

B.Sc. (NAUTICAL SCIENCE)

Term-End Examination

June, 2014

**BNA-022 : NAVIGATION IV
(ADVANCED - BRIDGE EQUIPMENT, WATCH
KEEPING, METEOROLOGY AND
OCEANOGRAPHY)**

Time : 2 hours

Maximum Marks : 70

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- Note :** (i) *All questions are compulsory.*
(ii) *Ship's weather code is allowed.*
(iii) *Use of non-programmable scientific calculator
is permitted.*
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SECTION - A

(BRIDGE EQUIPMENT AND COLREGS)

1. Explain the working of a Marine Radar with the help of a Block Diagram. **10**
List the various controls of a Radar.

2. (a) Explain watch keeping duties at sea. **5**
(Enlist 10 POINTS)
(b) List five entries each, which are required to be made in following Log Books : **5**
 - (i) Official Log Book
 - (ii) Oil Record Book

3. (a) List the factors to be taken into account by all vessels, while determining "SAFE SPEED". **5**

- (b) Describe the procedures for overtaking in a Narrow Channel. 5
4. (a) Describe how to navigate in a Traffic Separation Scheme with reference to : 5
- (i) entering and leaving traffic lanes
 - (ii) crossing lanes
 - (iii) the use of inshore traffic zones
 - (iv) entering separation zone
- (b) Explain the various methods to call MASTER to Bridge and the circumstances, under which, he should be called. 5

SECTION - B
(Meteorology and Oceanography)

5. Decode the following Weather Report : 10
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|-------|-------|-------|-------|-------|
| BBXX | ATVH | 10123 | 99408 | 30492 |
| 41398 | 62828 | 10143 | 20082 | 40084 |
| 56028 | 76364 | 84364 | 22234 | 00175 |
| 20808 | 30211 | 41006 | | |
6. (a) Explain Land and Sea Breezes. 5
- (b) Define Visibility. List the factors affecting visibility. 5
7. (a) Explain ISOBAR. 5
- (b) Explain the basic concepts related to Tropical Revolving Storm (TRS). 5