

MDCAT Physics Chapter 2 Motion & Force Online Test

Sr	Questions	Answers Choice
1	Speedometer of an automobile measures	A. Average velocity B. Instantaneous velocity C. Acceleration D. Instantaneous speed
2	A body of mass m having an initial velocity v , makes head on elastic collision with a stationary body of mass M . After the collision, the body of mass m comes to rest and only the body having mass M moves. This will happen only when:	A. $m > M$ B. $m < M$ C. $m = M$ D. $m = 1M$
3	If velocity time graph is a straight line parallel to time axis then body is	A. Moving with zero acceleration B. Moving with constant velocity C. Covering equal displacement in equal intervals of time D. All of these
4	Two bodies are projected at angles θ and $(90^\circ - \theta)$ with the horizontal at the same speed. The ratio of their maximum heights is	A. 1 : 1 B. 1 : $\tan \theta$ C. 1 : $\tan^2 \theta$ D. $\tan^2 2\theta$
5	The centre of gravity of a triangular plate is at	A. On end of the plate B. The midpoint of any side of the plate C. The midpoint of any side of the plate D. The midpoint of any side of the plate
6	Two railway trucks of masses m and $3m$ move towards each other in opposite directions with speeds $2v$ and v respectively. These trucks collide and stick together. What is the speed of the trucks after the collision?	A. $\frac{v}{4}$ B. $\frac{v}{2}$ C. v D. $\frac{5v}{4}$
7	. Time rate of change of momentum is equal to	A. Force B. Impulse C. Velocity D. Both A and C
8	If a body changes its momentum from 100 N s to 200 N s in 10 s then the unbalance external force responsible to change the momentum is	A. 5 N B. 2.5 N C. 2n D. 10n
9	At the highest point on the trajectory of a projectile, its	A. Potential energy is minimum B. Kinetic energy is maximum C. Total energy is maximum D. Kinetic energy is minimum
10	A rider uses Motorcycle safety helmet that extends the time of collision during accident hence decreasing the	A. Change of collision B. Force acting C. Velocity D. Impulse
11	As in linear motion force determines linear acceleration where as in circular motion torque determines its	A. Angular acceleration B. Linear acceleration C. Vibratory acceleration D. Tangential acceleration
12	If the range of a projectile is R , the potential energy will be maximum after the projectile has covered (from start) distance equal to:	A. $\frac{R}{2}$ B. $\frac{R}{4}$ C. R D. $\frac{R}{9}$
13	A machine gun fires 'n' bullets per second and the mass of each bullet is m . If v is the speed of each bullet then the force exerted on the machine gun is:	A. mng B. mnv C. $mnvg$ D. mnv/g
14	A ball takes 't' second to fall from a height h_1 and '2t' second to fall from a height h_2 then h_1/h_2 is:	A. 2 B. 4 C. 0.5 D. 0.25

15	select Which one of the following is not performing projectile motion	<p>A. A gas filled balloon</p> <p>B.) Bullet fired from gun</p> <p>C. A football kicked</p> <p>D. A baseball shot</p>
16	The distance covered by a body in time 't' starting from rest is:	<p>A. $\frac{1}{2} vt^2$</p> <p>B. vt</p> <p>C. $\frac{1}{2} vt^2$</p> <p>D. vt^2</p>
17	A stone is thrown upwards it returns to ground describing a parabolic path which of the following remains constant:	<p>A. Speed of the ball</p> <p>B. Kinetic energy of the ball</p> <p>C. Vertical component of velocity</p> <p>D.) Horizontal component of velocity</p>
18	Two astronauts in a satellite must have	<p>A. Same masses</p> <p>B. Same real weights</p> <p>C. Same apparent weights</p> <p>D. None of these</p>
19	The time of flight of a projectile is maximum when angle of projection is:	<p>A. 30 Degree</p> <p>B. 45Degree</p> <p>C. 60Degree</p> <p>D. 90Degree</p>
20	A man has weight 980 N in a stationary lift. What will be his weight if the lift starts moving up with anacceleration of 4.9 ms^{-2}	<p>A. 980 N</p> <p>B. 1470 N</p> <p>C. 1980 N</p> <p>D. 1460 N</p>