

B.Sc. (NAUTICAL SCIENCE)

Term-End Examination

June, 2015

00385

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

Time : 2 hours

Maximum Marks : 70

*Note : All questions are compulsory. Ships weather code
is allowed. Use of calculator is permitted.*

SECTION A

(Bridge Equipment and Colregs)

1. (a) Explain the working of course recorder.
(b) Explain the method of steering change over procedures from hand to auto and vice-versa. $2 \times 5 = 10$

2. List six entries for each which are required to be made in the following logs : $3 \times 2 = 6$
 - (a) Movement Log
 - (b) Mates Log Book
 - (c) GPS Log

3. (a) Explain the procedure of testing controls.

- (b) List the duties associated with preparing the vessel to proceed to sea. $2 \times 5 = 10$
4. (a) List the factors to be taken into account in determining safe speed by all vessels.
- (b) Describe the various actions which can be taken to avoid collision as per Rule 8 of ROR. $2 \times 4 = 8$
5. Describe the following with reference to Rule 9: $4 \times 2 = 8$
- (a) Narrow channel
- (b) Procedure for overtaking
- (c) How to proceed along the course of a narrow channel
- (d) Action to be taken on nearing a bend in a narrow channel

SECTION B

(Meteorology and Oceanography)

6. Define the following : 3×2=6
- (a) Condensation
 - (b) Fog
 - (c) Smog
7. Explain pressure gradient and name seven isobaric systems. 8
8. Explain the formation of surface currents and list any five important currents. 5
9. A vessel steaming due East at 19 kts in open sea, observes the sea surface and estimates the wind force to be the lower limit of force 6 (22 knots). A handkerchief held up was observed to blow towards South. State what entry is to be made in the weather report regarding wind direction and speed. 9
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