

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Government of India)

December 2016 End Semester Examinations  
Diploma in Nautical Science - First Semester (2015 batch onwards)

**Cargo Handling, Stowage and Seamanship - I (UD11T3106)**

Date : 20.12.2016

Time: 2 Hrs

Maximum Marks: 70

Pass Marks : 35

Note: Answer Q No 1 and any 3 other Questions from Section A. Answer any 2 Questions from Section B. Answer any one Question from Section C.  
All questions carry Equal Marks

**Section - A**

1. A Hold measures 12mX 8mX 5 m is to be filled with Copper pipes (SF 1.00 cubic metres/tonnes) **and** Light general cargo drums (SF 1.90 cubic metres/ tonnes). If the load density of the tank top is 3.6 tonnes/square metre, calculate to what height should the pipes be loaded so that the hold is filled completely with both cargoes and the Load Density is also not exceeded loaded (10 Marks)
2. Explain briefly the following terms:
  - a) Deadweight Cargo
  - b) Plimsoll mark
  - c) Broken Stowage
  - d) Grain Capacity
  - e) Soild Bulk Cargo(2x5=10 Marks)
3. a) State the reasons for having the following in the hold bilge wells:
  - i) Non return valve
  - ii) Strum box
  - iii) High level alarmsb) Describe the basics of Cargo planning and understanding of Load distribution. (5x2=10 Marks)
4. a) How will you go about preparing a cargo hold for grain which had earlier carried coal cargo.  
b) Write short note on dock labour regulation.
5. a) What is Cargo Sweat? How is thorough ventilation done by mechanical means on a ship?  
b) Discuss factors you would consider while deciding on securing Cargo onboard a ship. (5 x 2 = 10 Marks)

**Section-B**

**(Seamanship Theory)**

6. a) Explain the Criteria under which a wire rope is discarded from use.  
b) Describe the checks to be done on synthetic ropes. (5x2=10 Marks)
7. a) Explain the effect of mixed moorings and danger of bights during mooring stations  
b) Explain the parts of a stockless anchor. (5x2=10 Marks)

8. a) Explain the method of surface preparation and painting below the water level  
b) Describe different types of "Binders" used in Marine Paints. Give suitable examples of each types. (5x2=10 Marks)

Section -C

(Safe working Practices for Merchant Seaman)

9. a) What is the basic duty of a Safety Officer on a ship?  
b) Describe the safety precautions that need to be taken when operating power tools? (5 x 2 = 10 Marks)
10. a) List and state the purpose of any four colour codes used for the " Safety Signs" on board ships.  
b) What is meant by Risk assessment. safety precautions to be observed whilst entering and working in the battery storage compartment? ( 5x 2=10 Marks)

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