

V.P & R.P.T.P. SCIENCE COLLEGE
B.Sc. (SEM-2) Internal Examination 2017
Subject: Physics (Classical Mechanics & Relativity)
Course: US02CPHY01

Date: 10/03/2016

Time: 1:30 to 2:30

Day: Friday

Total Marks: 25

Q-1 M.C.Q.

(3)

(1)is a vector quantity.

(a) distance (b) temperature (c) mass (d) velocity

(2) The time period of simple pendulum having infinite length is

(a) Zero (b) 1 (c) Infinite (d) none of above.

(3) The density of ether is

(a) 1 (b) Infinite (c) 1.5 (d) Zero



Q-2 Short Question. (Any two)

(4)

(1) Define: Scalar and Vector quantities.

(2) State drawbacks of simple pendulum.

(3) Define: event and observer.

Q-3 Explain the vector triple product and obtain the relation $A \times (B \times C) = B(A \cdot C) - C(A \cdot B)$ (6)

OR

Explain the analytical form of scalar product. Also discuss the geometrical interpretation.

Q-4 What is simple pendulum? Derive an expression for the periodic time of simple pendulum. (6)

OR

Draw a diagram of Kater's pendulum. Obtain an expression for acceleration due to gravity.

Q-5 Explain the experimental arrangement of Michelson-Morley experiment. (6)

OR

Discuss: Lorentz-FitzGerald length contraction.