ECAT Physics Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	Range of a projectile is R, when the angle of projection is 30° . Then, the value of the other angle of projection for the same range, is	A. 45° B. 60° C. 50° D. 40°
2	If a train traveling at 72 kmph is to be brought to rest in a distance of 200 meters then its retardation should be	A. 20 ms^{-2} B. 10 ms^{-2} C. 2 ms^{-2} D. 1 ms^{-2}
3	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
4	The product of force and time is called change in:	A. Momentum B. Impulse C. Force D. Both a and b
5	The horizontal range of projectile, at a certain place, depends upon	A. the mass of the projectile B. velocity of projection C. angle of projection D. angle as well as velocity of projection
6	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^{-3}Ns B. 0.98 x 10^{-3}Ns C. 1.5 x 10^{-3}Ns D. 2.5 x 10^{-3}Ns
7	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
8	If d is the displacement of the body in time t, then its average velocity will be	A. **V**$_{av}$= **d** x t B. **V**$_{av}$ = t/**d** C. **V**$_{av}$ = d/t D. **V**$_{av}$ = **d**/t
9	The effect of applying a force on a moving body is to change	A. its direction of motion only B. its speed of motion only C. both the direction and speed of motion D. its inertia only
10	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
11	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/s^2 B. 1400 m/s^2 C. 700 m/s^2 D. 400 m/s^2
12	Earth is considered to be	A. a non-inertial frame B. an inertial frame C. an accelerated frame D. none of the above

13	The magnitude of the displacement is a line from initial position to final position which is	A. straight B. curved C. either be curved or straight D. none of them
14	The path followed by the projectile is known as:	A. Cycle B. Hyperbola C. Trajectory D. Route
15	Which one of the following is dimensionless.	A. Acceleration B. Velocity C. Density D. Angle
16	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
17	The velocity given to a body to go out of the influence of earth's gravity is known as:	A. Terminal velocity B. Orbital velocity C. Escape velocity D. None of these
18	Acceleration of a body at any particular instant during its motion is known as	A. average acceleration B. uniform acceleration C. instantaneous acceleration D. all of them
19	Rate of change of momentum is called	A. Impulse B. Force C. Torque D. Momentum
20	The SI units of momentum is	A. $kg\,m\,s^{-2}$ B. kg ms C. $kg\,m\,s^{2}$ D. N-s