

B.Sc. (NAUTICAL SCIENCE)**Term-End Examination****June, 2008****BNA-022 : NAVIGATION IV***Time : 2 hours**Maximum Marks : 70*

Note : Answer all questions. Ship's Weather Code is allowed. Use of calculator is allowed.

SECTION A**(Bridge Equipment & COLREGS)**

1. (a) Explain the basic working principle of Global Positioning System (GPS). 5
- (b) List the information provided by Automatic Identification System (AIS). 4

2. List four key points in each of the following that should be checked prior to taking over watch at : 3×3=9
 - (a) Sea
 - (b) Anchor
 - (c) Under Pilotage

3. List five circumstances under which the Officer of Watch (OOW) should call the Master on the bridge. 5
4. (a) With reference to COLREGS Rule No. 5 list the responsibilities of a lookout. 2
- (b) With reference to COLREGS Rule No. 7 explain the term "Assumption shall not be made on the basis of scanty information". 2
- (c) With reference to COLREGS Rule No. 8 to avoid a collision situation, illustrate reasons for making a bold alteration of course and/or speed. 2
5. With reference to COLREGS Rule No. 10 draw a traffic separation scheme and explain any **three** of the following : $3 \times 3 = 9$
- (a) Traffic lanes
- (b) Direction of flow
- (c) Separation zone
- (d) Inshore Traffic zone

SECTION B
(Meteorology & Oceanography)

6. Describe any three forms of condensation that affect visibility. 3×3=9
7. (a) Explain basic concepts related to formation of Tropical Revolving Storms (TRS). 4
- (b) Explain formation of land and sea breezes. 4
8. Decode the following weather report : $18 \times \frac{1}{2} = 9$
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|-------|-------|-------|-------|-------|-------|
| BBXX | VWHP | 30183 | 99242 | 10742 | 41497 |
| 51427 | 10202 | 20117 | 49994 | 56028 | 76422 |
| 84364 | 22234 | 00168 | 20806 | 302// | 41006 |
9. Explain the formation of surface currents and list two prominent currents of the world. 6

