AIPMT 2006 The velocity v of a particle at time t is given by

 $v = at + \frac{b}{t+c}$, where a, b and c are constants. The dimensions of a, b and c are respectively:-(1) LT^{-2} , L and T(2) L^2 , T and LT^2 (3) LT², LT and L (4) L, LT and T^2

Dimensions of electrical resistance is :-(1) $[ML^2 T^{-3} A^{-1}]$ (2) $[ML^2 T^{-3} A^{-2}]$ (3) $[ML^3 T^{-3} A^{-2}]$ (4) $[ML^{-1} L^3 T^3 A^2]$

AIPMT 2008

AIPMT 2007

Which two of the following five physical parameters have the same dimensions?

1.

2.

3.

4.

5.

6.

7.

(a) energy density (b) refractive index

of the sphere will be :-

- (c) dielectric constant (d) Young's modulus (e) magnetic field
- (1) (a), (d) (2) (a), (e)
- (3) (b), (d) (4) (c), (e)
- If the error in the measurement of radius of a sphere is 2 % then the error in the determination of volume
- (2) 2 % (1) 8%(3) 4 % (4) 6%

AIPMT 2009

If the dimensions of a physical quantity are given by MaLbTc, then the physical quantity will be:

(1) Force if a = 0, b = -1, c = -2

- (2) Pressure if a = 1, b = -1, c = -2
- (3) Velocity if a = 1, b = 0, c = -1

(4) Acceleration if a = 1, b = 1, c = -2AIPMT (Pre) 2010

The dimensions of $\frac{1}{2} \in_{0} E^{2}$, where \in_{0} is permittivity

- of free space and E is electric field, is :- $(1) [MLT^{-1}]$ (2) $[ML^2T^{-2}]$
- (4) $[ML^2T^{-1}]$ (3) $[ML^{-1}T^{-2}]$ AIPMT (Mains) 2010

and e2 respectively, the percentage error in the

A student measures the distance traversed in free fall of a body, initially at rest in a given time. He uses

this data to estimate g, the acceleration due to gravity. If the maximum percentage errors in measurement of the distance and the time are e₁

(1) $\left[L^{\frac{1}{2}}T^{-\frac{1}{2}}\right]$

estimation of g is :-

 $(1) e_1 + 2e_2$

(3) $e_1 - 2e_2$

8.

9.

(4) $\left[L^{-\frac{1}{2}} T^{\frac{1}{2}} \right]$ $(3) [LT^{-1}]$ AIPMT (Mains) 2011

AIPMT (Pre) 2011

The dimensions of $(\mu_0 \in_0)^{-1/2}$ are :-

(2) $e_1 + e_2$

 $(4) e_2 - e_1$

(2) $[L^{-1}T]$

(4) 400

(4) 7%

The density of a material in CGS system of units is 4 g/cm³. In a system of units in which unit of length

is 10 cm and unit of mass is 100 g, the value of density of material will be :-(2) 0.4(3)40(1) 0.04

AIPMT (Pre) 2012 If voltage across a bulb rated 220 Volt 100 Watt

10. drops by 2.5% of its rated value, the percentage of the rated value by which the power would

(1)5%(2) 10% (3) 20% (4) 2.5%

decrease is :-

NEET-UG 2013

11. In an experiment four quantities a, b, c and d are measured with percentage errors 1%, 2%, 3% and

 $P = \frac{a^3b^2}{cd}$, percentage error in P is :-

(1) 4%

12.

(2) 14%

AIPMT 2014 If force (F), velocity (V) and time (T) are taken as

fundamental units, then the dimensions of mass are:

(3) 10%

4% respectively. Quantity P is calculated as follows

(1) $[F V T^{-1}]$ (2) [F V T⁻²] (3) $[F V^{-1} T^{-1}]$ (4) [F V⁻¹ T]

AIPMT 2015

13. If energy (E), velocity (V) and time (T) are chosen as the fundamental quantities, the dimensional formula of surface tension will be: (1) $[EV^{-1}T^{-2}]$ (2) $[EV^{-2}T^{-2}]$ (3) $[E^{-2}V^{-1}T^{-3}]$ (4) [EV-2T-1]

Re-AIPMT 2015

- If dimension of critical velocity v_c , of liquid flowing through a tube is expressed as $(\eta^x \rho^y r^z)$, where η , ρ and r the coefficient of viscosity of liquid, density of liquid and radius of the tube respectively, then the values of x, y and z are given by:
 - (1) 1, 1, 1
- (2) 1, -1, -1
- (3) -1, -1, 1
- (4) -1, -1, -1

NEET-II 2016

- **15**. Planck's constant (h), speed of light in vacuum (c) and Newton's gravitational constant (G) are three fundamental constants. Which of the following combinations of these has the dimension of length?
 - (1) $\sqrt{\frac{hc}{G}}$

(2) $\sqrt{\frac{Gc}{h^{3/2}}}$

(3) $\frac{\sqrt{hG}}{c^{3/2}}$

(4) $\frac{\sqrt{hG}}{c^{5/2}}$

NEET(UG) 2017

- 16. A physical quantity of the dimensions of length that can be formed out of c, G and $\frac{e^2}{4\pi\epsilon_0}$ is [c is velocity of light, G is universal constant of gravitation and e is charge] :-

 - (1) $c^2 \left[G \frac{e^2}{4\pi\epsilon_0} \right]^{1/2}$ (2) $\frac{1}{c^2} \left[\frac{e^2}{G4\pi\epsilon_0} \right]^{1/2}$
 - (3) $\frac{1}{c}G\frac{e^2}{4\pi \epsilon}$
- (4) $\frac{1}{c^2} \left[G \frac{e^2}{4\pi\epsilon_0} \right]^{1/2}$

NEET(UG) 2018

- **17**. A student measured the diameter of a small steel ball using a screw gauge of least count 0.001 cm. The main scale reading is 5 mm and zero of circular scale division coincides with 25 divisions above the reference level. If screw gauge has a zero error of - 0.004 cm, the correct diameter of the ball is :-
 - (1) 0.521 cm
- (2) 0.525 cm
- (3) 0.053 cm
- (4) 0.529 cm

NEET(UG) 2019

18. In an experiment, the percentage of error occurred in the measurment of physical quantities A, B, C and D are 1%, 2%, 3% and 4% respectively. Then the maximum percentage of error in the measurement

$$X, \text{ where } X = \frac{A^2 B^{1/2}}{C^{1/3} D^3}, \text{ will be }:$$

- (1) $\left(\frac{3}{13}\right)\%$
- (2) 16%
- (3) -10%
- (4) 10%
- 19. The unit of thermal conductivity is:
 - (1) $J m K^{-1}$
- (2) $J m^{-1} K^{-1}$
- (3) W m K^{-1}
- (4) W m⁻¹ K⁻¹

NEET(UG) 2019 (Odisha)

- 20. The main scale of a vernier calliper has n divisions/cm. n divisions of the vernier scale coincide with (n-1)divisions of main scale. The least count of the vernier calliper is,
 - (1) $\frac{1}{(n+1)(n-1)}$ cm (2) $\frac{1}{n}$ cm
 - (3) $\frac{1}{n^2}$ cm
- (4) $\frac{1}{n(n+1)}$ cm

Que.															
Åns.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1		-				-	_	_	4	_	4	_	_	_	
Que.	4 16	4 17	4 18	4 9	3 20	1	3	3	1	2	4	2	2	3	