

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

**June 2016 End Semester Examinations**  
**B.Sc. (Nautical Science) - 2013 batch onwards**  
**Semester III**  
**Cargo Handling & Stowage Paper – I**  
**(UG21T2109)**

**Date : 28.06.2016/F.N**

**Time: 3 Hrs**

**Maximum Marks: 70**

**Pass Marks : 35**

NOTE: All questions carry equal marks

**7x10=70**

Use of Non-programmable scientific calculator is allowed. Question No.1 is compulsory and attempt any six from the balance.

- 1** The dimensions of the Tween deck are 20m x 15m x 3m. Find the maximum weight of the general cargo that can be loaded in the compartment of stowage factor is 2.0m<sup>3</sup>/t and broken stowage is 10%. Will the quantity of cargo be different if load density of the deck is 1.25t/m<sup>2</sup>? Give reasons for your answer.
- 2** How will you prepare and inspect cargo hold for loading general cargo?
- 3** What are the duties of the watch keeping officer during cargo operations
- 4** Explain cargo lashing manual and what are the various types of lashing materials used for securing the cargoes on board Break Bulk Ship
- 5** Explain various categories of cargoes carried by the ships and name the respective ships.
- 6** Define: (i) Bale Capacity (ii) Grain Capacity (iii) Stowage Factor (iv) Load Density (v) Broken Stowage
- 7(a)** Define (i) Ship's sweat (ii) Cargo sweat  
(b) Explain with simple diagram the various methods of cargo ventilation on a general cargo ship.
- 8** Draw a neat sketch of a typical port side loadline marking on a Merchant Vessel with their dimensions.
- 9 (a)** Define: (i) Safe Working Load (ii) Breaking Stress  
(b) Explain the types and care of ropes and wires