MDCAT Physics Chapter 2 Motion & Force Online Test

Sr	Questions	Answers Choice
1	A body of mass m having an initial velocity v, makes head on elastic collision with a stationary body of mass m. After the collision, the body of mass m comes to rest and only the body having mass M moves. This will happen only when:	A. m>>M B. m<<M C.) m=M D. m=1M
2	A boy is travelling from Lahore to Karachi with uniform velocity . Its	A. Speed changes B. Acceleration changes C. Direction of motion changes D. Displacement from origin changes
3	The rate of change of momentum of a body falling freely under gravity is equal to its	A. Impulse B. Kinetic energy C. Pover D. Weight
4	The centre of gravity of a triangular plate is at	A. On end of the plate B. The midpoint of any side of the plate C. The midpoint of any side of the plate D. The midpoint of any side of the plate
5	Swimming is possible on account of	A. 1st law of motion B. 2nd law of motion C. 3rd law of motion D. Newton’s law of Gravitation
6	Two bodies are projected at angle □ □□□ (□□ − □) to the horizontal with the same speed. The ratio of their times of flight is:	A. sin □ : 1 B. cos □ : 1 C. sin □ : cos□ D. cos □ : sin□
7	Two railway trucks of masses m and 3m move towards each other in opposite directions with speeds 2v and v respectively. These trucks collide and stick together. What is the speed of the trucks after the collision?	A. v/4 B. v/2 C. v D. 5v/4
8	If the range of a projectile is R, the potential energy will be maximum after the projectile has covered (from start) distance equal to:	A. R/2 B. R/4 C. R D. R/9
9	In the absence of air resistance, a stone is thrown from P and follows a parabolic path in which the highest point reached is T. The vertical component of acceleration of stone is:	A. Zero at T B. Greatest at T C.) Greatest at P D. the same at P as at T
10	The angular momentum of a body changes from 30 J-S to 50 J-S in 0.5 sec. The torque acting on it is	A. 40 N-m B. 100 N-m C. 50 N-m D. 150 N-m
11	Vertical component of velocity of the projectile at any instant ‘t’ from the ground is given by:	A. □□□□□□ B. □□□□□□ − □t C. □□□□□□ − □t D. □□□□□□ + □t
12	The angle of projection, at which the range of projectile would become half of its maximum value.	A. 45Degree B. 30Degree C. 15Degree D. 60 Degree
13	A machine gun fires ‘n’ bullets per second and the mass of each bullet is m. If v is the speed of each bullet then the force exerted on the machine gun is:	A. mng B. mnv C. mnvg D. mnv/g
14	Two bodies are projected at angles □ and (90°–□) with the horizontal at the same speed.The ratio of their maximum heights is	A. 1 : 1 B. 1 : tan □ C. 1 : tan □ D. tan² : 1
		A. Sum of the velocities of the bodies

15	In a one-dimensional elastic collision, the relative velocity of approach before collision is equal to:	B. e times the relative velocity of separation after collision C. 1/□ times the relative velocity of separation after collision D. relative velocity of separation after collision
16	The time of flight of a projectile is maximum when angle of projection is:	A. 30 Degree B. 45Degree C. 60Degree D. 90Degree
17	At the highest point on the trajectory of a projectile, its	A. Potential energy is minimum B. Kinetic energy is maximum C. Total energy is maximum D. Kinetic energy is minimum
18	What is the resultant force in the diagram shown?	A. Zero B. 6N to left C. 6N to right D. 11N to right
19	A monkey is accelerating down a string whose breaking strength is two third of his weight. The minimumacceleration of the monkey should be	A. 1/3g B. g C. 2/3 g D. 0 m/s2
20	Newton's third law concerns the forces of interaction between two bodies. Which of the following statement relating to the third law is not correct:	A. The two forces must be the same type B. The two forces must act on different bodies C. The two forces are always opposite in direction D. The two forces are equal and opposite so the bodies are in equilibrium