Physics ECAT Pre Engineering Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	Suppose the water flows out from a pipe at 3kg $s^{-1}$and its velocity changes from 5m $s^{-1}$to zero on striking the wall, then the force exerted by water on wall will be	A. 5 N B. 10 N C. 15 N D. 20 N
2	A lift is moving up with acceleration equal to 1/5 of that due to gravity. The apparent weight of a 60 kg man standing in lift is	A. 60 kg wt B. 72 kg wt C. 48 kg wt D. Zero
3	If the acceleration of a body is not uniform, then velocity-time graph will be:	A. Curve B. Straight line C. Sphere D. All of these
4	A monkey sits on the pan of spring scale kept in an elevator. The reading of the spring scale will be maximum when	A. Elevator is stationary B. Elevator cable breaks and it falls freely towards earth C. Elevator accelerates downwards D. Elevator accelerates upward
5	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
6	When brakes are applied to a fast moving car, the passengers will be thrown:	A. Forward B. Backward C. Downward D. None of these
7	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	A. 2100 m/s² B. 1400 m/s² C. 700 m/s² D. 400 m/s²
8	The SI units of momentum is	A. kg m s⁻² B. kg ms C. kg m s² D. N-s
9	A mass of 5kg moves with an acceleration of 10m s^{-2}force applied is	A. 10N B. 50N C. 2N D. 20N
10	If the acceleration of a body is negative, then slope of the velocity-time graph will be:	A. Zero B. Positive C. Negative D. Infinity
11	Tick the conservation force:	A. Tension in a string B. Air resistance string C. Elastic spring force D. Frictional force
12	The projectile attains maximum horizontal range when it is projected at an angle of	A. 30° B. 45° C. 60° D. 75°
13	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
		A. Uniform acceleration

14	Body which falls freely under gravity provides good example of motion under:	B. Non-uniform acceleration C. Uniform velocity D. None of these
15	A change in position of a body from its initial position to its final position is known as	A. relative motion B. displacement C. distance D. acceleration
16	A body moving with an acceleration of 5 m/sec^{2}started with velocity of 10 m/sec. What will be the distance traversed in 10 seconds?	A. 150 m B. 250 m C. 350 m D. 400 m
17	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
18	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
19	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
20	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