

DIPLOMA IN NAUTICAL SCIENCE

Term-End Examination

June, 2006

**BNA-016 : CARGO HANDLING, STOWAGE
AND SEAMANSHIP – I**

Time : 2 hours

Maximum Marks : 70

Note : Question number 1 is **compulsory** and carries 18 marks. Answer any **four** questions out of the remaining five. Use of calculator is allowed.

1. (a) Describe the following : 6
- (i) Righting lever
 - (ii) Water plane coefficient
 - (iii) Air-draft
- (b) When a vessel of 10000 t displacement is heeled by 10° , she gets a moment of statical stability of 400 tm. If her KG is 7.0 m, find the following : 12
- (i) Metacentric height
 - (ii) Height of Metacenter

2. A vessel displaces 18000 t at her Summer Load Draught in port (R.D. 1.005). The vessel then sails to another port consuming 40 t of fuel and water. She loads cargo at the second port (R.D. 1.023) that brings her back to her Summer Load Draught. Calculate the cargo loaded at the second port. 13
3. Describe briefly any **four** of the following : 13
- (a) General Arrangement Plan
 - (b) Air pipes
 - (c) Stern frame
 - (d) Cathodic protection
 - (e) Net tonnage
4. Write short notes on any **four** of the following : 13
- (a) Cardinal points (Magnetic compass)
 - (b) Ease to five (Helm order)
 - (c) Hand-Lead Line
 - (d) Three-fold-purchase
 - (e) Hot-Work permit

5. Describe the following with examples as relevant : 13
- (a) Moisture Migration
 - (b) MATE's Receipt
 - (c) Ship sweat
 - (d) Flammable range
6. List down the duties and responsibilities of an officer on cargo watch on a tanker. 13