MDCAT Physics Chapter 2 Motion & Force Online Test

Sr	Questions	Answers Choice
1	A rigid uniform bar of length 2.4 m is pivoted horizontally at its mid-point, weights are hung from two points of the bar as shown in diagram. To maintain horizontal equilibrium, a couple is applied to the bar: What is the torque and the direction of couple?	A. 40 N m clockwise B. 40 N m anti-clockwise C. 80 N m clockwise D. 80 N m anti-clockwise
2	A stone is thrown upwards it returns to ground describing a parabolic path which of the following remains constant:	A. Speed of the ball B. Kinetic energy of the ball C. Vertical component of velocity D.) Horizontal component of velocity
3	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
4	If velocity time graph is a straight line parallel to time axis then body is	A. Moving with zero acceleration B. Moving with constant velocity C. Covering equal displacement in equal intervals of time D. All of these
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	. Time rate of change of momentum is equal to	A. Force B. Impulse C. Velocity D. Both A and C
7	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
8	A ball takes 't' second to fall from a height □□ and '2t' second to fall from a height □□ then h1/h2 is:	A. 2 B. 4 C. 0.5 D. 0.25
9	A rider uses Motorcycle safety helmet that extends the time of collision during accident hence decreasing the	A. Change of collisio B. Force acting C. Velocity D. Impulse
10	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
11	A body is in translational equilibrium if	A. □P = 0 B. □L = 0 C. □F = 0 D. □□ = 0
12	The time of flight of a projectile is maximum when angle of projection is:	A. 30 Degree B. 45Degree C. 60Degree D. 90Degree
13	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
14	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

15	In a one-dimensional elastic collision, the relative velocity of approach before collision is equal to:	A. Sum of the velocities of the bodies 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	A particle executing one dimensional motion, finally comes to rest, what will be the angle between acceleration and displacement during motion:	A. 0 B. π C. □/2 D. □/4
17	Two 8 N forces act on each end of the beam of length 0.60m. Two forces are parallel and acting opposite to each other, the angle between the force and beam is 60o , what is the torque of the couple exerted on the beam:	A. 2.4 Nm B. 4.2 Nm C. 4.8 Nm D. 9.6 Nm
18	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
19	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□
20	The distance covered by a body in time ‘t’ starting from rest is:	A. 1/2 □² B. vt C. □□² D. □□₂