

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – December 2023

Programme Name: B Sc (NS)

Semester: V

Subject Code: UG21T5506

Subject Name: Bridge Equipment and Watch Keeping – Paper II

Date: 15.12.2023

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

Section-A Question 1-10 are compulsory and carry 1 Mark each

MCQ type questions, select the correct answer from the given options.

1. Which one is not the characteristics of the Radar set
 - a) Horizontal Beam Width
 - b) Pulse Length
 - c) Scanner Efficiency
 - d) Vertical Beam Width
2. The Master of every ship is bound to ensure that watch keeping arrangement are
 - a) Adequate for a safe navigational watch
 - b) As per owner's requirement
 - c) As per charterer's requirement
 - d) None of the above
3. Marine radar is used when navigating near the coast
 - a) To monitor the fishing vessels nearby
 - b) To monitor the depth of water
 - c) To obtain course & speed of other ships
 - d) To keep own ship away from other vessels
4. When the OOW can be sole lookout at sea?

- a) At all times
- b) Only when at anchor
- c) Morning & Evening
- d) During daylight hours

5. The number of satellites used in the Global Positioning System are

- a) 24
- b) 23
- c) 26
- d) 25

6. Equipment used onboard to get the basic details of other ships is

- a) Echo Sounder
- b) Course Recorder
- c) Gyro Compass
- d) AIS

7. The OOW of a navigational watch at sea shall ensure that the

- a) Watch members are fully capable to perform their duties
- b) Watch members are fully dressed up
- c) Watch members have enough watch keeping experience
- d) Watch members have proper food & rest

8. Gyro compass is used on board ship to determine the

- a) Magnetic course of the ship
- b) Relative course of the ship
- c) True course of the ship
- d) Standard course of the ship

9. HBW in Radar stands for

- a) High Beam Width
- b) Horizon Beam Width
- c) Horizontal Beam Width
- d) Half Beam Width

10. The officer in-charge of navigational watch shall

- a) Keep the watch from his cabin

- b) Keep the watch in bridge
- c) Keep the watch from any place in ship
- d) Keep the watch from the monkey island

Section – B, Short Answer Type questions, (5x2 = 10 marks)

- 11. Describe the working principle of Echo Sounder ?
- 12. Explain Range discrimination ?
- 13. Describe any one method of obtaining deviation of Magnetic Compass ?
- 14. What is the purpose of VDR?
- 15. What is the purpose of Ship Security Alert system?

Section-C, answer any 5 questions out of 7, all carry 10 marks each, 5 marks for each parts where Questions have parts a and b.

- 16.
 - a. Describe Bearing & Range accuracy in a Marine Radar.
 - b. Explain the advantages and limitations of relative vector and true vector and also explain how they can be used for optimal efficiency along with trails and past history.
- 17. Describe procedure for Taking Over a Navigational watch at sea.
- 18 a. What are the three segments of GPS? Briefly explain each of them.
 - b. What is the purpose of Differential GPS. Explain its principle of working?
- 19 a. Describe your action as OOW on receiving a Storm warning at sea.
 - b. What are the Duties of the OOW when encountering Restricted Visibility.
- 20. Explain Free Gyro Scope and list errors associated with it, and explain any two errors.
- 21. Describe the role of OOW in preparing the vessel for proceeding to sea.
- 22. What is the purpose of BNWAS? Explain the working of the equipment and various stages of the alarm mode.

