

## MDCAT Physics Chapter 4 Circular Motion MCQ's Test

Sr	Questions	Answers Choice
1	The ratio of the SI unit to the C)G.S unit of torque is.	A. $10^{>7</sup>}$ B. $10^{>9</sup>}$ C. $10^{>0</sup>}$ D. $10^{>3</sup>}$
2	Two satellites are going around the earth at a height of 250 km and 450 km respectively. If angular speed for both is same, then centripetal acceleration will be.	A. more for first B. <b>more for second</b> C. same for both D. nothing can be decided
3	Two artificial satellites of unequal masses are revolving in a circular orbit around the earth with a constant speed. Their time periods:	A. <b>Will be different</b> B. Will depend on their masses C. Will be same D. Will depend upon the place of their projection
4	The mud flies off the tyre of a fast moving car in the direction	A. parallel to the moving tyre B. <b>anti parallel to the moving tyre</b> C. tangent to the moving tyre D. none of these
5	A point on the rim of a wheel 4m in diameter has a velocity of 1600 cm s <sup>-1</sup> . The angular velocity of the wheel is	A. $2 \text{ rad s}^{>-1</sup>}$ B. <b><math>4 \text{ rad s}^{&gt;-1&lt;/sup&gt;}</math></b> C. $6 \text{ rad s}^{>-1</sup>}$ D. $8 \text{ rad s}^{>-1</sup>}$
6	When a particle moves in a uniform circular motion. It has:	A. Radial velocity and radial acceleration B. <b>Tangential velocity and radial acceleration</b> C. Tangential velocity and tangential acceleration D. Radial velocity and tangential acceleration
7	A car of 1000kg traveling at 20m/sec rounds a curve of radius 100m. Find the necessary centripetal force	A. $4 \times 10^{>3</sup>} \text{ kg m/s}^{>2</sup>}$ B. $3 \times 10^{>3</sup>} \text{ kg m/s}^{>2</sup>}$ C. $5 \times 10^{>3</sup>} \text{ kg m/s}^{>2</sup>}$ D. $4.5 \times 10^{>3</sup>} \text{ kg m/s}^{>2</sup>}$
8	Angular displacement in rotational motion is expressed in	A. $\text{m}$ B. $\text{m}^{>2</sup>}$ C. <b><math>\text{Nms}^{-1}</math></b> D. $\text{Nm s}$
9	Torque is necessary for producing.	A. angular speed B. linear acceleration C. <b>angular acceleration</b> D. none of these
10	A particle revolves round a circular path with a constant speed. The acceleration of the particle is	A. A. A long the circumference of the circle B. Along the tangent C. <b>Along the radius</b> D. Zero
11	The force which provides the necessary centripetal force to keep the mud in circular path is called	A. cohesive force B. <b>adhesive force</b> C. frictional force D. $\text{gravitational force}$
12	Which statement about geostationary orbit is false?	A. A geostationary orbit must be directly above the equator B. <b>All satellite in a geostationary orbit must have the same masses</b> C. The period of geostationary orbit must be 24 hours D. There is only one possible radius for a geostationary
		A. 1 unit B. 2 unit C. 3 unit D. 4 unit

13	The angular momentum changes from 2 units to 6 units in 4s. the torque is	B. $\frac{3}{2}$ unit C. $\frac{1}{2}$ unit D. 4unit
14	A point on the rim of wheel 400 cm in diameter has a velocity of 1600 cms <sup>-1</sup> . The angular velocity of the wheel is:	A. 6 rad/s B. 4 rad/s C. 2 rad/s D. 8 rad/s
15	In case of planets the necessary acceleration is provided by	A. Gravitational force B. coulomb force C. frictional force D. centripetal force
16	The work done to keep the satellite in the given orbit is.	A. Zero B. infinity C. unit D. can't be decided
17	A stone attached to one end of a string is revolved around a stick so that the string winds on the stick and gets shortened) What is conserved)	A. angular momentum B. kinetic energy C. linear momentum D. none of the above
18	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
19	Geo stationary satellite remains	A. Stationary B. Both "A" & "B" C. Appear D. None of them
20	The kinetic energy of a body rotating with an angular speed $\omega$ depends on.	A. angular speed B. distribution of mass C. neither (A) nor (B) D. both (A) and (B)