

INDIAN MARITIME UNIVERSITY
(A Central University Government of India)
END SEMESTER EXAMINATIONS – DECEMBER 2019
Diploma in Nautical Science
Semester I
NAVIGATION–II, BRIDGE EQUIPMENT, WATCH KEEPING AND
METEOROLOGY
(UD11T2105)

Date: 13.12.2019

Max. Marks: 70

Time: 2Hrs

Pass Marks: 28

PART – A.

Q1 is compulsory and answer any three from remaining questions.

- Q1. Fill in the blanks: (10x1=10 marks)
- i. Wet card compass is made of _____.
 - ii. _____ Line represents the direction of ship's head in a compass.
 - iii. Error of perpendicularity in a sextant is the error in _____ mirror.
 - iv. _____ Error is the error of telescope axis.
 - v. Side error cannot be corrected by _____.
 - vi. Draft correction is the control of _____
 - vii. _____ Line indicates, transmission of pulse to seabed.
 - viii. It is the responsibility of _____ vessel to keep clear, when risk of collision exists.
 - ix. _____ light is a yellow light placed over stern light.
 - x. _____ works on the principle of double reflection.
- Q2. Why a mixture of ethyl alcohol and distill water is used in wet card compass.
Draw a labelled, sketch of a wet card compass. (10 Marks)
- Q3. Define/ draw following: (5x2=10 Marks)
- a) Vessel R.A.M
 - b) Vessel C.B.D.
 - c) Fishing Vessel
 - d) Main Mast Light
 - e) Towing Light
- Q4. a) Define Principle of Sextant with ray diagram and geometric proof. (2x5= 10 Marks)
- b) List ten equipments found on the ship's bridge and their uses in one line each.
- Q5. a) Define safe speed. (2x5=10 Marks)
- b) What considerations should be taken by all vessels to determine safe speed?

PART – B

Q6 is compulsory and answer any two from remaining questions.

Q6. Fill in the blanks: (5x2= 10 Marks)

- 1) _____ is the densest layer of the Earth's Atmosphere.
- 2) The rate of change of Atmospheric pressure is _____ Hpa every _____ meters.
- 3) In Diurnal change of temperature, Maximum temperature occurs at _____ Hrs.
- 4) When water vapour condenses into exposed surfaces on or near the ground, it is called _____.
- 5) _____ are lines drawn on the weather map through the places having the same pressure.

Q7. a) Explain the methods of Heat Exchange: Convection and Radiation (2x5=10 Marks)

- b) Describe:
Environmental lapse rate and Adiabatic lapse rate

Q8. Sketch and explain the working of an Aneroid Barometer. (10 Marks)

Q9. What is Diurnal variation of temperature? Explain why the Diurnal range of Temperature over land is larger than that over sea. (10 Marks)
