

Instruction: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank.

- The dimensions of pressure are
(A) MLT^{-2} (B) ML^2T^{-2} (C) $ML^{-1}T^{-2}$ (D) MLT^{-3}
- If $r = 2.25 \pm 0.01$ cm then (%) percentage uncertainty in r is
(A) 0.225% (B) 22.5% (C) 0.2% (D) 0.4%
- If $\vec{A} = 4\hat{i} + 3\hat{j}$ then $\hat{A} =$
(A) $\frac{4\hat{i} + 3\hat{j}}{7}$ (B) $\frac{4\hat{i} + 3\hat{j}}{5}$ (C) $\frac{4\hat{i} + 3\hat{j}}{12}$ (D) $\frac{4\hat{i} + 3\hat{j}}{6}$
- The SI unit for torque is
(A) Nm (B) Nm^{-1} (C) mN^{-1} (D) $N^{-1}m^{-1}$
- If the water flows out from a pipe at 3 kg s^{-1} and its velocity changes from 5 ms^{-1} to zero on striking the wall then applied force is equal to
(A) 5N (B) 8N (C) 15N (D) 1.66N
- The fuel consumed by a typical rocket is about
(A) 100 kg s^{-1} (B) 1000 kg s^{-1} (C) 10000 kg s^{-1} (D) 100000 kg s^{-1}
- Kilowatt hour is a unit for
(A) energy (B) power (C) time (D) momentum
- One revolution =
(A) $\frac{\pi}{2}$ rad (B) π rad (C) 2π rad (D) 4π rad
- The moment of inertia of a sphere is given as
(A) $\frac{1}{2}mr^2$ (B) $\frac{2}{5}mr^2$ (C) $\frac{1}{5}mr^2$ (D) $\frac{1}{12}mr^2$
- Torricelli's theorem can be written as
(A) $V = \sqrt{2g(h_1 - h_2)}$ (B) $V = 2g(h_1 - h_2)$ (C) $V = 2g\sqrt{(h_1 - h_2)}$ (D) $V = \sqrt{2g(h_1 - h_2)}$
- The total distance travelled by an object with SHM, having amplitude A , in a time equal to its period is
(A) $\frac{A}{4}$ (B) $\frac{A}{2}$ (C) $2A$ (D) $4A$
- If the wavelength of a wave is 1500 m and moves with a velocity of $3 \times 10^8 \text{ ms}^{-1}$, its frequency will be
(A) $5 \times 10^{-6} \text{ Hz}$ (B) $2 \times 10^5 \text{ Hz}$ (C) $45 \times 10^{10} \text{ Hz}$ (D) $3.15 \times 10^6 \text{ Hz}$
- Waves transport
(A) energy (B) wavelength (C) power (D) mass
- Bragg equation is given as
(A) $2d \sin\theta = n\lambda$ (B) $d \sin\theta = n\lambda$ (C) $2d = n\lambda$ (D) $2d = (n + \frac{1}{2})\lambda$
- The least distance of distinct vision is
(A) 10 cm (B) 15 cm (C) 20 cm (D) 25 cm
- Operating between the same two temperatures which heat engine is the most efficient?
(A) Carnot engine (B) diesel engine (C) petrol engine (D) steam engine
- The value of universal gas constant 'R' is
(A) $1.6 \text{ J mol}^{-1} \text{ K}^{-1}$ (B) $1.38 \text{ J mol}^{-1} \text{ K}^{-1}$ (C) $8.314 \text{ J mol}^{-1} \text{ K}^{-1}$ (D) $6.02 \text{ J mol}^{-1} \text{ K}^{-1}$