

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Government of India)  
End Semester Examination Dec 2019/Jan 2020  
**B.Sc. (Nautical Science)**  
**Semester -V**

**UG21T3506- Bridge Equipment & Watch keeping Paper -II**

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**Date: 20.12.2019**

**Max Marks: 70**

**Time: 3 Hours**

**Pass Marks: 35**

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Note: **Question No. 1 and Question No. 7 is compulsory.** Attempt any 5 questions out of remaining 7 questions.

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**PART-A (Bridge Equipment)**

**(Question No.1 is compulsory. Solve any 4 question from remaining 5 questions)**

**Q 1.** Define / State the following: (5X2=10 marks)

- a) Define Pulse Length of a Radar.
- b) Define drift of a Gyro.
- c) What is rolling error?
- d) What is Heeling error?
- e) Two errors of GPS.

**Q 2.** Briefly explain Performance standards for Radar equipment. (10 marks)

**Q 3.** Write Short notes on

- (a) e-Loran (5 marks)
- (b) How Ship Security Alert System (SSAS) works? (5 marks)

**Q 4. (a)** What are the properties of free gyroscope? (5 marks)

- (b) What care and maintenance are required to be carried out on magnetic Compass? (5 marks)

**Q 5. (a)** What is AIS overlay Explain? (5 marks)

- (b) What are the uses of parallel indexing technique in Radar navigation? (5 marks)

**Q 6. (a)** Explain the basic working principle of GPS. (5 marks)

- (b) Explain the purpose of LRIT. (5 marks)

**PART- B (Watch Keeping)**

**(Question No.7 is compulsory. Solve any 1 question from remaining 2 questions)**

**Q.7.** Define / State the followings: (5 X 2 = 10 marks)

- (a)** When Officer of the watch can be sole lookout?
- (b)** State any two publications which give the average atmospheric pressure of the area.
- (c)** List any two Emergency Checklists as per Bridge Procedure Guide.
- (d)** Any two duties of Officer of the Watch during costal navigation.
- (e)** Any two Bridge equipments to be control tested prior arrival to Port.

**Q.8. (a)** What action a duty officer should take on receiving a storm warning signal? (5 marks)

**(b)** Duties of officer of the Watch in clear weather conditions. (5 marks)

**Q.9. (a)** What are the contents of Bridge Procedures Guide? (5 marks)

**(b)** What Preparation will you carry out prior to entering harbour? (5 marks)

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