Yakeen NEET 2.0 2026

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Units and Measurements

DPP: 06

Q1 Dimension of R(Resistance) is:
(A) ML^2T^{-1}
(B) $ML^2T^{-3}A^{-2}$
(C) $ML^{-1}T^{-2}$
(D) None of these

Q2 How many fundamental physical quantities are in Physics?
(A) 5 (B) 7
(C) 2 (D) 9

Q3 The dimension of $\frac{1}{\sqrt{\varepsilon_0\mu_0}}$ is that of:
(A) Velocity (B) Time
(C) Capacitance (D) Distance

Q4 Gas bubble oscillates with a time period T proportional of $P^a d^b E^c$ where P is pressure, d is the density and E is the energy. The values of $a, b \& c$ are
(A) $a=\frac{1}{2}, b=-\frac{1}{3}, c=\frac{1}{2}$
(B) $a=-\frac{5}{6}, b=\frac{1}{3}, c=\frac{1}{2}$
(C) $a=-\frac{5}{6}, b=\frac{1}{2}, c=\frac{1}{3}$
(D) $a=\frac{3}{2}, b=-\frac{1}{3}, c=\frac{1}{2}$

Q5 Imagine a system of units in which the unit of mass is $10\ \mathrm{kg}$, length is $1\ \mathrm{km}$ and time is 1 minute. Then $1\ \mathrm{J}$ in this system is equal to _____units of work:
(A) 360
(B) 3.6
(C) 3.6×10^5
(D) 36×10^{-5}

Q6 In a particular system of unit, if the unit of mass becomes twice and that of time becomes half, then 8 joules will be written as _____units of work.
(A) 16 (B) 1
(C) 4 (D) 64

Q7 The dimensional formula for moment of couple is
(A) $\left[\mathrm{ML}^2\ \mathrm{T}^{-2}\right]$
(B) $\left[\mathrm{MLT}^{-2}\right]$
(C) $\left[\mathrm{ML}^{-1}\ \mathrm{T}^{-3}\right]$
(D) $\left[\mathrm{ML}^{-2}\ \mathrm{T}^{-2}\right]$

Q8 The number of particles crossing per unit area perpendicular to x-axis in unit time is $N=-D\frac{n_1-n_2}{x_2-x_1}$ where n_1 and n_2 are number of particles per unit volume for x_1 and x_2 respectively. The dimensions of diffusion constant D are
(A) $\left[\mathrm{ML}^0\ \mathrm{T}^2\right]$
(B) $\left[\mathrm{M}^0\ \mathrm{L}^2\ \mathrm{T}^{-4}\right]$
(C) $\left[\mathrm{M}^0\mathrm{LT}^{-3}\right]$
(D) $\left[\mathrm{M}^0\ \mathrm{L}^2\ \mathrm{T}^{-1}\right]$

Q9 In the relation $P=\frac{\alpha}{\beta}e^{\frac{-\alpha z}{k\theta}}$ P is pressure, Z is the distance, K is Boltzmann's constant and θ is the temperature. The dimensional formula of α will be:
(A) $\left[\mathrm{M}^1\ \mathrm{L}^1\ \mathrm{T}^{-2}\right]$
(B) $\left[\mathrm{M}^1\ \mathrm{L}^2\ \mathrm{T}^1\right]$
(C) $\left[\mathrm{M}^1\ \mathrm{L}^0\ \mathrm{T}^{-1}\right]$
(D) $\left[\mathrm{M}^0\ \mathrm{L}^2\ \mathrm{T}^{-1}\right]$

Q10 The potential energy of a particle series with distance x from a fixed origin as $U=\frac{A\sqrt{x}}{x^2+B}$, where A and B are dimensional constants then dimensional formula for AB is:
(A) $\left[\mathrm{ML}^{7/2}\ \mathrm{T}^{-2}\right]$
(B) $\left[\mathrm{ML}^{11/2}\ \mathrm{T}^{-2}\right]$
(C) $\left[\mathrm{M}^2\ \mathrm{L}^{9/2}\ \mathrm{T}^{-2}\right]$
(D) [ML13/2 T−3]

Answer Key

Q1	(B)
Q2	(B)
Q3	(A)
Q4	(C)
Q5	(D)
Q6	(B)
Q7	(A)
Q8	(D)
Q9	(A)
Q10	(B)