

MDCAT Physics Chapter 3 Rotational and circular motion Online Test

Sr	Questions	Answers Choice
1	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. 2 rad s^{-1} B. 4 rad s^{-1} C. 6 rad s^{-1} D. 8 rad s^{-1}
2	A body moving in a circular path with a constant speed has a	A. Constant velocity B. Constant kinetic energy C. Constant acceleration D. Constant displacement
3	For a particle in uniform circular motion the relation $a = r \omega^2$ of accelerations hold. The acceleration 'a'	A. is centripetal acceleration B. Is tangential acceleration C. is radical acceleration D. both A and B
4	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
5	In uniform circular motion, the factor that remains constant is	A. Linear velocity B. Centripetal force C. Acceleration D. speed
6	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
7	Two artificial satellites of unequal masses are revolving in a circular orbit around the earth with a constant speed. Their time periods:	A. Will be different B. Will depend on their masses C. Will be same D. Will depend upon the place of their projection
8	The angular momentum changes from 2 units to 6 units in 4s. the torque is	A. 1 unit B. $\frac{3}{2}$ unit C. $\frac{1}{2}$ unit D. 4 unit
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	A body is moving in a circle with a constant speed. it has	A. a constant velocity B. a constant acceleration C. a velocity of constant magnitude D. an acceleration of constant magnitude
11	If a rotating body is moving counter clockwise, direction of angular velocity will be	A. along linear velocity B. towards the center C. along the axis of rotation D. away from center
12	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
13	The force which provides the necessary centripetal force to keep the mud in circular path is called	A. cohesive force B. adhesive force C. frictional force D. gravitational force
14	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

15	If a car moves with a uniform speed of 2 ms^{-1} in a circle of radius 0.4 m . Its angular speed is	A. 4 rad. s^{-1} B. 1.6 rad. s^{-1} C. 5 rad. s^{-1} D. 2.8 ms^{-1}
16	In case of planets the necessary acceleration is provided by	A. Gravitational force B. coulomb force C. frictional force D. centripetal force
17	Ten second after an electric fan is turned on, the fan rotates at 300 rev/min . its average angular acceleration is	A. 30 rad/s^2 B. 3.14 rad/s^2 C. 30 rev/s^2 D. 500 rev/s^2
18	The angular analogue of linear displacement is called	A. angular velocity B. angular displacement C. angular momentum D. moment of force
19	When a particle moves in a circle the angle between it linear velocity and the angular velocity is always	A. 0° B. 180° C. 90° D. none of them
20	The time period of revolution of geostationary satellite is	A. 1440 minutes B. 24 minutes C. 84 minutes D. none of these