

## **UNIT TEST-I**

**SUB: PHYSICS**  
**CLASS: XI**

**TIME: 1.30**  
**MARK: 50**

**I.CHOOSSE THE CORRECT ANSWER**

**10X1=10**

1. If the error in the measurement of radius is 2%, then the error in the determination of volume of the sphere will be

- a) 8%                      b) 2%                      c) 4%                      d) 6%

2. Which of the following pairs of physical quantities have same dimension?

- a) force and power    b) torque and energy    c) torque and power    d) force and torque

3. The length of a body is measured as 3.51m, if the accuracy is 0.01m, then the percentage error in the measurement is

- a) 351%                      b) 1%                      c) 0.28%                      d) 0.035%

4. Which of the following has the highest number of significant figures?

- a) 0.007 m<sup>2</sup>                      b) 2.64x10<sup>24</sup> kg                      c) 0.0006032 m<sup>2</sup>                      d) 6.3200 J

5. If  $\pi = 3.14$ , then the value of  $\pi^2$  is

- a) 9.8596                      b) 9.860                      c) 9.86                      d) 9.9

6. If the length and time period of an oscillating pendulum have errors of 1% and 3% respectively then the error in measurement of acceleration due to gravity is

- a) 4%                      b) 5%                      c) 6%                      d) 7%

7. The density of a material in CGS system of units is 4 g cm<sup>-3</sup>. In a system of units in which unit of length is 10 cm and unit of mass is 100 g, then the value of density of material will be

- a) 0.04                      b) 0.4                      c) 40                      d) 400

8. If the force is proportional to square of velocity, then the dimension of proportionality constant is

- a) [MLT<sup>0</sup>]                      b) [MLT<sup>-1</sup>]                      c) [ML<sup>-2</sup>T]                      d) [ML<sup>-1</sup>T<sup>0</sup>]

9. 1 parsec =.....

- a)  $3.08 \times 10^{16}$  m                      b) 3.26 light year                      c)  $1.496 \times 10^{-15}$  m                      d) both a & b

10. the largest practical unit of mass is....

- a) Shake                      b) CSL                      c) kg                      d) g

**II Short Answer Questions****4X2=8**

11. Define Unit
12. Write the different types of measuring system
13. Define mass
14. Define dimensional quantities

**III Short Answer Questions****4X3=12**

15. Briefly explain the types of physical quantities.
16. Write the rules for determining significant figures.
17. What are the limitations of dimensional analysis?
18. Define precision and accuracy. Explain with one example.

**IV Long Answer questions****4X5=20**

19. Explain in detail the various types of errors.
20. Write a note on triangulation method and radar method to measure larger distances
21. Explain the principle of homogeneity of dimensions. What are its uses? Give example.
22. Convert 76 cm of mercury pressure into  $\text{Nm}^{-2}$  using the method of dimensions.



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