

**INDIAN MARITIME UNIVERSITY**

(A CENTRAL UNIVERSITY, GOVERNMENT OF INDIA)

DECEMBER – 2017, END SEMESTER EXAMINATIONS

DIPLOMA IN NAUTICAL SCIENCE – (AUGUST 2015 Batch onwards)

**SEMESTER – II**

UD 11 T 3202 – Navigation – IV, Advanced Bridge Equipment, Watch Keeping and Meteorology

**Max. Marks:** 70

**Time:** 02 Hrs.

**Pass Marks:** 35

**Date:** 05.12.2017

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**NOTE:** Part-A: Q.1. IS COMPULSORY & ANY THREE FROM THE REMAINING 4 QUESTIONS

Part -B, Q.6. IS COMPULSORY & ANY TWO QUESTION FROM THE REMAINING 3 QUESTIONS

ALL QUESTIONS CARRY EQUAL MARKS (7x10=70)

**Part – A : BRIDGE EQUIPMENT AND WATCH KEEPING**

1. What signals are given by a vessel in distress, as per annex IV of colregs. Any ten signals. [10]
2. a. What precautions should be taken by a vessel entering restricted Visibility. [06]  
b. In clear visibility, under what circumstances it may become necessary to make a departure from the rules. [04]
3. a.Explain Bridge Navigation & Watch Alert System (BNWAS). [04]  
b.What are the different stages and Alerting sequences of BNWAS. [06]
- 4.a. What checks are required to be carried out prior trying out Engines, at the time of departure from port. [05]  
b.List five circumstances under which Master should be called on the bridge. [05]
5. a. What is the principle of Auto Pilot. [02]  
b. Define Off Course Alarm (OCA) and its limitations. [03]  
c. How will you change over the steering from Manual mode to Auto pilot mode. [05]

## **Part- B: METEOROLOGY**

- 6.** Out in open sea, a vessel estimated the wind to be the upper limit of force 7 (33 knots), by appearance of the sea surface. Her course was 076 degrees and speed, 17 knots. The funnel smoke was blowing towards 352 degrees . State what entry is to be made in the logbook regarding wind. [10]
- 7.** Describe the main causes of ocean currents. List 5 major warm and cold currents encountered at sea. [10]
- 8.** a. Write short notes on: (i) Katabatic Winds (ii) Buys Ballot's law [05]  
b. Differentiate between: (i) Mist & Fog (ii) Track and Path of a Tropical Revolving Storm. [05]
- 9.** Explain development and classification of clouds. Write names of various types of clouds. [10]

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