

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Govt. Of India)

**B.Sc (NAUTICAL SCIENCE)**

**End Semester Examinations June-July 2019**

**SEMESTER IV**

**Bridge Equipment, Watch Keeping & Collision Prevention – PAPER  
IV  
(UG21T2407)**

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Date:09-07-2019  
Time:3 Hrs

Max Marks: 70  
Pass Marks: 35

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**Note: Attempt any Seven Questions. Exam centre to provide Radar Plotting sheet. All Questions carry equal (10) marks**

- Q.1. Fill in the Blanks: (5 x 2 = 10 Marks)
- (a). Expand the abbreviations ARPA \_\_\_\_\_ and TCPA \_\_\_\_\_.
  - (b). STC control in a Radar is used to suppress \_\_\_\_\_ and its full form is \_\_\_\_\_.
  - (c). AIS expanded is \_\_\_\_\_ and SART is \_\_\_\_\_.
  - (d). The GPS has three segments. Name any two \_\_\_\_\_ and \_\_\_\_\_.
  - (e). Two types of Radar fitted on board are \_\_\_\_\_ band radar and \_\_\_\_\_ band radar.
- Q.2. While on a course of 340°(T) at 15 knots, a target on the radar screen was observed at 0800 hrs to bear 020°(T) at a range of 12 miles. At 0812 hrs, it bore 017°(T) at 9 miles range. Find (a) Time and range at CPA. (b) Course and speed of target.
- Q.3. Write short notes on (a) RACON (b) SART.
- Q.4. Briefly explain the working of a DGPS.
- Q.5. What actions will you take as an Officer of the Watch on the bridge on receiving a storm warning?
- Q.6. What are the contents of Bridge Procedures Guide?
- Q.7. Describe various shapes, their colour and dimensions used on board as per COLREGS.
- Q.8. What are the horizontal arc sectors and minimum visibility range with respect to mast headlight, side light and stern light of a vessel greater than 50 meters in length?
- Q.9. What are the indications that an anchored vessel is dragging? What is anchor turning circle?

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