

## Physics ECAT Pre Engineering Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	When body moves with increasing acceleration, its velocity time graph is a	A. straight line     B. horizontal straight line     C. vertical straight line     D. curve
2	If m is the mass of the gases ejected per second with velocity v relative to the rocket of mass M, then the acceleration of rocket is	A. a = M/mv B. a = mM/v C. a = mv/M D. a = v/mm
3	When two protons are brought closer potential energy of both of them:	A. Increases B. Decreases C. Remains same D. None of these
4	Acceleration produced in a body by the force varies	A. inversely as the applied force B. directly as the applied force C. directly as the mass of the body D. none of them
5	The expression F x t is called impulse if the time 't' is	A. zero B. very large C. very small D. infinite
6	The linear momentum of the body is defined as	A. p=ma B. p=1/2ma C. p=mv D. p=1/2mv
7	A non-inertial frame of reference is that frame of reference in which	A. $a = 0$ B. $a > 0 or a < 0C. v = 0D. none of them$
8	When the mass of the colliding body is much larger than the mass of the body at rest, its velocity after collision.	A. Becomes half B. Becomes zero C. Ramains same D. Becomes double
9	When two protons are brought closer potential energy of both of them:	A. Increases B. Decreases C. Remains same D. None of these
10	A particle of mass 0.5 g moving along x-axis is located of $x_1$ = 15 m at $t_1$ = 5s and $x_2$ = 33 m at $t_2$ = 13s its average velocity is	A. 6 m s <sup>-1</sup> B. 2.45 m s <sup>-1</sup> C. 2.25 m s <sup>-1</sup> D. 4.45 m s <sup>-1</sup>
11	A body is thrown from a height h with speed u, it hits the ground with speed V	A. The value of V is maximum if the body is thrown vertically downward B. The value of V is maximum if the body is thrown vertically upwards C. The value of V is minimum if the body is thrown horizontally D. The value of V does not depend on the direction of which it is thrown
12	During the upward motion of the projectile, the vertical component of velocity:	A. Decreases B. Increases C. Remains constant D. None of these
13	Distance traveled by a body falling from rest in the first, second and third second is in the ration of	A. 1:2:3 B. 1:3:5 C. 1:4:9
		D. None of the above
14	Tick the conservative force:	A. tension in a string B. Air resistance C. Elastic spring force D. Frictional force
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15	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?	veloctiy 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
16	Which one of the following is dimensionless.	A. Acceleration B. Velocity C. Density D. Angle
17	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
18	The projectile motion is composed of	A. horizontal motion only B. vertical motion only C. horizontal and vertical motion D. none of them
19	The second law gives the relationship between	A. mass and velocity     B. force and acceleration     C. velocity and acceleration     D. mass and weight
20	Find the total displacement of a body in 8 seconds starting from rest with an acceleration of $20\ \text{cm/s}^2$	A. 0.064 m B. 640 cm C. 64 cm D. 64 m

A. Both hit the ground at the same