

INDIAN MARITIME UNIVERSITY
(A Central University, Government of India)
END SEMESTER EXAMINATIONS - DECEMBER 2018
B. SC (NAUTICAL SCIENCE)
Semester: I
NAUTICAL PHYSICS (UG21T3103)

Date: 02.01.2019

Max. Marks: 70

Time: 3 Hrs.

Pass Marks: 35

PART-A

QUESTION NO.1 IS COMPULSORY

(5×2=10 Marks)

1. a) Define Dew point temperature.
- b) Define the term "entropy".
- c) Define Stream line flow.
- d) Define one decibel.
- e) State Pascal law.

PART-B

ATTEMPT ANY 5 QUESTIONS FROM THE FOLLOWING 7 QUESTIONS

(5×12=60 Marks)

2. a) Define vapor pressure and saturated vapor pressure (6 Marks)
- b) Explain the different modes of heat transfer. (6 Marks)
3. a) Explain why wheel house windows are required to be inclined. (4 Marks)
- b) Explain with neat diagram, construction and working of prism binoculars. (8 Marks)

4. a) Explain the phenomenon of propagation of light in optical fibre. (6 Marks)
- b) A ray of light is incident from glass on the interface separating it from air at an angle of 40° and is deviated through 15° , calculate the critical angle for the glass-air surface. (6 Marks)
5. a) How does a ship echo sounder works? (6 Marks)
- b) State and prove the Bernoullis equation for the flow of liquid. (6 Marks)
6. a) Define Capillarity and angle of contact. (6 Marks)
- b) Define Mechanical advantage, velocity ratio and efficiency as applied to machines. (6 Marks)
7. a) Explain the term "Gyro inertia". (6 Marks)
- b) Define the following
- i) viscosity ii)viscous flow (6 Marks)
8. a) Discuss earth as a magnet. (6 Marks)
- b) Explain gyro compass in detail. (6 Marks)
