

INDIAN MARITIME UNIVERSITY
(A Central University Government of India)
END SEMESTER EXAMINATIONS- DECEMBER 2018
DIPLOMA IN NAUTICAL SCIENCE
SEMESTER - I
CARGO HANDLING, STOWAGE & SEAMANSHIP I(UD11T4106)

Date: 02-01-2019

Max. Marks: 70

Time: 2 hours

Pass Marks: 35

- Note:** 1.All Questions carry equal marks;
2.Use of Non Programmable Scientific Calculator permitted.

PART-A: CARGO HANDLING AND STOWAGE

(Q.no.1 is compulsory answer 3 other questions from this Section)

1. How many tonnes of the following cargo would fit in a hold of size 12m x 9m x 3.5m with SF and BS as mentioned below?
(5 x 2 = 10 marks)

<u>Cargo</u>	<u>Stowage Factor</u> (m ³ /t)	<u>Broken Stowage</u>
a. Copper Ingots	0.31	8%
b. Rubber Bales	1.61	6%
c. Chemical drums	1.64	11.2%
d. Steel billets	0.34	7.5%
e. Tyres	4.12	15%

2. Write Short Notes on following (5 x 2 = 10 Marks)

- (a) General Cargo Vessel.
- (b) Crude oil tanker.
- (c) Measurement in cargo.
- (d) Load density.
- (e) Bale capacity.

3. (a) Draw a neat diagram with measurements of Load Line Marking on the Starboard side of a merchant vessel.

- (b) How will you prepare your cargo hold prior loading cargo?
(2 x 5 = 10 marks)

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

- (b) What are the tests carried out for weather tightness oh hatch covers.
(2 x 5 = 10 marks)

5. (a) What are the different systems of Ventilation provided for cargo holds? Explain.
(b) Describe the factors of cargo stowage plan on a general Cargo Vessel. (2 x 5 = 10 marks)

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

6. If Friction accounts for 12% of the load per sheave, Find the minimum size of nylon rope that can be used in a Luff/Winch tackle to lift a weight of 5.5 tonnes. (10 marks)
7. (a) Write down different types of ropes used onboard ship for Cargo work.
(b) Sketch and label the parts of a stockless Anchor. (2 x 5 = 10 marks)
8. (a) Explain Sacrificial Anode method of Corrosion Prevention
(b) What do you understand by "Permit to Work System"? (2 x 5 = 10 marks)
9. (a) Describe main components of paints used Onboard ship.
(b) How will you proceed to operate hydraulically operated hatch covers? Write down the checklist. (2 x 5 = 10 marks)
