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

| Sr | Questions | Answers Choice |
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| 1 | 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<br>B. Uniform circular motion<br>C. Uniform circular motion with fixed axis of rotation<br>D. Uniform circular motion with axis of rotation not defined |
| 2 | A body moving in a circular path with a constant speed has a | A. Constant velocity<br>B. Constant kinetic energy<br>C. Constant acceleration<br>D. <div>Constant displacement</div> |
| 3 | A body revolved around the sun 27 times faster then the earth what is the ratio of their radii | A. 1/27<br>B. 1/4<br>C. 1/9<br>D. 1/3 |
| 4 | For a particle in circular motion the centripetal acceleration | A. may be more or less than its tangential acceleration<br>B. equal to its tangential acceleration a<br>C. more than its tangential acceleration<br>D. less than its tangential acceleration |
| 5 | For a particle moving in uniform circular motion | A. Velocity is transverse and acceleration is radical<br>B. Velocity is radial and acceleration is transverse<br>C. Both velocity and acceleration are radial<br>D. Both velocity and acceleration are transverse |
| 6 | Angular displacement in rotational motion is expressed in | A. <i>m</i><br>B. <i>m<sup>2</sup></i><br>C. Nms-1<br>D. Nm s |
| 7 | In uniform circular motion, the factor that remains constant is: | A. Linear velocity<br>B. Acceleration<br>C. Speed<br>D. All of these |
| 8 | 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<br>B. Along the tangent<br>C. Along the radius<br>D. Zero |
| 9 | The ratio of the SI unit to the C)G.S unit of torque is. | A. 10<sup>7</sup><br>B. 10<sup>9</sup><br>C. 10<sup>0</sup><br>D. 10<sup>3</sup> |
| 10 | The force which provides the necessary centripetal force to keep the mud in circular path is called | A. cohesive force<br>B. adhesive force<br>C. frictional force<br>D. <div>gravitational force</div> |
| 11 | A satellite moving round the earth constitute | A. An inertial frame of reference<br>B. Non inertial frame<br>C. Neither inertial nor non inertial<br>D. Both inertial and non-inertial |
| 12 | When a particle moves in a uniform circular motion. It has: | A. Radial velocity and radial acceleration<br>B. Tangential velocity and radial acceleration<br>C. Tangential velocity and tangential acceleration<br>D. Radial velocity and tangential acceleration |

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| 13 | For a particle in uniform circular motion the relation a = r □ of accelerations hold. The acceleration 'a' | A. is centripetal acceleration<br>B. Is tangential acceleration<br>C. is radical acceleration<br>D. both A and B |
| 14 | A car of 1000kg traveling at 20m/sec rounds a curve of radius 100m. Find the necessary centripetal force | A. $4 \times 10^3$ kg m/s$^2$<br>B. $3 \times 10^3$ kg m/s$^2$<br>C. $5 \times 10^3$ kg m/s$^2$<br>D. $4.5 \times 10^3$ kg m/s$^2$ |
| 15 | When a particle moves in a circle the angle between it linear velocity and the angular velocity is always | A. 0°<br>B. 180°<br>C. 90°<br>D. none of them |
| 16 | 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<br>B. more for second<br>C. same for both<br>D. nothing can be decided |
| 17 | The geostationary satellite is: | A. Stationary<br>B. Rotating very fastly<br>C. Rotating with the period of earth<br>D. Rotating very slowly |
| 18 | Ten second after an electric fan is turned on, the fan rotates at 300rev/min. its average angular acceleration is | A. 30 rad/s$^2$<br>B. 3.14 rad/s$^2$<br>C. 30 rev/s$^2$<br>D. 500 rev/s$^2$ |
| 19 | The angular analogue of linear displacement is called | A. angular velocity<br>B. angular displacement<br>C. angular momentum<br>D. moment of force |
| 20 | 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<br>B. 0.2<br>C. 8<br>D. 0.8 |