

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
END SEMESTER EXAMINATIONS – DECEMBER 2018
B.Sc (Nautical Science)
Semester-V
Bridge Equipment & Watch Keeping Paper- II
(UG21T3506)

Date: 08-01-2019
Time: 3Hrs

Maximum Marks: 70
Pass Marks: 35

Note:

- **Question No. 1 and Question No. 7 is compulsory.**
- Answer any 4 questions from remaining 5 questions (each of 10 marks) in Part A and 1 question from remaining 2 from Part B.
- Non Programmable Scientific Calculator is permitted if required.

Part A (Bridge Equipment)

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

- Q.1 (a) Define Pulse Length of a Radar.
(b) What is a RACON?
(c) Define Drift in a Gyro
(d) What is Deviation?
(e) Name the various Global Navigation Satellite Systems used across the world. (2 x 5 =10 marks)
- Q2. While on a course of $340^{\circ}(T)$ at 15 knots, a target on the radar screen was observed at 0800h to bear $020^{\circ}(T)$ at a range of 12 Miles. At 0812, it bore $017^{\circ}(T)$ at range 9 Miles. Find the time and range at CPA. Also find the course and speed of the target. (10 marks)
- Q3. Write Short notes on (a) e-LoRAN. (b) SSAS (5 x 2 =10 marks)
- Q4. (a) What are the properties of a Free Gyroscope? Briefly explain the same. (5 marks)
(b) What care and maintenance are required to be carried out on magnetic Compasses? (5 marks)
- Q5. Write Short notes on (a) SART (b) Parallel Indexing Technique (5 x 2 =10 marks)
- Q6. (a) What is DGPS? How is it different from GPS? (5 marks)
(b) What is VDR? What are the various data recorded by a VDR? (5 marks)

Part- B (Watch Keeping)
(Question No. 7 is compulsory).

Solve any 1 question from remaining 2 questions.

- Q.7. (a) State the chapter & sections of STCW 2010 convention which mention about performing safe navigational watch.
(b) State any two marine publications which give the average atmospheric pressure of the area.
(c) State which organization publishes the Bridge Procedures Guide?
(d) State two main types of Ice, encountered at sea?
(e) State methods to check Gyro error while leaving harbor?
(2 x 5 =10 marks)
- Q8. (a) As a duty Officer of the Navigational Watch, what action will you take on receiving a storm warning signal? (5 marks)
(b) What action will you take as OOW in "Coastal" waters? (5 marks)
- Q.9. (a) What are the contents of Bridge Procedures Guide? (5 marks)
(b) What preparations will you carry out prior to leaving harbor as OOW in the bridge? (5 marks)
