SEAT NUMBER - | | | | | | |

Dnyansagar Coaching Classes, A'nagar

Unit Test

Std. - XI	(Measurement)	Time - 1 hrs
Sub- Physics-I		Max Marks - 20

Q.1 **Select & write the most appropriate answer from the given alternatives for each sub question.** **4**

1. The dimensions of area is _____
   a) $[L^2 M^0 T^0]$ b) $[L^1 M^1 T^1]$
   c) $[L^2 M^0 T^{-1}]$ d) $[L^1 M^0 T^{-1}]$
2. The reference standard used for the measurement of a physical quantity is called a _____.
   a) Derived unit b) Unit
   c) CGS unit d) SI unit
3. Order of magnitude of a physical quantity is the value of it's magnitude rounded off to the nearest integral power of _____.
   a) 20 b) 5
   c) 10 d) 15
4. The dimensions of force are _____.
   a) $[M^2 L^2 T^2]$ b) $[M^{-2} L^2 T^1]$
   c) $[M^1 L^1 T^1]$ d) $[M^1 L^1 T^{-2}]$

Q.2 **A) Solve any two Numercial.** **4**

1. An object was weighted by a physical balance and following readings were obtained 5.04gm, 5.06gm, 5gm, 4.97gm and 4.93gm.
   Find - a) Mean value b) Absolute error
2. Find the dimensions of :
   1) Power 2) Pressure
3. Determine the number of significant figures in the following measurement :
   a) 0.05718 b) 93.26
   c) 2.35×10^{-10} d) 2.3578×10^{-19}

B) Derive. (Any Two) **4**

1. Using dimensions show that 1 joule = 10^7erg.
2. The hydrostatic pressure 'P' of a liquid coloumn depends upon the density 'd' height 'h' of a liquid coloumn and also an accelaration 'g' due to gravity. Using dimensional analysis derive formula for pressure.
3. If length 'L' force 'F' and Time 'T' are taken as fundamental quantities What would the dimensional equation of mass and density?

Q. 3 **A) Write answer. (Any Two)** **4**

1. What is need for measurements?
2. State different types of systems of unit.
3. What is S-I system of units? Explain its needs.

B) Explain different types of errors in measurements with remedies. **4**

OR

B) Explain / Define.

1. Fundamental quantities.
2. Derived quantities
3. Fundamental units
4. Derived units

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