

DIPLOMA IN NAUTICAL SCIENCE

Term-End Examination

June, 2006

BNA-022 : NAVIGATION IV

Time : 2 hours

Maximum Marks : 70

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

SECTION A

(Bridge Equipment & COLREGS)

1. With the help of a sketch show how the Course Recorder works. 10
2. What are the inherent limitations of AIS ? 5
3. What are the main units of a Radar ? What precautions will you take before starting a radar ? 5

OR

Describe the terms : 5

- (i) Traffic lane
- (ii) Separation zone on line
- (iii) Inshore traffic zone

4. (a) Explain under what conditions will you call the Master on Bridge when you are keeping navigational watch at sea. 8
- (b) What different modes of communication will you use to call him ? 2
5. Define the following terms :
- (a) Vessel restricted in her ability to manoeuvre 2
- (b) Vessel not under command 2
- (c) Vessel underway 1

SECTION B
(Meteorology & Oceanography)

6. (a) What is a Tropical Revolving Storm ? 2
- (b) Describe, with the help of sketch, the three distinct parts of a TRS. 6
7. Write short notes on :
- (a) Land Breeze 4
- (b) Sea Breeze 4
8. Define Visibility. How is visibility reduced and how is it assessed at sea ? 6
9. Name the clouds as per the abbreviations given below : 5
- (i) Ci
- (ii) Cu
- (iii) Ns
- (iv) Ac
- (v) St

10. Code the following report :

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Ship : IGNU,

Position : 10° 10' N, 46° 30' E

Course made good in last three hours : 180° at 16 knots

GMT : 25d 12h 00m, Wind : 090° estimated at
10 knots

Visibility : 600 metres, Pressure 1009.0 mb,
Tendency + 3.5 mb,

Barograph Trace : (/),

Temperature : Dry 29.0° C, Wet 22.5° C, Sea 20.8° C

Clouds : Sky overcast with a few blue patches. Low
clouds 4 oktas, base 600 metres above sea, Cu
of strong vertical extent, Ac in a chaotic sky,
Cc.

Present weather : Visibility poor due to dust in suspension
in the air, not raised by wind at or near
ship.

Past weather : Thick haze, thunderstorm

Sea : Period 06 seconds, height 0.5 metres

Swell : From 265°, period 07 seconds,
height : 05 metres