

## **DIPLOMA IN NAUTICAL SCIENCE**

### **Term-End Examination**

**June, 2006**

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

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** *All questions are compulsory.*

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1. Answer briefly the following questions : 10×2=20
- (a) Name the three types of pumps commonly used on tankers.
  - (b) What is the purpose of P.V. Valve on a tanker ?
  - (c) What is a FRAMO pump ?
  - (d) Name any two fittings used for securing containers.
  - (e) Explain “moisture migration”.
  - (f) How far should two IMDG cargoes be placed on deck for segregation separated by a complete compartment or hold from ?
  - (g) What is the purpose of stern ramp on a RO – RO Vessel ?
  - (h) Why are hooks moused ?

- (i) How is the cable marked to indicate 3<sup>rd</sup> shackle ?
- (j) What is the breaking strength of polypropylene rope ? (Formula)
2. A four fold purchase is rigged to disadvantage to lift a weight of 20 t.
- (a) Find the tension on the hauling part, and
- (b) Determine the minimum size of 6 × 37 wire rope that can be used in the purchase. (Friction = 10%, Factor of Safety = 6) 10
3. (a) Explain the purpose of the following : 5
- (i) Refrigerated Container
- (ii) Flat Rack
- (b) Enumerate the hazards on a chemical tanker. 5
4. (a) In general, hazards associated with the shipment of bulk cargo may be considered to be falling in three main categories. Give a brief account of these hazards. 5
- (b) What precautions will you exercise while carrying a cargo of coal in bulk ? 5
5. Describe in detail how will you take over a cargo watch on board a tanker that is loading in a port. 10

6. (a) Why are Spurling pipes sealed when a vessel is proceeding to sea ? Describe how spurling pipes are sealed. 5
- (b) Describe the safety precautions while entering the battery room. 5