

## ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	The dimension of linear inertia is:	<p>A. <math>MLT^{-2}</math></p> <p>B. <math>ML^{-1}T^{-2}</math></p> <p>C. <math>ML^{-1}T^{-2}</math></p> <p>D. <math>MLT^{-1}</math></p>
2	A rocket carries its own fuel in the form of	<p>A. liquid only</p> <p>B. liquid or solid</p> <p>C. liquid and solid</p> <p>D. liquid or solid and oxygen</p>
3	The magnitude of the force producing an acceleration of $10 \text{ m/sec}^2$ in a body of mass 500 grams is:	<p>A. 3 N</p> <p>B. 4 N</p> <p>C. 5 N</p> <p>D. 6 N</p>
4	Acceleration of a body at any particular instant during its motion is known as	<p>A. average acceleration</p> <p>B. uniform acceleration</p> <p>C. instantaneous acceleration</p> <p>D. all of them</p>
5	A change in position of a body from its initial position to its final position is known as	<p>A. relative motion</p> <p>B. displacement</p> <p>C. distance</p> <p>D. acceleration</p>
6	An object thrown in arbitrary direction in space with an initial velocity and moving freely under gravity will follow	<p>A. a circular path</p> <p>B. a straight line</p> <p>C. a hyperbola</p> <p>D. a parabola</p>
7	Two bodies of masses 1 kg and 5 kg are dropped gently from the top of a tower. At a point 20 cm from the ground both the bodies will have the same	<p>A. Momentum</p> <p>B. Kinetic energy</p> <p>C. Velocity</p> <p>D. Total energy</p>
8	The velocity given to a body to go out of the influence of earth's gravity is known as:	<p>A. Terminal velocity</p> <p>B. Orbital velocity</p> <p>C. Escape velocity</p> <p>D. None of these</p>
9	The velocity of a projectile is maximum	<p>A. at the point of projection</p> <p>B. just before striking the ground</p> <p>C. at none of them</p> <p>D. at the point of projection</p>

		D. at both of them
10	If $m$ means mass of gases ejected per second from a rocket and $v$ shows the change in velocity, then $mv$ is named as:	A. Force B. Energy C. work D. impulse
11	What must be changing when a body is accelerating uniformly?	A. the force acting on a body B. the velocity of the body C. the mass of the body D. the speed of the body
12	The quantity $F \times t$ is called as	A. momentum B. velocity C. acceleration D. impulse
13	A body moving with uniform velocity has	A. positive acceleration B. negative acceleration C. infinite acceleration D. zero acceleration
14	Suppose the water flows out from a pipe at $3\text{kg s}^{-1}$ and its velocity changes from $5\text{m s}^{-1}$ to zero on striking the wall, then the force exerted by water on wall will be	A. 5 N B. 10 N C. 15 N D. 20 N
15	When brakes are applied to a fast moving car, the passengers will be thrown:	A. Forward B. Backward C. Downward D. None of these
16	In an elevator moving vertically up with an acceleration ' $g$ ' the force exerted on the floor by a passenger of mass $M$ is	A. $Mg$ B. $1/2 Mg$ C. Zero D. $2 Mg$
17	For a fixed force, larger is the mass of a body the	A. greater is its acceleration B. smaller is its acceleration C. smaller is its weight D. zero is its acceleration
18	A body falls freely from rest. It covers as much distance in the last second of its motion as covered in the first three seconds. The body has fallen for a time of	A. 3 s B. 5 s C. 7 s D. 9 s
19	In equation $F=ma$ , then mass ' $m$ ' is	A. rest mass B. variable mass C. inertial mass D. gravitational mass
20	Which of the following four statements is false?	A. A body can have zero velocity and still be accelerated B. A body can have a constant velocity and still have a varying speed C. A body can have a constant speed and still have a varying velocity D. The direction of the velocity of a body can change when its acceleration is constant