

B.Sc. (NAUTICAL SCIENCE)

Term-End Examination

June, 2015

00528

BNA-024 : SHIP OPERATIONS

Time : 2 hours

Maximum Marks : 70

Note : *Questions no. 1 and 2 are compulsory. Attempt any five from the remaining questions. M.V. Hindship tables and non-programmable scientific calculator are permitted.*

1. A ship of displacement of 15000 tonnes, KM 9.0 m, KG 8.7 m is listed 10° to port. She now loads 150 tonnes of cargo 7 m above keel and 4 m to starboard of centre line. Find her final list. 10

2. M.V. Hindship arrives at a port in water of RD 1.012 with drafts of F : 6.15 m, A : 7.22 m. Her sailing draft in water of RD 1.025 was F : 5.33 m, A : 5.98 m. Calculate the weight of the cargo discharged at that port, if 85 tonnes of fuel and fresh water were consumed in the port. 10

3. With suitable sketches explain the following : $2 \times 5 = 10$
 - (a) Unstable ship
 - (b) Angle of loll

4. Draw and label midship cross-section of a cellular container ship. 10
5. Under MARPOL 73/78, write short notes on the following : 2×5=10
- (a) Standard Discharge Connection
 - (b) Garbage Record Book
6. Sketch and describe oily bilge water separator. 10
7. What are the advantages of hydraulic system over pneumatic system ? 10
8. (a) What is urgency signal and what does it indicate ?
- (b) What are courtesy and quarantine flags ?
When are these flags hoisted ? 2×5=10
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