

MDCAT Physics Chapter 4 Circular Motion MCQ's Test

Sr	Questions	Answers Choice
1	The kinetic energy of a body rotating with an angular speed $\hfill\Box$ depends on.	A. angular speed B. distribution of mass C. neither (A) nor (B) D. both (A) and (B)
2	A satellite moving round the earth constitute	A. An inertial frame of reference B. Non inertial frame C. Neither inertial nor non inertial D. Both inertial and non-inertial
3	For a particle in uniform circular motion the relation a = r $\hfill\Box$ of accelerations hold. The acceleration 'a'	A. is centripetal acceleration B. Is tangential acceleration C. is radical acceleration D. both A and B
4	The force which can do no work on the body on which it acts:	A. Frictional force B. Elastic force C. Gravitational force D. Centripetal force
5	A point on the rim of a wheel 4m in diameter has a velocity of 1600 cm s-1. The angular velocity of the wheel is	A. <div>2 rad s⁻¹</div> B. <div>4 rad s⁻¹</div> C. <div>6 rad s⁻¹</div> D. <div>8 rad s⁻¹</div>
6	A car of 1000kg traveling at 20m/sec rounds a curve of radius 100m. Find the necessary centripetal force	A. 4 x 10 ³ kg m/s ² B. <div>3 x 10³ kg m/s^{kg m/s²}</div> C. <div>5 x 10³kg m/s^{kg m/s²}</div> D. <div>5 x 10³kg m/s²</div> D. <div>45 x 10³kg m/s²</div>
7	In uniform circular motion, the factor that remains constant is:	A. Linear velocity B. Acceleration C. Speed D. All of these
8	When a particle moves in a uniform circular motion. It has:	A. Radial velocity and radial acceleration B. Tangential velocity and radial acceleration C. Tangential velocity and tangential acceleration D. Radial velocity and tangential acceleration
9	For a body moving with constant speed in a horizontal circle, which of the following remains constant?	A. Velocity B. Centripetal force C. Acceleration D. Kinetic energy
10	The mud flies off the tyre of a fast moving car in the direction	A. parallel to the moving tyre B. anti parallel to the moving tyre C. tangent to the moving tyre D. none of these
11	The direction of angular velocity is along	A. Tangent to the circle B. Axis of rotation C. Inward the radius D. Out ward of the radius
12	A body revolved around the sun 27 times faster then the earth what is the ratioof their radii	A. 1/27 B. 1/4 C. 1/9 D. 1/3
13	The angular analogue of linear displacement is called	A. angular velocity B. angular displacement C. angular momentum D. moment of force
14	On slightly disturbing a body which is an unstable equilibrium, its center of gravity	A. rises B. falls

		C. remains constant D. first rises then falls
15	A particle is moving with constant speed by keeping itself at constant distance from a fixed point in a given plane. Its motion is	A. Circular motion B. Uniform circular motion C. Uniform circular motion with fixed axis of rotation D. Uniform circular motion with axis of rotation not defined
16	Geo stationary satellite remains	A. Stationary B. Both "A" & amp; "B" C. Appear D. None of them
17	A stone of mass 0.5kg tied with a string of length 1m is moving in a horizontal circle with a speed of 4ms-1 . The tension acting on the string in newton is:	A. 2 B. 0.2 C. 8 D. 0.8
18	For a particle in circular motion the centripetal acceleration	A. may be more or less than its tangential acceleration B. equal to its tangential acceleration a C. more than its tangential acceleration D. less than its tangential acceleration
19	A couple produces	A. linear motion B. rotational motion C. both (A) and (B) D. None
20	A body crosses the topmost point of a vertical circle with critical speed. Itscentripetal acceleration, when the string is horizontal will be	A. 4g B. 3g C. g D. 6g