MDCAT Physics Chapter 2 Motion & Force Online Test

Sr	Questions	Answers Choice
1	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
2	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
3	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
4	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
5	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
6	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’
7	Two astronauts in a satellite must have	A. Same masses B. Same real weights C. Same apparent weights D. None of these
8	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
9	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
10	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
11	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
12	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
13	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
14	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
		A. The two forces must be the same type B. The two forces must act on

15	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:	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
16	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
17	A man has weight 980 N in a stationary lift. What will be his weight if the lift starts moving up with anacceleration of 4.9 ms^{-2}	A. 980 N B. 1470 N C. 1980 N D. 1460 N
18	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
19	Speedometer of an automobile measures	A. Average velocity B. Instantaneous velocity C. Acceleration D. Instantaneous speed
20	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