Deadweight cargo
- d) Ballasting
- e) Broken stowage

Q3. (a) Sketch and label ship load line marks.

(2 x 5 = 10 Marks)

(b) How to test weather tightness of the hatch covers?

Q4. (a) Explain the checks required for Cargo hold bilges, prior to loading Cargo

(2 x 5 = 10 Marks)

(b) How to prepare cargo hold prior loading cargo ?

Q5 (a). What is fire triangle? Give basic principle for extinguishing the fire.

(b) Describe following a) Cargo sweat b) Ship sweat.

(2 x 5 = 10 Marks)

PART B:
SEAMANSHIP THEORY & SAFE WORKING PRACTICES
(Answer any 3 Questions from this Section)

- Q6. Calculate the **size** of Manilla rope to use if the stress on the hauling part will be not greater than 3 tonnes. (10 marks)
- Q7. (a) Write short notes on care & maintenance of ropes & wires
(b) Describe marking on a) Shackle & Block (2 x 5 = 10 Marks)
- Q8. (a) How paints should be stored onboard? (2 x 5 = 10 Marks)
(b) Define PPE. Give examples.
- Q9. (a) Describe different types of materials used on board
(b) Describe 'Safety Signs' on board and their meaning. Give 1 example each. (2 x 5 = 10 Marks)
