

BCM SCHOOL, BASANT
AVENUE, DUGRI

XI– PHYSICS

ASSIGNMENT

CHAPTER- UNITS &
MEASUREMENTS

MULTIPLE CHOICE QUESTIONS

Units and Dimensions

- Which of the following statements is correct about a scalar quantity:
 - it remain conserved in a process
 - can never take negative sign
 - does not vary from one place to another in space
 - has same value for observers with different orientation of axis
 - (i)
 - (ii)
 - (iii)
 - (iv)
- Which of the following is not the unit of time
 - Micro second
 - Leap year
 - Lunar month
 - Parallactic second
- Temperature can be expressed as a derived quantity in terms of any of the following
 - length and mass
 - mass and time
 - length, mass and time
 - none of these
- With the usual notations, the following equation $S_1 = u + \frac{1}{2}a(2t-1)$ is
 - only numerically correct
 - only dimensionally correct
 - both numerically and dimensionally correct
 - neither numerically nor dimensionally correct
- Which of the following readings is the most accurate
 - 4000 m
 - 40×10^2 m
 - 4×10^3 m
 - 0.4×10^4 m
 - (i)
 - (ii)
 - (iii)
 - (iv)
- If unit of length and force are increased 4 times. The unit of energy:
 - is increased by 4 times
 - is increased by 16 times
 - is increased by 8 times
 - remain unchanged
- Which one of the following is a set of dimensionless physical quantities :
 - strain, specific gravity, angle
 - strain, work, couple
 - work, angle, specific gravity
 - work, energy, frequency
- Which one of the following does not have the same dimensions
 - work and energy
 - angle and strain
 - relative density and refractive index
 - plank constant and energy
- The density of a material in CGS system is 8 g / cm^3 . In a system of a unit in which unit of length is 5 cm and unit of mass is 20 g. The density of material is :
 - 8
 - 20
 - 50
 - 80
- In a new system the unit of mass is α kg, unit of length is β m and unit of time is γ s. The value of 1 J in this new system is **[AMU B.Tech. 2012]**
 - $\gamma^2/\alpha\beta^2$
 - $\gamma\alpha/\beta^2$
 - $\alpha\beta\gamma$
 - $\alpha\gamma^2/\beta^2$
- A boy recalls the relation almost correctly but forgets where to put the constant c (speed of light). He writes; $m = \frac{m_0}{\sqrt{1-v^2}}$, where m and m_0 stand for masses and v for speed. Right place of c is
 - $m = \frac{cm_0}{\sqrt{1-v^2}}$
 - $m = \frac{m_0}{c\sqrt{1-v^2}}$
 - $m = \frac{m_0}{\sqrt{c^2 - v^2}}$
 - $m = \frac{m_0}{\sqrt{1 - \frac{v^2}{c^2}}}$
- The equation of state of some gases can be expressed as $\left(P + \frac{a}{V^2}\right)(V - b) = RT$. Here P is the pressure, V is the volume, T is the absolute temperature and a, b, R are constants. The dimensions of a are :
 - $\text{ML}^5 \text{T}^{-2}$
 - $\text{ML}^{-1} \text{T}^2$
 - $\text{M}^0 \text{L}^3 \text{T}^0$
 - $\text{M}^0 \text{L}^6 \text{T}^{-2}$

