ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	Swimming is based on the principle of	A. Newton's 1st law B. Newton's 2nd law C. Newton's 3rd law D. All
2	If rope of lift breaks suddenly. The tension exerted by the surface of lift is (a=Acceleration of lift)	A. mg B. m (g+a) C. m (g - a) D. 0
3	A body of mass 1.0 kg is falling with an acceleration of 10 m/s^2. Its apparent weight will be ($g=10\ m/s^2$)	A. 1.0 kg wt B. 2.0 kg wt C. 0.5 kg wt D. Zero
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	A railway engine (mass 10^4kg) is moving with a speed of 73 km/h. The force which should be applied to bring it to rest over a distance of 20 m is	A. 3,600 N B. 7,200 N C. 10,000 N D. 100,000 N
6	When a horse pulls a cart, the force that makes the horse run forward is the force exerted by	A. The horse on the ground B. The horse on the cart C. The ground on the horse D. The ground on the cart
7	When a bicycle is in motion, the frictional forces exerted by the ground are	A. In the forward direction on both the wheels B. In the backward direction on both the wheels C. In the forward direction on the front wheel and the backward direction on the rear wheel D. In the backward direction on the front wheel and the forward direction on the rear wheel
8	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 D. 2 Mg
9	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
10	Two bodies of masses 1 kg and 5 kg are dropped gently form the top of a tower. A a point 20 cm from the ground both the bodies will have the same	A. Momentum B. Kinetic energy C. Velocity D. Total energy
11	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
12	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 x 10⁻³Ns B. 0.98 x 10⁻³Ns C. 1.5 x 10⁻³Ns D. 2.5 x 10⁻³Ns
13	Unit of impulse in	A. Newton B. Kg m C. Kg m/s D. Joule
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	A. 0.1 m/s B. 10 m/s

	velocity the gun rebounds backwards?	C. 1 m/s D. 0.01 m/s
15	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
16	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 forwards 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
17	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 be fall down instantaneously D. It will lose its velocity gradually
18	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
19	For a given angle of projection, if the time of flight of a projectile is doubled, the horizontal range will increases to	A. Four times B. Thrice C. Once D. Twice
20	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
21	A 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. Anitparallel to each other
22	Angular momentum	A. Scalar B. Axial vector C. Polar vector D. At 45° angle
23	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 m/s^s)	A. 9.8 m B. 14.7 m C. 4.9 m D. 19.6 m
24	The range of projectile is 50 m whenθ is inclined with horizontal at 15°. What is the range whenθ becomes 45°?	A. 400 m B. 300 m C. 200 m D. 100 m
25	A projectile on its path gets divided into two pieces at its highest point. Which is true?	A. Momentum increases B. Momentum decreases C. Kinetic energy increases D. Kinetic energy decreases
26	Which of the following statements for an object in equilibrium is not true?	A. The object must be at rest B. The object can be at rest C. The object is moving at constant speed D. The acceleration of the object is zero
27	Two projectiles are fired from the same point with the same speed at angles of projection 60° and 30° respectively. Which one of the following is true?	A. Their range will be same B. Their maximum height will be same C. Their landing velocity will be same D. Their time of flight will be same
28	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
	Find the total displacement of a body in 8 seconds starting from rest with an acceleration of	A. 0.064 m B. 640 cm

29	Find the total displacement of a body in 5 seconds starting from rest with an acceleration of 20 cm/s^2	B. 640 cm C. 64 cm D. 64 m
30	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