ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	A car travels first half distance between two places with a speed of 30 km/h and remaining half with a speed of 50 km/h. The average speed of the car is	A. 37.5 km/h B. 10 km/h C. 42 km/h D. 40 km/h
2	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
3	If speed of electron is 5 x 10^5m/s. How long does it take one electron to transverse 1 m?	A. 1 x 10⁶ B. 2 x 10⁶ C. 2 x 10⁵ D. 1 x 10⁵
4	Slope of velocity time graph represents:	A. Acceleration B. Speed C. Torque D. Work
5	An inertial frame of reference is that frame of reference in which	A. a = 0 B. a > 0 C. a < 0 D. all of them
6	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
7	A body starting from rest covers a distance of 0.45 Km and acquires a velocity of 300 Kmh^{-1}. its acceleration will be	A. 7.71 m s⁻² B. 0.5m s⁻² C. 0.15m s⁻² D. 0.092m s⁻²
8	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
9	The mass of the object is a quantities measure of its	A. speed B. velocity C. acceleration D. inertia
10	The slopes of the tangent at any point on the curve gives the value of the	A. average velocity at that point B. instantaneous velocity at that point C. average acceleration at that point D. instantaneous acceleration at that point
11	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
12	If a car rest acceleration uniformly to a speed of 144 km/h in 20 s it covers a distance of	A. 20 m B. 400 m C. 1440 m D. 2880 m
13	In equation F=ma, then mass 'm' is	A. rest mass B. variable mass C. inertial mass D. gravitational mass
14	The short distance between two points direction from its initial point to final point is called:	A. Velocity B. Displacement C. Speed

		D. Distance
15	The range of projectile is 50 m when θ is inclined with horizontal at 15°. What is the range when θ becomes 45°?	A. 400 m B. 300 m C. 200 m D. 100 m
16	When brakes are applied to a fast moving car, the passenger will be thrown:	A. Forward B. Backward C. Downward D. none of these
17	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
18	Work done along a closed path in a gravitational force is:	A. maximum B. Minimum C. Zero D. Unity
19	An object thrown in arbitrary direction in space with an initial velocity and moving freely under gravity will follow	A. a circular path B. a straight line C. a hyperbola D. a parabola
20	Dimensions of velocity are	A. [L] B. [T] C. $[LT^{-1}]$ D. $[LT^{-2}]$