

B.Sc. (NAUTICAL SCIENCE)

Term-End Examination

June, 2011

**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. A cargo vessel is fitted with a mechanical ventilation system. **10**

During a voyage in the South Atlantic the following information was recorded :

Outside air temperature : 23°C

Outside dew point : 19°C

Hold Temperature : 18°C

Hold dew point : 17°C

Sea Temperature : 21°C

During a voyage in the North Atlantic the following information was recorded :

Outside air temperature : 9°C

Outside dew point : 7°C

Hold Temperature : 13°C

Hold dew point : 11°C

Sea Temperature : 8°C

In EACH case state whether to ventilate the hold, or re-circulate the air in the hold, with reasons for your decision.

2. Explain the basic fire triangle and ways of controlling different types of fires on board. 10
 3. List the safety precautions that need to be taken prior undertaking the work of painting the funnel and radar mast. 10
 4. Explain the following with suitable sketch : 15
 - (a) Draft marks
 - (b) Plimsoll Marks
 - (c) Freeboard
 5. Explain the procedure of plugging scuppers during bunkering, loading and discharging of oil cargoes. 10
 6. Define the following : 15
 - (a) Load density.
 - (b) Stowage factor.
 - (c) Broken Stowage.
 - (d) Deadweight cargo.
 - (e) Ullage.
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