

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

UG21T4306- Bridge Equipment & Watch Keeping 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: (2x5=10 marks)
 - (a) Lubber line.
 - (b) Emergency Steering System.
 - (c) Basic Principle of Echo Sounder.
 - (d) When OOW can be sole lookout?
 - (e) Importance of record keepig.

2. (a) List equipment associated with Integrated Bridge. (5 marks)
(b) Explain the principle of Sextant and its errors. (5 marks)

3. (a) Describe procedure for handing over of navigational watch. (5 marks)
(b) Explain the importance of recording all relevant informations in log books. (5 marks)

4. (a) Sketch the compass binnacle and name it's parts. (5 marks)
(b) List down various steering modes of auto pilot. (5 marks)

5. (a) Explain the principle of Doppler log and list various error. (5 marks)
(b) Define a "Vessel not under command" & "Vessel at Anchor". (5 marks)

6. (a) Describe "Ranging" and "Phasing" in Echo Sounder. (5 marks)
(b) Explain the procedure for taking over watch at sea. (5 marks)

7. (a) Describe principle to be observed in keeping safe lookout. (5marks)
(b) Explain function of Auto Pilot and it's controls. (5 marks)

8. (a) IMO guide lines for recording events related to navigation Res A-916 (22). (5 marks)
(b) Describe Electric Telegraph and it's operation in bridge. (5 marks)