

## ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	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
2	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
3	A certain force gives an acceleration of 2 m/sec <sup>2</sup> to a body mass 5 kg. The same force would give a 20 kg object an acceleration of:	A. 0.5 m/sec <sup>2</sup> B. 5 m/sec <sup>2</sup> C. 1.5 m/sec <sup>2</sup> D. 9.8 m/sec <sup>2</sup>
4	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
5	The magnitude of the force producing an acceleration of 10 m/sec <sup>2</sup> in a body of mass 500 grams is:	A. 3 N B. 4 N C. 5 N D. 6 N
6	Velocity is a	A. scalar quantity B. vector quantity C. constant quantity D. none of them
7	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
8	A body starting from rest covers a distance of 0.45 Km and acquires a velocity of 300 Kmh <sup>-1</sup> . its acceleration will be	A. 7.71 m s <sup>-2</sup> B. 0.5m s <sup>-2</sup> C. 0.15m s <sup>-2</sup> D. 0.092m s <sup>-2</sup>
9	Change in momentum is one second called.	A. Impulse B. Force C. Energy D. Work
10	A stone is dropped from rest from the top of a tower 19.6 m high. The distance traveled during the last second of its fall is (giving $g=9.8 \text{ m/s}^{\text{S}}$ )	A. 9.8 m B. 14.7 m C. 4.9 m D. 19.6 m
11	Bodies failing freely under gravity provide good example of motion under	A. non-uniform acceleration     B. uniform acceleration     C. variable acceleration     D. increasing acceleration
12	The velocity of a projectile is maximum	A. at the point of projection B. just before striking the ground C. at none of them D. at both of them
13	A man sitting in a bus travelling in a direction from west to east with a speed of 40 km/h observes that the rain drops are falling vertically down. To the another man standing on ground the rain will appear	A. To fall vertically down B. To fall at an angle going from west to east C. To fall at an angle going from east to west D. The information given is insufficient to decide the direction of rain
14	Linear momentum is a	A. fixed quantity B. constant quantity C. scalar quantity D. vector quantity

15	When we consider the average velocity of a body, then the body is moving in	A. straight line     B. curved path     C. may be in a straight or curved path     D. none of them
16	The collision in which KE is conserved but momentum is not conserved is called:	A. Elastic collision B. Inelastic collision C. any these D. None of these
17	Acceleration in a body is always produced in the direction of :	A. Velocity B. Weight C. Force D. Both B and C
18	Biomass includes:	<ul><li>A. Crop residue</li><li>B. Natural vegetation</li><li>C. Animal dung</li><li>D. All of these</li></ul>
19	A typical rocket ejects the burnt gases at speeds over	A. 400 ms <sup>-1</sup> B. 40000m s <sup>-1</sup> C. 40000 ms <sup>-1</sup> D. 60000 ms <sup>-1</sup>
20	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