

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

UG21T3306- Bridge Equipment, Watch Keeping & Col Reg Paper - I

Date: 20.12.2019

Max Marks: 70

Time: 3 Hours

Pass Marks: 35

Note: **Question No. 1 is compulsory.**

Answer any 6 from remaining 7 questions, all carry 10 marks each.

Scientific calculator is permitted if required.

1. Describe / Explain the following: (5x2=10 marks)
 - (a) List five important bridge equipments.
 - (b) Precautions when taking compass bearing.
 - (c) Auto Pilot.
 - (d) "Look Out" as per Collision Regulations Rule No.6.
 - (e) Use of Radar during anchor watch.
2. Write down ten circumstances in which the OOW should call the Master on bridge. (10 marks)
3. (a) Explain the use of sextant and its principle on board ship. (5 marks)
(b) Describe use and care of magnetic compass. (5 marks)
4. (a) Explain the principle of Doppler log and its errors. (5 marks)
(b) What are the Principle observed in keeping navigational watch at sea? (5 marks)
5. (a) Describe & label parts of wet card Magnetic Compass. (5 marks)
(b) Describe importance of record keeping of operation of bridge equipments on board ship. (5 marks)
6. (a) Describe a "Vessel constrained by her draught" as per Rule No.3 of IRPCS. (5 marks)
(b) Explain the procedure for taking over watch at sea. (5 marks)
7. (a) Describe procedure for pilot embarkation/disembarkation. (5 marks)
(b) Define "Vessel restricted in her ability to manoeuvre" as per Rule No.3 of IRPCS. (5 marks)
8. (a) Describe factors to be considered for safe speed. (5 marks)
(b) Briefly describe use and maintenance of echo sounder. (5 marks)