

Physics ECAT Pre Engineering Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	During the upward motion of the projectile, the vertical component of velocity.	A. Decreases B. Increases C. Remains constant D. None of these
2	Rate of change of momentum is called	A. Impulse B. Force C. Torque D. Momentum
3	The product of force and time is called change in:	A. Momentum B. Impulse C. Force D. Both a and b
4	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
5	One newton is a force that produces an acceleration of 0.5 m/sec^2 in a body of mass:	A. 2 Kg B. 3 Kg C. 4 Kg D. 8 Kg
6	Root out of the conventional source of energy:	A. Energy from biomass B. Hydroelectric energy C. Geothermal energy D. None of these
7	The discuss used by athlete has a mass of 1 kg, its weight in newton is	A. 9.8 N B. 80 N C. 98 N D. 100 N
8	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
9	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
10	One KWh is equal to:	A. $3.6 \times 10^{22} \text{ J}$ B. 3.6 KJ C. $3.6 \times 10^{21} \text{ KJ}$ D. 3.6 MJ
11	Earth is considered to be	A. a non-inertial frame B. an inertial frame C. an accelerated frame D. none of the above
12	The vertical component of velocity of a projectile during its motion is minimum	A. at the time of projection B. at the highest point C. just before hitting the plane of projection D. all of them
13	Distance covered by a freely falling body in the first second of its motion will be:	A. 4.9 m B. 9.8 m C. 19.6 m D. 29.4 m
14	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
15	The magnitude of the force producing an acceleration of 10 m/sec^2 in a body of mass 500 grams is:	A. 3 N B. 4 N C. 5 N D. 6 N

D. 6 N

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- 16 A body of weight 1 N has a kinetic energy of 1 joule when its speed is:
- A. 1.46 m sec^{-1}
 - B. 2.44 m sec^{-1}
 - C. 3.42 m sec^{-1}
 - D. 4.43 m sec^{-1}
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- 17 In an elevator moving vertically up with an acceleration 'g' the force exerted on the floor by a passenger of mass M is
- A. Mg
 - B. $\frac{1}{2} Mg$
 - C. Zero
 - D. $2 Mg$
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- 18 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. $2.5 \times 10^{-3} \text{ Ns}$
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- 19 If the instantaneous velocity of a body does not change. the body is said to be moving with
- A. average velocity
 - B. uniform velocity
 - C. instantaneous velocity
 - D. variable velocity
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- 20 The motion of a body in a straight line is the motion in
- A. one dimension
 - B. two dimension
 - C. three dimension
 - D. four dimension
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