

## ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	A body of weight 1 N has a kinetic energy of 1 joule when its speed is:	A. 1.46 m sec <sup>-1</sup> B. 2.44 m sec <sup>-1</sup> C. 3.42 m sec <sup>-1</sup> D. 4.43 m sec <sup>-1</sup>
2	A car moves for half of its time at 80 km/h and rest half of time at 40 km/h, The total distance covered is 60 km. What is the average speed of the car?	A. 60 km/hr B. 80 km/hr C. 120 km/hr D. 180 km/hr
3	A person is sitting in a traveling train and facing the engine. He tosses up a coin and the coin falls behind him. It can be concluded that the train is	A. Moving forward and gaining speed B. Moving forward and losing speed C. Moving forward with uniform speed D. Moving backward with uniform speed
4	A ball is thrown upwards with a velocity of 100 m/s. It will reach the ground after	A. 10 s B. 20 s C. 5 s D. 40 s
5	The vertical and horizontal range will be equal id angle of projection is	A. 76 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°</span> B. 45 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°</span> C. 60 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°</span> D. 120 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°</span>
6	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
7	Velocity of a body changes if	A. direction of the body changes B. speed of the body changes C. neither speed nor direction changes D. either speed or direction changes
8	If a train traveling at 72 kmph is to be brought to rest in a distance of 200 meters then its retardation should be	A. 20 ms <sup>-2</sup> B. 10 ms <sup>-2</sup> C. 2 ms <sup>-2</sup> D. 1 ms <sup>-2</sup>
9	Unit of impulse in	A. Newton B. Kg m C. Kg m/s D. Joule
10	The displacement coincides with the path of the motion when a body moves is a	A. curved line B. straight line C. may be curved or straight D. none of them
11	Which of the following statements for an object in equilibrium is not true?	A. The object must be at rest B. The object can be at rest C. The object is moving at constant speed D. The acceleration of the object is zero
12	The time of flight of a projectile motion equal to	A. half of the time to reach maximum height B. twice the time to reach maximum height C. one fourth of time to reach maximum height D. time to reach maximum height

13	During the upward motion of the projectile, the vertical component of velocity:	A. Decreases B. Increases C. Remains constant D. None of these
14	The expression $F \times t$ is called impulse if the time 't' is	A. zero B. very large C. very small D. infinite
15	If the velocity of the body decreases non-uniformly then the slope of the velocity-time graph will have	A. different values B. same values C. zero values D. constant values
16	An object thrown in arbitrary direction in space with an initial velocity and moving freely under gravity will follow	A. a circular path B. a straight line C. a hyperbola D. a parabola
17	If rope of lift breaks suddenly. The tension exerted by the surface of lift is ( $a$ =Acceleration of lift)	A. $mg$ B. $m(g+a)$ C. $m(g-a)$ D. 0
18	What will be the ratio of the distance moved by a freely falling body from rest in 4th and 5th seconds of journey?	A. 4 : 5 B. 7 : 9 C. 16 : 25 D. 1 : 1
19	Essential characteristic of equilibrium is	A. Momentum equal to zero B. Acceleration equal to zero C. Kinetic energy equal to zero D. Velocity equal to zero
20	Ethanol (alcohol) is a type of:	A. Electric fuel B. Bio fuel C. Nuclear fuel D. None of these