

Yakeen NEET 2.0 2026

Physics By Saleem Sir

Units and Measurements

DPP:09

- Q1** In a new system of units mass, acceleration and frequency are taken as fundamental units. If unit of mass is 100 g, unit of acceleration is 2 m/s^2 and unit of frequency is 4 sec^{-1} in the new system of units, then find the value of 0.1 J in this system.
- (A) 8 (B) 4
(C) 6 (D) 10
- Q2** A physical quantity is measured and the result is expressed as nu where u is the unit used and n is the numerical value. If then result is expressed in various units then
- (A) $n \propto \text{size of } u$
(B) $n \propto u^2$
(C) $n \propto \sqrt{u}$
(D) $n \propto \frac{1}{u}$
- Q3** If force F , Length L and time T are chosen as fundamental quantities, the dimensional formula for Mass is
- (A) $F L T$
(B) $F^{-1} L^{-1} T^{-2}$
(C) $F^{-2} L^{-2} T^{-2}$
(D) $F^1 L^{-1} T^2$
- Q4** The number of significant figures in all the given numbers 25.12, 2009, 4.156 and 1.217×10^{-4} is
- (A) 1 (B) 2
(C) 3 (D) 4
- Q5** Imagine a system of units in which the unit of mass is 10 kg, length is 1 km and time is 1 minute. Then 1 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** The dimensional formula for moment of couple is
- (A) $[ML^2 T^{-2}]$
(B) $[MLT^{-2}]$
(C) $[ML^{-1} T^{-3}]$
(D) $[ML^{-2} T^{-2}]$
- Q7** The number of significant figures in 0.0006032 m^2 is:
- (A) 4 (B) 5
(C) 7 (D) 3
- Q8** The mass and radius of the earth are $5.975 \times 10^{24} \text{ kg}$ and $6.37 \times 10^6 \text{ m}$ respectively. Calculate the average earth's density to correct significant figures. Take $\pi = 3.142$
- (A) 5.53×10^3
(B) 5.52×10^3
(C) 5.54×10^3
(D) 5.5×10^3
- Q9** In an experiment the angle is required to be measured using an instrument 29 divisions of the main scale exactly coincide with the 30 divisions of the vernier scale. If the smallest division of the main scale is half-a-degree ($= 0.5^\circ$) then the least count of the instrument is
- (A) *One Minute*
(B) half minute
(C) one degree
(D) half degree
- Q10** Least count of vernier calipers depend on?
- (A) Main scale division
(B) vernier scale
(C) no. of vernier scale division



(D) Main scale division & no. of vernier scale
division



Answer Key

Q1 (B)

Q2 (D)

Q3 (D)

Q4 (D)

Q5 (D)

Q6 (A)

Q7 (A)

Q8 (B)

Q9 (A)

Q10 (D)



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