

MDCAT Physics Chapter 4 Circular Motion MCQ's Test

Sr	Questions	Answers Choice
1	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
2	A body revolved around the sun 27 times faster than the earth what is the ratio of their radii	A. 1/27 B. 1/4 C. 1/9 D. 1/3
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	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
5	In case of planets the necessary acceleration is provided by	A. Gravitational force B. coulomb force C. frictional force D. centripetal force
6	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
7	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. more for second C. same for both D. nothing can be decided
8	A car of 1000kg traveling at 20m/sec rounds a curve of radius 100m. Find the necessary centripetal force	A. $4 \times 10^3 \text{ kg m/s}^2$ B. $3 \times 10^3 \text{ kg m/s}^2$ C. $5 \times 10^3 \text{ kg m/s}^2$ D. $4.5 \times 10^3 \text{ kg m/s}^2$
9	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
10	The angular momentum changes from 2 units to 6 units in 4s. the torque is	A. 1 unit B. 3/2 unit C. 1/2 unit D. 4 unit
11	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
12	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
13	In uniform circular motion, the factor that remains constant is	A. Linear velocity B. Centripetal force C. Acceleration D. speed
14	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
15	A couple produces	A. linear motion B. rotational motion C. both (A) and (B) D. None
16	For a particle moving in uniform circular motion	A. Velocity is transverse and acceleration is radial B. Velocity is radial and acceleration is transverse C. Both velocity and acceleration are radial D. Both velocity and acceleration are transverse
17	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
18	If a car moves with a uniform speed of 2 ms ⁻¹ in a circle of radius 0.4m. 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
19	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
20	The angular analogue of linear displacement is called	A. angular velocity B. angular displacement C. angular momentum D. moment of force