

DIPLOMA IN NAUTICAL SCIENCE

Term-End Examination

December, 2006

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

Time : 2 hours

Maximum Marks : 70

Note : All questions are **compulsory**. Use of scientific calculator is permitted.

1. Using the following particulars given for vessel M.V. "SCORPIO", draw the loadlines of the vessel on port side, indicating drafts of which each loadline is located. Will this vessel have WNA mark ? Give reasons for your answer. 13

Vessel's particulars :

Length overall (LOA) : 100 mtrs

Summer draft : 9120 mm

FWA : 205 mm

Summer free board : 3050 mm

2. A vessel arrives at Port "A" at the mouth of a river. Her displacement is 12000 MT, and arrival draft 5.77 mtr. IN RD 1.020. She is to cross a bar up river before entering Port "B". The depth at the bar is 6.0 mtrs. and RD 1.005. If her TPC is 25, find the minimum quantity of cargo to off load at Port "A" so that she may cross the bar with an underkeel clearance of 0.5 mtr. 12
3. Draw the side elevation and transverse cross section of a 3 hold bulk carrier and show the following parts : 10
- (a) Peak Tanks
 - (b) DB Tanks
 - (c) Hatch Coaming
 - (d) Sounding Pipe (full length)
 - (e) Air Pipe (full length)
 - (f) Hold Ventilator
 - (g) Bilge Keel
 - (h) Camber
 - (i) Forward Collision Bulkhead
 - (j) Rise of the Floor
4. Write short notes on the following : 5×3=15
- (a) Segregation and Separation of cargo
 - (b) Broken Stowage
 - (c) Mate's Receipt
 - (d) Bill of Lading
 - (e) Notice of Readiness

5. Write a short note on Personal Protective Equipment (PPE). When would you use the following equipment ? Indicate precautions you would take to ensure that it is being properly used. 5×2=10
- (a) Safety Helmet
 - (b) Ear Muffs
 - (c) Safety Goggles
 - (d) Safety Shoes
 - (e) Overalls (Boiler Suits)
6. Write four precautions each, while executing the following tasks on board ship : 5×2=10
- (a) Entering confined spaces
 - (b) Working aloft
 - (c) Berthing/Unberthing
 - (d) Welding/Flame cutting
 - (e) Using pneumatic tools