

## ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	By which velocity a ball be projected vertically so that the distance covered by it in 5th seconds is twice the distance it covers in its 6th second ( $g=10\text{m/s}^2$ )	A. 58.8 m/s B. 49 m/s <b>C. 65 m/s</b> D. 19.6 m/s
2	A ball is dropped from a height of 4.2 meters. To what height it will rise if there is no loss of KE after rebounding?	<b>A. 4.2 m</b> B. 8.4 C. 12.6 D. None of these
3	The quantity $F \times t$ is called as	A. momentum B. velocity C. acceleration <b>D. impulse</b>
4	The projectile attains maximum horizontal range when it is projected at an angle of	A. $30^\circ$ <b>B. <math>45^\circ</math></b> C. $60^\circ$ D. $75^\circ$
5	Distance covered by a freely falling body in the first second of its motion will be:	<b>A. 4.9 m</b> B. 9.8 m C. 19.6 m D. 29.4 m
6	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	<b>A. 37.5 km/h</b> B. 10 km/h C. 42 km/h D. 40 km/h
7	A body of mass 5 kg is acted upon by a constant force of 20 n for 7 seconds. The total change in momentum will be:	A. 10 NS B. 100 NS <b>C. 140 NS</b> D. 200 NS
8	Body which falls freely under gravity provides good example of motion under:	<b>A. Uniform acceleration</b> B. Non-uniform acceleration C. Uniform velocity D. None of these
9	The time of flight of a projectile motion equal to	A. half of the time to reach maximum height <b>B. twice the time to reach maximum height</b> C. one fourth of time to reach maximum height D. time to reach maximum height
10	Biomass includes:	A. Crop residue B. Natural vegetation <b>C. Animal dung</b> D. All of these
11	A train of 150 m length is going towards north direction at a speed of $10\text{ms}^{-1}$ . A parrot flies at a speed of $5\text{ms}^{-1}$ towards south direction parallel to the railway track. The time taken by the parrot to cross the train is equal to	A. 12 s B. 8 s C. 15 s <b>D. 10 s</b>
12	The instantaneous velocity is define as the limiting value of $\Delta d/\Delta t$ on the time interval $\Delta t$ approaches to	<b>A. zero</b> B. maximum C. minimum D. infinity
13	The effect of applying a force on a moving body is to change	A. its direction of motion only B. its speed of motion only <b>C. both the direction and speed of motion</b> D. ...

		D. its inertia only
14	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	A. 17 m/s B. 33 m/s C. 17.5 m/s D. none
15	A body of weight 1 N has a kinetic energy of 1 joule when its speed is:	A. $1.46 \text{ m sec}^{-1}$ B. $2.44 \text{ m sec}^{-1}$ C. $3.42 \text{ m sec}^{-1}$ D. $4.43 \text{ m sec}^{-1}$
16	A dirty carpet is to be cleaned by heating. This is in according with _____ law of motion.	A. First B. Second C. Third D. None of these
17	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?	A. Both hit the ground at the same velocity B. Both hit the ground at the same speed C. The change of velocity during the path for both balls is the same D. The change of speed during the path for both balls is the same
18	If the acceleration of a body is negative, then slope of the velocity-time graph will be:	A. Zero B. Positive C. Negative D. Infinity
19	When a body is moving with uniform positive acceleration, the velocity- time graph is a straight line. Its slope is	A. zero B. negative C. positive D. non-existing
20	A body moving with an acceleration of $5 \text{ m/sec}^2$ started with velocity of 10 m/sec. What will be the distance traversed in 10 seconds?	A. 150 m B. 250 m C. 350 m D. 400 m