Physics Revision Test 1

Time : 60 mins

Max Marks : 35

Q1.

   (a) What is the difference between hypothesis and an axiom? 2 mark

   (b) The Suns angular diameter is measured to be $1920''$. The distance D of the Sun from the Earth is 1.450×10^{11}m. What is the diameter of the sun?

   3 mark

Q2. What are the fundamental forces in nature? Briefly explain

   2 marks

Q3. Determine

   A) Define 1 parsec.

   B) Give the SI unit of mass. Give the location where the prototypes of international standard units of mass are available. Also define the standard unit of mass.

   4 marks

Q4   The resistance $R = V/I$ where $V = 100 + 5$ V and $I = 10 + 2$ A . Find the percentage error in

R?

3 marks

Q5   Give any two differences between path length and displacement. .

   3 marks

Q6. Briefly explain how large distances can be measured using parallax method. 2 marks

Q7. Define instantaneous velocity.

   3 marks

Q8. Derive the equations of motion for uniformly accelerated motion using velocity time graph.

. 4 marks

Q9. The position of an object moving along x axis is given by $x = a + bt^2$ where a = 5m,

b = 3 m/s^2 and t is measured in seconds. What is its velocity at t = 0s and t = 2s.

What is the average velocity between t = 2s and t =4s? Give your conclusion.

 4 marks

Q10. A boy standing on a stationary lift throws a ball upwards with maximum initial speed he

can, equal to 48 m/s. How much time does the ball take to return to his hands?

If the lift starts moving up with uniform speed of 5m/s and the boy again throws the ball

up with the maximum speed he can, how long does the ball take to return to his hands?

5 marks.