

**B.Sc. (NAUTICAL SCIENCE)**

00063

**Term-End Examination****December, 2012****BNA-024 : SHIP OPERATIONS***Time : 2 Hours**Maximum Marks : 70*

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- Note :**
- (i) Question Nos. 1 and 2 are **Compulsory**, attempt **any five** of the remaining seven questions.
  - (ii) Use of non programmable Scientific calculator and M.V. Hindship table is **allowed**.
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1. A ship displacing 7720 tonnes kg 8.42 m, km 9.720 m, loads 130 tonnes at a position kg 10.52 m and CG 2 m to st.bd. off centre line. Calculate the resultant list. **10**
2. M.V. Hindship is at MUMBAI in condition 4. A consignment of cargo weighing 500 tonnes is shifted from No. 3 hold to the upper deck kg 13.28 m. Find the final GM (Solid and Fluid). **10**
3. Draw an elevation of a crude oil tanker showing bulk heads, cofferdams, pump room, bunker and peak tanks, cargo tanks and Engine room. **10**

4. Describe the terms logging and sagging with suitable sketches. 10
  5. State the information available in a capacity plan on an oil tanker or a bulk carrier. 10
  6. List the entries that are required to be made in the Garbage Record Book on board. 10
  7. List the special areas for the purpose of Annex I of MARPOL 73/78. 10
  8. State the purpose of International Safety Management Code. Enumerate any five elements of the code. 10
  9. (a) Draw an orthographic projection of a pipe bend. 5  
(b) Describe the function of oily bilge water separator. 5
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