

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink. Cutting or filling two or more circles will result in zero mark in that question. Write the letter A, B, C or D in the column (write correct option) against each question also. If there is a contradiction in the bubble and hand written answer, bubble option will be considered correct.

1-1	The apparent weight of a man in a lift moving down with an acceleration of 9.8 m/s^2 is : (A) Zero (B) 9.8 N (C) 19.6 N (D) Infinity
2	Working cycle of a typical petrol engine consists of : (A) Two strokes (B) Four strokes (C) Six strokes (D) Eight strokes
3	Radar system is an application of : (A) Interference (B) Beats (C) Stationary waves (D) Doppler effect
4	The sum of three numbers, 2.7543, 4.10 and 1.273, upto correct decimal place is : (A) 8.12 (B) 8.13 (C) 8.1273 (D) 8.127
5	The SI unit of angular acceleration is : (A) rad/sec^2 (B) rad/sec (C) rev/sec^2 (D) rev/sec
6	Time period of simple pendulum only depends on : (A) Mass of the bob (B) Length of the pendulum (C) Amplitude of vibration (D) Size of the bob
7	Position vector of a point P (a, b, c) in YZ-Plane is given by : (A) $\vec{r} = a\hat{i} + b\hat{j}$ (B) $\vec{r} = a\hat{i} + c\hat{k}$ (C) $\vec{r} = b\hat{j} + c\hat{k}$ (D) $\vec{r} = a\hat{i} + b\hat{j} + c\hat{k}$
8	The unit of entropy is : (A) JK (B) $\frac{K}{J}$ (C) $\frac{J}{K^2}$ (D) $\frac{J}{K}$
9	In the newer systems of fibre optics, signals are regenerated by placing repeaters, which may be separated by as much as : (A) 30 km (B) 50 km (C) 100 km (D) 500 km
10	Mathematically unit vector is given by : (A) $\hat{A} = A \vec{A}$ (B) $\hat{A} = \frac{A}{A}$ (C) $\hat{A} = \frac{\vec{A}}{A}$ (D) $\hat{A} = \vec{A} \cdot \vec{A}$
11	Longitudinal waves do not exhibit : (A) Reflection (B) Refraction (C) Diffraction (D) Polarization
12	Water flows out from a pipe at 3 kg/sec and its velocity changes from 5 m/s to zero on striking the wall. The force due to water flow is : (A) 3 N (B) 5 N (C) 10 N (D) 15 N
13	10 waves pass through the medium in one sec. with speed of 10 m/s. The wavelength of waves is : (A) 1 m (B) 10 m (C) 20 m (D) 100 m
14	SI units of pressure are : (A) N-m^2 (B) $\text{N}^2\text{-m}$ (C) N-m^{-2} (D) $\text{N}^{-2}\text{-m}$
15	The mathematical relation, $v_2 = \sqrt{2g(h_2 - h_1)}$ is known as : (A) Equation of continuity (B) Bernoulli's equation (C) Torricelli's theorem (D) Ventri relation
16	The effective path difference between two reflected beams, in x-rays diffraction by crystals is : (A) $d \sin \theta$ (B) $2d \sin \theta$ (C) $d \sin \left(\frac{\theta}{2}\right)$ (D) $d \sin (2\theta)$
17	Power can be defined as the product of : (A) Force and displacement (B) Force and velocity (C) Force and time (D) Force and mass