MDCAT Physics Chapter 2 Motion & Force Online Test

Sr	Questions	Answers Choice
1	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
2	As in linear motion force determines linear acceleration where as in circular motion torque determines its	A. Angular acceleration B. Linear acceleration C. Vibratory acceleration D. Tangential acceleration
3	Two projectiles 'A' and 'B' are thrown with same speed but at angle of 40 degree and 50 degree with the horizontal. The horizontal range of 'A' will be:	A. Equal to that of 'B' B. Greater than that of 'B' C. Less than that of 'B' D. 4/5times that of 'B'
4	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
5	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. $\pi/2$ D. $\pi/4$
6	Speedometer of an automobile measures	A. Average velocity B. Instantaneous velocity C. Acceleration D. Instantaneous speed
7	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
8	. Time rate of change of momentum is equal to	A. Force B. Impulse C. Velocity D. Both A and C
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	select Which one of the following is not performing projectile motion	A. A gas filled balloon B.) Bullet fired from gun C. A football kicked D. A baseball shot
11	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
12	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
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 θ and $(90°-\theta)$ with the horizontal at the same speed.The ratio of their maximum heights is	A. 1 : 1 B. 1 : tan θ C. 1 : tan θ D. $\tan^2\theta$: 1
15	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
16	Two bodies are projected at angle θ and $(90 - \theta)$ to the horizontal with the same speed. The ratio of their times of flight is:	A. $\sin\theta : 1$ B. $\cos\theta : 1$ C. $\sin\theta : \cos\theta$ D. $\cos\theta : \sin\theta$
17	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
18	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. $1/e$ times the relative velocity of separation after collision D. relative velocity of separation after collision
19	The distance covered by a body in time 't' starting from rest is:	A. $\frac{1}{2}at^2$ B. vt C. at^2 D. at_2
20	What is the resultant force in the diagram shown?	A. Zero B. 6N to left C. 6N to right D. 11N to right