

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
End Semester Examination Dec 2019
DIPLOMA IN NAUTICAL SCIENCE (DNS)

Semester : II

**NAVIGATION – IV-ADVANCED BRIDGE EQUIPMENT, WATCH KEEPING AND
METEOROLOGY
(UD11T4202)**

Date: 10-12-2019

Max Marks: 70

Time: 2 Hrs

Pass Marks: 35

NOTE: Part- A : Question -1 is compulsory, and do any 03 questions.

Total: Four questions from part - A

Part – B : Question – 6 is compulsory, and do any two questions.

Total : Three questions from part-B

PART - A

- Q.1.a. What preparations need to be done by vessel, when she is navigating in or near an area of restricted visibility.
- b. List 8 distress signals as per Annex- IV of Colregs. [2X5=10 Marks]
- Q.2.a. What information is transmitted by an AIS ,as Dynamic Data and Static Data on a vessel making way. [2X5=10 Marks]
- b. Write full form /fill in the blanks :
1. LRIT stands for _____
 2. BNWAS stands for _____
 3. ECDIS stands for _____
 4. ECDIS uses _____ charts for navigation.
 5. Safety related data transmitted by AIS comprises of maximum of _____ characters.
- Q.3. a. List five preparations to be done on board a vessel prior departing from a port .
- b. What is a swing circle, List eight points for tasks to be performed by OOW, when keeping anchor watch. [2X5=10 Marks]
- Q.4. a. Explain Bridge Navigation & Watch Alert System(BNWAS).
- b. What are the different stages and Alerting sequences of BNWAS. [2X5=10 Marks]
- Q.5.a. What checks are required to be carried out prior trying out Engines, at the time of departure from port.
- b. List five circumstances under which Master should be called on the bridge. [2X5=10 Marks]

PART - B

Q.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 Marks]

Q.7. (a) Write short notes on: [2X5=10 Marks]

- (i) Katabatic Winds
- (ii) Buys Ballot's law

(b) Differentiate between:

- (i) Mist & Fog
- (ii) Track and Path of a Tropical Revolving Storm.

Q.8. Explain formation and classification of clouds. Write names of various types of clouds. [10 Marks]

Q 9. Fill in the blanks : [10x1=10 Marks]

1. There are _____ basic Isobaric Patterns.
2. _____ is the generic term for downslope winds flowing from high elevations of mountains, plateaus, and hills down their slopes to the valleys or planes below.
3. The _____ is a zone of convergence at the thermal equator where the trade winds meet.
4. _____ of the storm has a dia of 5-20km, is an area of low pressure and calm weather.
5. _____ is the route over which the storm has already passed.
6. The formation of a front is called as _____.
7. _____ is the decay or weakening of a frontal depression.
8. An _____ is the general movement of a body of sea water on a permanent, semi permanent or seasonal basis.
9. A _____ is caused due to difference in level or by differences in the density of water.
10. Face the true wind low pressure area will be on your _____ in the northern hemisphere.
