

## **DIPLOMA IN NAUTICAL SCIENCE**

### **Term-End Examination**

**June, 2007**

### **BNA-023 : CARGO HANDLING, STOWAGE AND SEAMANSHIP – II**

**Time : 2 hours**

**Maximum Marks : 70**

**Note :**

- (i) All questions are **compulsory**.
- (ii) Use of scientific calculator, Norries/Burton tables is allowed.

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**1. Answer briefly the following :**

**10×2=20**

- (a) What is an Eductor ?
- (b) What is the purpose of a deck seal on an oil tanker ?
- (c) What are flat rack containers ?
- (d) List different lashing gears used for securing containers on deck.
- (e) List any two methods of testing the weather tightness of hatch covers.
- (f) Why is revolving shoot generally there, at the end of conveyor belt when loading bulk/cargo in the hold ?

- (g) What is an oil record book ?
- (h) What is the purpose of inert gas generator ?
- (i) What is breaking stress of a wire rope ?
- (j) What do you mean by bale capacity ?
2. A vessel of DWT 5080 tonnes, has following on board :
- Fuel = 500 tonnes, Water : 350 tonnes,  
Stores : 130 tonnes
- She has four holds of the following capacity :
- No. 01 = 1320 m<sup>3</sup>      No. 02 = 1972 m<sup>3</sup>  
No. 03 = 2050 m<sup>3</sup>      No. 04 = 1530 m<sup>3</sup>
- She has to load grain of stowage factor of 1.45 m<sup>3</sup>/tonne  
and bale of cotton with stowage factor of 2.35 m<sup>3</sup>/tonne.  
Calculate how much each commodity can be loaded if  
vessel is down to her marks and utilising full capacity.      10
3. (a) Explain in brief the emergency shut down procedure  
while discharging oil.      5
- (b) Explain in brief the I.B.C. code for Chemical Tanker.      5
4. (a) Explain in brief the Fully Pressurised cargo  
containment system on gas carriers.      5
- (b) Explain briefly the segregation and stowage  
requirements for containers carrying IMDG cargo.      5

5. (a) Describe in detail, how you will take over cargo watch on a tanker while discharging at a safe anchorage. 8
- (b) What do you mean by foul anchor ? How would you clear a foul anchor ? 2
6. (a) Describe the safety precautions while using Bosun Chair for mast painting. 5
- (b) What checks and safety precautions will you observe as an officer at forward station while anchoring ? 5