

**INDIAN MARITIME UNIVERSITY**  
(A Central University Government of India)  
**B Sc (Nautical Science)**  
**End Semester Examination June-July 2019**  
**Semester IV**  
**Meteorology**  
**UG21T3406**

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Date : 05.07.2019  
Duration : 3 Hrs

Max Marks : 70 Marks  
Pass Mark : 35 Marks

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**Note: Question number One and Two are compulsory.**  
**Attend any five questions from remaining seven questions.**

1. Decode the following weather report. (10 Marks)  
BBXX ATVH 10123 99408 30492 41398  
62828 10143 20082 40084 56028 76364  
84364 22234 00175 20808 302// 41006
  
2. Fill in the blanks choosing the correct words (1x10 Marks)
  - a. Cyclone or low (Depression) is an area of .....(low/high) barometric pressure surrounded by an area in which the pressure is relatively high
  - b. Sea breeze sets in during .....(day/ night)
  - c. ITCZ stands for .....(Inter Tropical Convergence Zone / Indian Tropical Climatic Zone)
  - d. A Tropical Revolving Storm is a small area of very low pressure around which winds of gale force blow spirally inwards.....(clockwise/anticlockwise) in the Northern Hemisphere
  - e. Tropical Revolving Storms originate in latitudes between .....(50° and 65°/ 5° and 20°)
  - f. The formation of a Frontal Depression is called ..... (Frontolysis/ Frontogenesis)
  - g. Frontal Depression is a .....(low/high) pressure area formed between two different air masses
  - h. Icebergs of glacier origin have .....(regular/ irregular) and hence are not good radar targets
  - i. The periodicity of weather bulletins during cyclonic storms is .....(daily two / daily six)
  - j. Weather Routeing considers .....(meteorological and oceanographic/ astronomical and geographic) factors

3.
  - a. Write in brief the weather associated with cyclone and anti- cyclone (5 Marks)
  - b. Explain the formation of sea breeze (5 Marks)
  
4.
  - a. Explain the formation of warm and cold fronts and the associated weather (5 Marks)
  - b. Explain the factors affecting the properties of an air mass (5 Marks)
  
5.
  - a. Explain the classification of ships under Voluntary Observing Ship programme and their respective role in reporting weather observations (5 Marks)
  - b. Explain the Weather Analysis charts and Weather Prognosis charts (5 Marks)
  
6.
  - a. What are the two types of Ice bergs and explain their formation (5 Marks)
  - b. Explain the problems associated with sailing in icy waters and extremely cold weather (5 Marks)
  
7.
  - a. Explain the prevailing weather conditions in the "Eye", "Eye Wall" and "Outer Storm Area " of a cyclone in Arabian Sea. (5 Marks)
  - b. What are the warning signs of an approaching Tropical Revolving Storm and briefly explain them. (5 Marks)
  
8.
  - a. Write down the practical rules for safety of navigation in the vicinity of a Tropical Revolving Storm in both the hemispheres (5 Marks)
  - b. Compare Tropical Revolving Storm with temperate latitude depression (5 Marks)
  
9.
  - a. Define Weather Routeing and enumerate the advantages and influencing factors (5 Marks)
  - b. Explain the procedure for obtaining the optimum route by shipmaster during weather routeing. (5 Marks)

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