

B.Sc. (NAUTICAL SCIENCE)

Term-End Examination

December, 2010

00400

BNA-015: NAVIGATION-II

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

Time : 2 hours

Maximum Marks : 70

Note : All questions carry equal marks. Answer seven questions in all. Five from Section - I and two from Section - II.

SECTION - I

1. (a) List and define correctable errors of sextant. 5
(b) Write seven points for care and maintenance of sextant. 5
2. Explain the working of an echo sounder with the help of a block diagram. 10
3. (a) What is the procedure for checking chronometer? A chronometer was 1 minute fast at 1100 UTC on 5th March and was observed to be losing and 4 seconds daily. Find the chronometer error on 21st March 2300 HRS UTC. 5

- (b) Differentiate between vessel restricted in her ability to manoeuvre and vessel not under command. 5
4. Explain safe speed and what factors should be considered by all vessels to determine safe speed. 10
5. (a) With the help of suitable sketch show when can a vessel be considered overtaking another vessel. 5
- (b) Draw the arc of visibility of mast head light, side lights and stern light. 5
6. (a) Describe the lights to be exhibited by vessel of 60 m length engaged in towing where length of tow is 200 m. 5
- (b) Describe the lights and shapes to be exhibited by a vessel not under command and sound signal to be made by same in restricted visibility. 5

SECTION - II

7. Draw a neat sketch of whirling Psychrometer and explain its usage. 10
8. (a) What is barometric tendency and how will you obtain same on board ship ? 5
- (b) What are the errors that need to be applied on aneroid Barometer reading ? 5
9. Describe following :
- (a) Vertical layers of Earth's atmosphere. 4
- (b) Green house effect. 3
- (c) Absolute humidity. 3
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