

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

**Term-End Examination**

**June, 2012**

**BNA-015: NAVIGATION-II**

**(BRIDGE EQUIPMENT, WATCH KEEPING  
METEOROLOGY AND OCEANOGRAPHY)**

*Time : 2 hours*

*Maximum Marks : 70*

**Note :** *Answer all questions, each question carries equal marks.*

**SECTION - I**

1. Explain the correctable errors of a sextant and how you will correct them on board your ship? **10**
2. With the help of a simple block diagram, explain the principle of working of the Echo - sounder. **10**
3. Give an overview of the rule "Risk of Collision". Describe how the Radar equipment is used to determine whether risk of collision exist. **10**

**OR**

Which rule governs the conduct of vessel in restricted visibility? Give an overview of this rule.

4. Define *any four* from the following :

10

- (a) Vessel not under command
- (b) Vessel constrained by her draft
- (c) Vessel engaged in fishing
- (d) Restricted in her ability to manoeuvre
- (e) Sailing vessel
- (f) Under way

## SECTION - II

5. Describe a hygrometer. What is it used for ? 10  
Explain the principle on which it works.

OR

What is environmental lapse rate ? Write the difference between DALR and SALR.

6. Write short notes on *any two* of the following : 10
- (a) Variation in temperature of sea water.
  - (b) Global warming
  - (c) Corrections applicable to readings obtained by Aneroid barometer.
7. Define *any four* from following : 10
- (a) Troposphere
  - (b) Barometric tendency
  - (c) Scattering
  - (d) Saturated state
  - (e) Absorption
  - (f) Pressure gradient
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