

ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	A ball is dropped from a certain height and another ball is projected horizontally from the same point. Which of the following statement is correct?	<p>A. Both hit the ground at the same velocity</p> <p>B. Both hit the ground at the same speed</p> <p>C. The change of velocity during the path for both balls is the same</p> <p>D. The change of speed during the path for both balls is the same</p>
2	A train is moving with a velocity of 25 m/s and a car is moving behind it by a velocity of 8 m/s in same direction. The relative velocity of train with respect to car is	<p>A. 17 m/s</p> <p>B. 33 m/s</p> <p>C. 17.5 m/s</p> <p>D. none</p>
3	The dimension of linear inertia is:	<p>A. MLT^{-2}</p> <p>B. $ML^{-1}T^{-2}$</p> <p>C. $ML^{-1}T^{-1}$</p> <p>D. MLT^{-1}</p>
4	Rocket engines lift a rocket from the earth surface, because hot gas with high velocity	<p>A. Push against the air</p> <p>B. React against the rocket and push it up</p> <p>C. Heat up the air which lifts the rocket</p> <p>D. Push against the earth</p>
5	A dirty carpet is to be cleaned by heating. This is an accordance with ____ law of motion:	<p>A. First</p> <p>B. Second</p> <p>C. Third</p> <p>D. None of these</p>
6	The motion of a projectile is	<p>A. one dimension</p> <p>B. two dimension</p> <p>C. three dimension</p> <p>D. all of them</p>
7	A certain force gives an acceleration of 2 m/sec^2 to a body mass 5 kg. The same force would give a 20 kg object an acceleration of:	<p>A. 0.5 m/sec^2</p> <p>B. 5 m/sec^2</p> <p>C. 1.5 m/sec^2</p> <p>D. 9.8 m/sec^2</p>
8	Swimming becomes possible because of ____ law of motion.	<p>A. First</p> <p>B. Second</p> <p>C. Third</p> <p>D. None of these</p>
9	The area under line velocity-time graph is numerically equal to the	<p>A. speed of the body</p> <p>B. acceleration of the body</p> <p>C. distance covered by the body</p> <p>D. none of them</p>
10	Newton's first law is also called:	<p>A. Law of torque</p> <p>B. Law of force</p> <p>C. Law of inertia</p> <p>D. None of these</p>
11	Slope of velocity time graph represents:	<p>A. Acceleration</p> <p>B. Speed</p> <p>C. Torque</p> <p>D. Work</p>
12	Acceleration produced in a body by a force varies	<p>A. inversely as the applied force</p> <p>B. directly as the applied force</p> <p>C. directly as the mass of the body</p> <p>D. none of them</p>
13	The path described by a projectile is called its	<p>A. orbit</p> <p>B. trajectory</p> <p>C. range</p> <p>D. distance</p>
14	When the surfaces are coated with a lubricant, then they	<p>A. Stick to each other</p> <p>B. Slide upon each other</p> <p>C. Roll upon each other</p> <p>D. None of these</p>

15	Two projectiles are fired from the same point with the same speed at angles of projection 60° and 30° respectively. Which one of the following is true?	A. Their range will be same B. Their maximum height will be same C. Their landing velocity will be same D. Their time of flight will be same
16	If the velocity time graph is a straight line parallel to the time-axis, then it means:	A. The body is moving with uniform velocity B. The body is moving with uniform acceleration C. The body is at rest D. None of these
17	If two bodies of equal masses moving in the same direction collide elastically, then their velocities.	A. Are added B. Are subtracted C. Do not change D. Are exchanged
18	A monkey sits on the pan of spring scale kept in an elevator. The reading of the spring scale will be maximum when	A. Elevator is stationary B. Elevator cable breaks and it falls freely towards earth C. Elevator accelerates downwards D. Elevator accelerates upward
19	Force is a:	A. Scalar quantity B. Base quantity C. Derived quantity D. None of these
20	For a moving body, at any instant of time	A. If the body is not moving the acceleration is necessarily zero B. If the body is slowing, the retardation is negative C. If the body is slowing, the distance is negative D. If displacement, velocity and acceleration at that instant are known, we can find the displacement at any given time in future