MDCAT Physics Chapter 3 Rotational and circular motion Online Test

Sr	Questions	Answers Choice
1	A car of 1000kg traveling at 20m/sec rounds a curve of radius 100m. Find the necessary centripetal force	A. 4×10^3 kg m/s^2 B. 3×10^3 kg m/s^2 C. 5×10^3 kg m/s^2 D. 4.5×10^3 kg m/s^2
2	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
3	A body crosses the topmost point of a vertical circle with critical speed. Its centripetal acceleration, when the string is horizontal will be	A. 4g B. 3g C. g D. 6g
4	A body revolved around the sun 27 times faster then the earth what is the ratio of their radii	A. 1/27 B. 1/4 C. 1/9 D. 1/3
5	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
6	For a particle moving in uniform circular motion	A. Velocity is transverse and acceleration is radical B. Velocity is radial and acceleration is transverse C. Both velocity and acceleration are radial D. Both velocity and acceleration are transverse
7	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. Along the radius D. Zero
8	Geo stationary satellite remains	A. Stationary B. Both "A" & "B" C. Appear D. None of them
9	Which statement about geostationary orbit is false?	A. A geostationary orbit must be directly above the equator B. All satellite in a geostationary orbit must have the same masses C. The period of geostationary orbit must be 24 hours D. There is only one possible radius for a geostationary
10	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
11	The ratio of angular speeds of minute hand and hour hand of a watch is:	A. 1: 12 B. 6: 1 C. 12: 1 D. 1: 6

12	The geostationary satellite is:	A. Stationary B. Rotating very fastly C. Rotating with the period of earth D. Rotating very slowly
13	The radius of orbit of a geostationary satellite depends upon:	A. Mass of satellite and its time period B. Mass of satellite and mass of earth C. Mass of earth, mass of satellite and time period of satellite D. Mass of earth and time period of earth
14	A point on the rim of wheel 400 cm in diameter has a velocity of 1600 cms-1 . 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 uniform circular motion, the factor that remains constant is:	A. Linear velocity B. Acceleration C. Speed D. All of these
16	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
17	The work done to keep the satellite in the given orbit is.	A. Zero B. infinity C. unit D. can't be decided
18	The time period of a geostationary satellite above the surface of the earth is.	A. 24 hours B. 12 hours C. 365 days D. none of these
19	The kinetic energy of a body rotating with an angular speed ☐ depends on.	A. angular speed B. distribution of mass C. neither (A) nor (B) D. both (A) and (B)
20	SI unit of kinetic energy of rotation is	A. joule second B. joule C. joule second D. joule meter