

Physics ECAT Pre Engineering Chapter 3 Motion and Force Online Test

Sr	Questions	Answers Choice
1	Rocket engines lift a rocket from the earth surface, because hot gas with high velocity	A. Push against the air B. React against the rocket and push it up C. Heat up the air which lifts the rocket D. Push against the earth
2	Two bodies of masses 1 kg and 5 kg are dropped gently from the top of a tower. At a point 20 cm from the ground both the bodies will have the same	A. Momentum B. Kinetic energy C. Velocity D. Total energy
3	When the surfaces are coated with a lubricant, then they	A. Stick to each other B. Slide upon each other C. Roll upon each other D. None of these
4	A force of 50 dynes is acted on a body of mass 5 g which is at rest, for an interval of 3 seconds, then impulse is	A. $0.15 \times 10^{-3} \text{ Ns}$ B. $0.98 \times 10^{-3} \text{ Ns}$ C. $1.5 \times 10^{-3} \text{ Ns}$ D. $2.5 \times 10^{-3} \text{ Ns}$
5	Unit of impulse is	A. Newton B. Kg m C. Kg m/s D. Joule
6	A man fires a bullet of mass 200 g at a speed of 5 m/s. The gun is of one kg mass. By what velocity the gun rebounds backwards?	A. 0.1 m/s B. 10 m/s C. 1 m/s D. 0.01 m/s
7	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
8	When a bicycle is in motion but not pedaled, the force of friction exerted by the ground on the two wheels is such that it acts	A. In the backward direction on the front wheel and in the forward direction on the rear wheel B. In the forward directions on the front wheel and in the backward direction on the rear wheel C. In the forward direction on both the wheels D. In the backward direction on both the wheels
9	An aircraft is moving with a velocity of 300 ms^{-1} . If all the forces acting on it are balanced, then	A. It still moves with the same velocity B. It will be just floating at the same point in space C. It will fall down instantaneously D. It will lose its velocity gradually
10	A boat of mass 40 kg is at rest, A dog of mass 4 kg moves in the boat with a velocity of 10 m/s. What is the velocity of boat?	A. 4 m/s B. 2 m/s C. 8 m/s D. 1 m/s
11	For a given angle of projection, if the time of flight of a projectile is doubled, the horizontal range will increase to	A. Four times B. Thrice C. Once D. Twice
12	Two bullets are fired simultaneously, horizontally and with different speeds from the same place. Which bullet will hit the ground first?	A. The faster one B. Depends on their mass C. The slower one D. Both will reach simultaneously
13	At the top of the trajectory of a projectile, the directions of its velocity and acceleration are	A. Perpendicular to each other B. Parallel to each other C. Inclined to each other at an angle of 45° D. None of these

D. Antiparallel to each other

14 Angular momentum

- A. Scalar
- B. Axial vector
- C. Polar vector
- D. At 45° angle

15 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 $g=9.8 \text{ m/s}^2$)

- A. 9.8 m
- B. 14.7 m
- C. 4.9 m
- D. 19.6 m