

**INDIAN MARITIME UNIVERSITY**  
**(A Central University, Government of India)**

**June 2016 End Semester Examinations**  
**B.Sc. (Nautical Science) - 2013 batch onwards**  
**Semester III**

**BRIDGE EQUIPMENT, WATCH KEEPING & COLLISION PREVENTION – III**  
**(UG21T2307)**

**Date : 12.07.2016/F.N**

**Time: 3 Hrs**

**Maximum Marks: 70**

**Pass Marks : 28**

NOTE: Attempt any SEVEN questions. All questions carry equal marks

**7x10=70**

Use of Non-programmable scientific calculator is allowed.

- 1 (a) Explain the principle of Doppler log ?  
(b) Describe Janus Configuration
  
- 2 (a) Describe the controls and alarms of an Auto Pilot.  
(b) Explain the procedure for changing over: From Hand Steering to Auto Pilot & From Auto Pilot to Hand Steering
  
- 3 Explain working principle and Errors of Echo Sounder with suitable sketches and block Diagram.
  
- 4 (a) Explain Care & record keeping of course recorder.  
(b) Explain Bearing Discrimination & Range Discrimination on Marine Radar
  
- 5 Explain the taking over and handing over procedures of a navigational watch at sea.
  
- 6 (a) Describe the duties of the Officer in charge of Navigational Watch  
  
(b) What is the sole lookout. State the conditions for Sole lookout
  
- 7 Describe the IMO Performance Standards for Automatic Radar Plotting
  
- 8 Explain in your own words ROR Rule No. 19, conduct of vessels in restricted visibility
  
- 9 Write short notes on the following:  
(a) Safe Speed (b) Lookout