ECAT Physics Online Test

Sr	Questions	Answers Choice
1	In a container having water filled up to a height h, a hole is made in the bottom. The velocity of water flowing out of the hole is	A. Independent of h B. Proportional to h^{1/2} C. Proportional to h D. Proportional to h²
2	Internal friction of fluid is called	A. Surface tension B. Viscosity C. Resistance D. Cohesive force
3	At high altitude the blood oozes out of the nose and ear because	A. The blood pressure increase at high altitudes B. The percentage of oxygen in the air increase C. The atmospheric pressure decrease there D. The density of blood decrease at high altitudes
4	The pressure will be low where the speed of the fluid is	A. Zero B. High C. Low D. Constant
5	Blood has a density	A. Equal to water B. Greater then water C. Lesser then water D. None of these
6	According to Stoke's law, drag force depends on	A. Initial velocity B. Final velocity C. Terminal velocity D. Instantaneous velocity
7	Ball pen functions on the principle of	A. Viscosity B. Boyle's law C. Gravitational force D. Surface tnesion
8	A person standing near the track of a fast moving train has tendency to fall towards it because of	A. Vibration due to motion of train B. Gravitation force of attraction between person and trains C. The high speed of train D. Some other effect
9	Surface tension of water is due to	A. Inter molecular attractions B. Inter molecular spaces C. Inter molecular repulsion D. None of above
10	Bernoulli's equation is based upon law of conversation	A. Mass B. Momentum C. Energy D. None of these
11	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as	A. R B. R² C. 1/R D. (1/R)²
12	The velocity of falling raindrops attains limited value because of	A. Up thrust of air B. Air currents of the earth atmosphere C. Surface tension effect D. Viscous force exerted by air
13	A body whose momentum is constant must have constant	A. Acceleration B. Velocity C. Force D. None of these
14	Swimming is based on the principle of	A. Newton's 1st law B. Newton's 2nd law C. Newton's 3rd law

		D. All
15	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
16	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
17	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
18	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
19	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
20	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
21	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
22	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
23	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
24	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
25	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
26	Unit of impulse in	A. Newton B. Kg m C. Kg m/s D. Joule
27	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
28	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
29	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
30	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