



# SMART TEST SERIES

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Name:		Subject:	Physics-11
Roll # :		Unit(s):	1,
Class:	Inter Part-I	Test:	Type 2 - SQs Test - Marks=40
Date:		Time:	

## SHORT QUESTIONS TEST

### 1- Write short answers to any 7 questions: (7x2=14)

- Define physics and give the names of its two main branches.
- What do you mean by scientific notation? Give an example.**
- What are base units and derived units? Give its examples.**
- Define light year and what are the unit and dimensions of light year?**
- Show that  $1 \text{ rad} = 57.3^\circ$
- The period of a pendulum cannot be used as a time standard why?
- What are significant figures?**
- Define significant figures and rounding off data.**
- What are the three steps to find uncertainty in the average value of many measurements?**
- The mass of a metal box measured by a lever balance is 2.2 kg. Two silver coins of masses 10.01 g and 10.02 g measured by a beam balance are added to it. What is now the total mass of the box correct upto the appropriate precision.

### 2- Write short answers to any 7 questions: (7x2=14)

- What are the main frontiers of fundamental science?**
- Convert two Radian in degree.
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- If a precise measurement is also an accurate measurement. Explain your answer.
- Give the draw backs to use the period of simple pendulum as a time standard.**
- What are the dimensions and unit of gravitational constant G in the formula:  $F = G \frac{m_1 m_2}{r^2}$ ?**
- Show that the expression  $v_f = v_i + at$  is dimensionally correct.**
- Check the correctness of relation  $F = ma$ .**
- Check the correctness of relation  $v = r\omega$ .**
- What is physical significance of dimension of physical quantity?

### 3- Write short answers to any 6 questions: (6x2=12)

- What are derived units? Explain.**
- What are the characteristics of an ideal standard?
- How many micro seconds in one year?
- Define systematic errors. Explain how can we remove the effect of systematic error?**
- Using rules of significant figures, compute  $\frac{5.348 \times 10^{-2} \times 3.64 \times 10^4}{1.336}$  upto appropriate significant figures.**
- What is meant by scientific notation?
- Define Precision. Which instrument can measure precise value meter rod or vernier caliper?**
- Find the value of 'g' and its uncertainty using  $T = 2\pi\sqrt{\frac{l}{g}}$  from the following measurements made during an experiment Length of simple pendulum  $l = 100 \text{ cm}$ . Time for 20 vibrations = 40.2 s Length was measured by a metre scale of accuracy upto 1 mm and time by stop watch of accuracy upto 0.1 s.
- Show that  $S = v_i t + \frac{1}{2}at^2$  is dimensionally correct.