

Physics ECAT Pre Engineering Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	Maximum height of a bullet when fixed at 30 with horizontal is 11 m. Then height when it is fired at 60° is	A. 22 m B. 6 m C. 33 m D. 7.8 m
2	A dirty carpet is to be cleaned by heating. This is an accordance with law of motion:	A. First B. Second C. Third D. None of these
3	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 ⁻¹ B. 2.45 m s ⁻¹ C. 2.25 m s ⁻¹ D. 4.45 m s ⁻¹
4	When a body is moving on a surface, the force of friction is called	A. Static friction B. Dynamic friction C. Limiting friction D. Rolling friction
5	Newton's laws are adequate for speeds that are	A. low compared with the speed of light B. equal to the speed of light C. greater than the speed of light D. all of them
6	For a moving body, at any instant of time	A. If the body is not moving the acceleration is necessarily zero B. If the body is slowing, the retardation is negative C. If the body is slowing, the distance is negative D. If displacement, velocity and acceleration at that instant are known, we can find the displacement at any given time in future
7	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. 1/2 Mg C. Zero
	J	D. 2 Mg
8	A train cover 90 km in half an hour. the time taken by it to travel 15 km will be:	
8		D. 2 Mg A. 20 minutes B. 48 minutes C. 10 minutes
	A train cover 90 km in half an hour. the time taken by it to travel 15 km will be: A ball falls on the surface from 10 m height and rebounds to 2.5 m. if the duration of contact	D. 2 Mg A. 20 minutes B. 48 minutes C. 10 minutes D. 5 minutes A. 2100 m/s ² B. 1400 m/s ² C. 700 m/s ²
9	A train cover 90 km in half an hour. the time taken by it to travel 15 km will be: A ball falls on the surface from 10 m height and rebounds to 2.5 m. if the duration of contact with the floor is 0.01 seconds then the average acceleration during contact is	D. 2 Mg A. 20 minutes B. 48 minutes C. 10 minutes D. 5 minutes A. 2100 m/s ² B. 1400 m/s ² C. 700 m/s ² D. 400 m/s ² A. Forward B. Backward C. Downward
9	A train cover 90 km in half an hour. the time taken by it to travel 15 km will be: A ball falls on the surface from 10 m height and rebounds to 2.5 m. if the duration of contact with the floor is 0.01 seconds then the average acceleration during contact is When brakes are applied to a fast moving car, the passengers will be thrown:	D. 2 Mg A. 20 minutes B. 48 minutes C. 10 minutes D. 5 minutes A. 2100 m/s ² B. 1400 m/s ² C. 700 m/s ² D. 400 m/s ² A. Forward B. Backward C. Downward D. None of these A. 1867 B. 1667 C. 1676

A. Acceleration B. Velocity 14 A body whose momentum is constant must have constant Force D. None of these A. MLT² B. ML°T⁻² 15 The dimension of linear inertia is: C. ML°T°T°T°T size: 10.5pt; line-height: 107%; fontfamily: Arial, sans-serif; backgroundimage: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial: background-origin: initial; background-clip: initial;"> D. MLT⁻¹ A. 24/13 B. 10/3 C. 3 A body walks to his school at a distance of 6 km with a speed of 2.5 km/h and walks back 16 with a constant speed of 5 km/h. His average speed for round trip expressed in km/h is D. 4,8 A. m (1 - a/g) The mass of a body measured by a physical balance in a lift at rest is found to be m, if the B. m (1 + a/g)17 lift is going up with an acceleration a, its mass will be measured as C. m D. Zero A. 10N B. 50N 18 A mass of 5kg moves with an acceleration of 10m s⁻² force applied is C. 2N D. 20N A. Becomes half When the mass of the colliding body is much larger than the mass of the body at rest, its B. Becomes zero 19 velocity after collision. C. Ramains same A. increasing velocity B. decreasing velocity 20 Inertial frame of references are those frame of references which are moving with D. all of them

C. horizontal and vertical motion

D. none of them