

Physics ECAT Pre Engineering Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	The linear momentum of the body is defined as	A. $p=ma$ B. $p=1/2ma$ C. $p=mv$ D. $p=1/2mv$
2	A railway engine (mass 10^4kg) is moving with a speed of 73 km/h. The force which should be applied to bring it to rest over a distance of 20 m is	A. 3,600 N B. 7,200 N C. 10,000 N D. 100,000 N
3	Slope of velocity time graph represents:	A. Acceleration B. Speed C. Torque D. Work
4	Body which falls freely under gravity provides good example of motion under:	A. Uniform acceleration B. Non-uniform acceleration C. Uniform velocity D. None of these
5	The product of force and time is called	A. acceleration B. linear momentum C. angular momentum D. impulse
6	A cold soft drink is kept on the balance. When the cap is opened, then the weight	A. Increases B. Decreases C. First increases, then decreases D. Remains same
7	An inertial frame of reference is that frame of reference in which	A. $a < b >$ B. $a < b > \geq 0$ C. $a < b > \leq 0$ D. all of them
8	When a shell explodes a mid-air, the total momentum of its fragments is	A. less than the momentum of shell B. equal to the momentum of shell C. greater than the momentum of shell D. none of them
9	The dimension of linear inertia is:	A. MLT^{-2} B. $ML^{-1}T^{-2}$ C. $ML^{-1}T^{-1}$ D. ML^{-1}
10	Work done along a closed path in a gravitational field is:	A. Maximum B. Minimum C. Zero D. Unity
11	Newton's laws are adequate for speeds that are	A. low compared with the speed of light B. equal to the speed of light C. greater than the speed of light D. all of them
12	If m means mass of gases objected per second from a rocket and v shows the change in velocity, than mv is named as:	A. Force B. Energy C. work D. impulse
13	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
14	The direction of the linear momentum is the direction of	A. speed B. velocity C. weight D. ...

		D. none of them
15	Acceleration in a body is always produced in the direction of:	A. Velocity B. Weight C. Force D. Both B and C
16	The consumption source of energy is:	A. Energy from biomass B. Hydroelectric energy C. Geothermal energy D. None of these
17	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
18	Velocity is a	A. scalar quantity B. vector quantity C. constant quantity D. none of them
19	Maximum height of a bullet when fired at 30° with horizontal is 11 m. Then height when it is fired at 60° is	A. 22 m B. 6 m C. 33 m D. 7.8 m
20	Suppose the water flows out from a pipe at 3 kg s^{-1} and its velocity changes from 5 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