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	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
3	Body which falls freely under gravity provides good example of motion under:	A. Uniform acceleration B. Non-uniform acceleration C. Uniform velocity D. None of these
4	A train cover 90 km in half an hour. the time taken by it to travel 15 km will be:	A. 20 minutes B. 48 minutes C. 10 minutes D. 5 minutes
5	During the projectile motion, the horizontal component of velocity	A. changes with time B. remains constant C. becomes zero D. decreases with time
6	Which quantity has the same units as impulse	A. force B. work C. linear momentum D. acceleration
7	The time of flight of a projectile motion equal to	A. half of the time to reach maximum height B. twice the time to reach maximum height C. one fourth of time to reach maximum height D. time to reach maximum height
8	The horizontal component of a projectile moving with initial velocity of 500 ms^{-1}at an angle 60° to x-axis is	A. 500 ms⁻¹ B. 1000 ms⁻¹ C. 250 ms⁻¹ D. Zero
9	Change in momentum is one second is called:	A. Impulse B. Force C. Energy D. Work
10	Dimensions of velocity are	A. [L] B. [T] C. [LT⁻¹] D. [LT⁻²]
11	The magnitude of the force producing an acceleration of 10 m/sec^2in a body of mass 500 grams is:	A. 3 N B. 4 N C. 5 N D. 6 N
12	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
13	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
14	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

15	Which of the following is not a projectile	A. a bullet fired from a gun B. a space ship C. a football in air D. an artillery shell
16	If two bodies of equal masses moving in the same direction collide elastically, then their velocities.	A. Are added B. Are subtracted C. Do not change D. Are exchanged
17	The three equation of motions are useful only for	A. linear motion with increasing acceleration B. line motion with uniform acceleration C. linear motion with zero acceleration D. linear motion with varying acceleration
18	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
19	A body moving with an acceleration of 5 m/sec^2started 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
20	Find the total displacement of a body in 8 seconds starting from rest with an acceleration of 20 cm/s^2	A. 0.064 m B. 640 cm C. 64 cm D. 64 m