

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Government of India)  
May-June 2018 End Semester Examinations  
**Diploma in Nautical Science (DNS)**  
Semester : II

**NAVIGATION – IV: Advanced Bridge Equipment, Watchkeeping & Meteorology**  
**(UD11T 3202)**

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Date: 05-06-2018

Maximum Marks : 70

Time: 2 Hrs

Pass Marks : 35

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**Note: Ship's weather code may be permitted.**

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**Section A Bridge Equipment & Watch Keeping**

**Question number 1 is compulsory.**

**Attempt any 3(Three) from the remaining 4 questions**

1. (a). Explain the four stages that a potential collision situation may be divided into. (4 Marks)
- (b). What action will you take in case you hear a fog/sound signal of another vessel forward of your beam in restricted visibility? Also what action will you take in case you cannot avoid a close quarter situation in restricted visibility with another vessel forward of your beam? (4 Marks)
- (c). What sound signal will a vessel at anchor sound in restricted visibility? (2 Marks)
  
2. Explain the working principle of following:
  - (a) Doppler log ? (5 Marks)
  - (b) Marine radar (5 Marks)
  
3. (a)
  - (i) In AIS what static informations are entered on installation?
  - (ii) In AIS, what does Dynamic data depend upon?
  - (iii) Give expanded form of NDC in relation to LRIT.
  - (iv) What does the abbreviation SENC stand for?
  - (v) How many hours of last stored data can be recovered from a VDR? (1 Mark x 5 = 5 Marks)
  
- (b) What is the purpose of BNWAS? Briefly explain the three alarm stages of BNWAS. (5 Marks)

4. (a) Who all comprise the bridge team? What is the role of Pilot in the bridge team? (5 Marks)  
 (b) What entries are made in the Bell Book? (5 Marks)
5. (a) List out ten circumstances when master should be called to the bridge. (5 Marks)  
 (b) Prior to taking over a navigational watch, what all points will you check? (5 Marks)

### Section B METEOROLOGY

**Question number six is compulsory.  
 Attempt any two from the remaining questions.**

- (6) Decode the following Weather Report :  
 BBXX VVBQ 10123 99408 30492 41398  
 62828 10143 20082 40084 56028 76364  
 84364 22234 00175 20808 302// 41006 (10 Marks)
- (7). (a) Explain Land breeze and sea breeze. (5 Marks x 2 = 10 Marks)  
 (b) Briefly describe the structure of a TRS.
- (8). (a) Write short notes on frontal depression. (5 Marks x 2 = 10 Marks)  
 (b) Explain the formation of surface current.
- (9). Fill in the blanks/State True/False.  
 (i) Area between two highs and two lows are called \_\_\_\_ .  
 (ii) Katabatic winds blows \_\_\_\_ (downhill/uphill) during \_\_\_\_ (day/night).  
 (iii) Give the expanded form of ITCZ.  
 (iv) The route over which the storm center has already passed is called \_\_\_\_ .  
 (v) Dangerous Semi circle in the Northern Hemisphere is the \_\_\_\_ .  
 (vi) The boundary between two adjacent air masses is called \_\_\_\_  
 (vii) North East Monsoon blows from June to October. (True/False).  
 (viii) \_\_\_\_ is the effect of wind blowing over long stretches of ocean for long periods.  
 (ix) When a current from equatorial region passes through higher latitudes it will be a \_\_\_\_ current.  
 (x). Buys Ballot law can be applied at the equator also. (True/False). (1 Mark x 10 = 10 Marks)

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