

V.P & R.P.T.P. SCIENCE COLLEGE

B.Sc. (SEM-2) Examination 2018

Subject: Physics

Course: US02CPHY01



Date: 16/03/2018

Time: 1:30 to 2:30pm

Day: Friday

Total Marks: 25

Q-1 M.C.Q

3

1. The negative results of Michelson-Morley experiment shows that ether is.....  
(A) Detectable (B) Not detectable (C) Visible (D) Colorful
2. The periodic time of simple pendulum is doubled when  
(A) Its length is doubled.  
(B) Its length is halved.  
(C) The length is made four times.  
(D) Mass of the bob is doubled.
3. Which of the following is not a scalar quantity?  
(A) entropy (B) displacement (C) volume (D) mass

Q-2 Short question (any two)

4

1. Define : event and observer.
2. what is a simple pendulum ?
3. Define: scalar & vector quantities.

Q-3 Derive Galilean transformation equation. Prove that acceleration is invariant under Galilean transformation equation.

6

OR

Discuss: Lorentz –Fitzgerald length contraction.

6

Q-4 Describe Kater's reversible pendulum. Obtain an expression for acceleration due to gravity in terms of two nearly equal periods of oscillation about the two parallel knife-edges.

6

OR

Derive an expression for the periodic time of a simple pendulum.

6

Q-5 Give the geometrical aspects of vector triple product and deduce the necessary relation.

6

OR

State and prove Gauss' theorem.

6