

ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	An inertial frame of reference is that frame of reference in which	A. $a = 0$ B. $a \neq 0$ C. $a \neq 0$ D. all of them
2	Acceleration in a body is always produced in the direction of:	A. Velocity B. Weight C. Force D. Both B and C
3	The SI units of momentum is	A. kg m s^{-2} B. kg ms C. kg m s^{-2} D. N-s
4	A projectile on its path gets divided into two pieces at its highest point. Which is true?	A. Momentum increases B. Momentum decreases C. Kinetic energy increases D. Kinetic energy decreases
5	In the expression $F \times t$, the force F is	A. total force B. instantaneous force C. average force D. all of them
6	When a shell explodes in mid-air, its fragments fly off in	A. only one direction B. in two direction C. different directions D. a particular direction
7	Force is a:	A. Scalar quantity B. Base quantity C. Derived quantity D. None of these
8	Flight of rocket in the space is an example of	A. Newton's first law B. Newton's third law C. Newton's second law D. all of them
9	A typical rocket consists of fuel	A. more than 60% of launch mass B. less than 60% of launch mass C. less than 80% of launch mass D. more than 80% of launch mass
10	Suppose the water flows out from a pipe at 3kg s^{-1} and its velocity changes from 5m 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
11	Which quantity has the same dimension as that of impulse?	A. KE B. Power C. Momentum D. Work
12	The velocity given to a body to go out of the influence of earth's gravity is known as:	A. Terminal velocity B. Orbital velocity C. Escape velocity D. None of these
13	If a ball comes back to its starting point after bouncing off the wall several times, then its	A. total displacement is zero B. average velocity is zero C. none of them D. both of them
14	Rate of change of momentum is called	A. Impulse B. Force C. Torque D. Momentum
15	If an iron ball and a wooden ball of the same radius was released from a height 'h' in vacuum, then time taken by both of them to reach ground will be	A. Unequal B. Exactly equal C. Roughly equal D. Zero

16	The direction of velocity is along the direction of	A. distance B. displacement C. acceleration D. all of them
17	The product of force and time is called change in:	A. Momentum B. Impulse C. Force D. Both a and b
18	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
19	Acceleration of a body is negative if the velocity of the body is	A. constant B. increasing C. decreasing D. none of them
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