

## ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	A car travels first half distance between two places with a speed of 30 km/h and remaining half with a speed of 50 km/h. The average speed of the car is	A. 37.5 km/h B. 10 km/h C. 42 km/h D. 40 km/h
2	When a force is applied on a body, several effects are possible Which of the following effect could not occur?	A. the body rotates B. the body speeds up C. the mass of the body decreases D. the body changes its direction
3	The path described by a projectile is called its	A. orbit B. trajectory C. range D. distance
4	Work done along a closed path in a gravitational force is:	A. maximum B. Minimum C. Zero D. Unity
5	A body is dropped from a tower with zero velocity, reaches ground in 4s. The height of the tower is about	A. 80 m B. 20 m C. 160 m D. 40 m
6	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
7	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
8	A certain force gives an acceleration of 2 m/sec <sup>2</sup> to a body if mass 5 kg. The same force would give a 29 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>
9	A railway engine (mass 10 <sup>4</sup> kg) 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
10	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
11	The path (or trajectory) described by a projectile is	A. a parabola B. a hyperbola C. a circle D. a straight line
12	What must be changing when a body is accelerating uniformly?	A. the force acting on a body B. the velocity of the body C. the mass of the body D. the speed of the body
13	A ball is dropped downwards After 1 second another ball is dropped downwards from the same point. What is the distance between them after 3 seconds	A. 25 m B. 20 m C. 50 m D. 9.8 m
14	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
15	Two projectiles are fired from the same point with the same speed at angles of projection $60^\circ$ and $30^\circ$ 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	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	Newton's first law is also called:	A. Law of torque B. Law of force C. Law of inertia D. None of these
18	The quantity $F \times t$ is called as	A. momentum B. velocity C. acceleration D. impulse
19	If the slope of the velocity-time graph increases at constant rate with time, then the body is said to have	A. uniform deceleration B. uniform negative acceleration C. average acceleration D. uniform positive acceleration
20	The projectile motion is composed of	A. horizontal motion only B. vertical motion only C. horizontal and vertical motion D. none of them