

ECAT Physics Chapter 5 Circular Motion

Sr	Questions	Answers Choice
1	Centripetal force performs:	A. Maximum work B. Negative work C. Positive work D. None of these
2	A 1000 Kg car travelling with a speed of 90 km/hr turns around a curve of radius 0.1 km. The necessary centripetal force comes out to be:	A. $8.1 \times 10^7 \text{ N}$ B. 625 N C. 6250 N D. None of these
3	If a gymnast is sitting on a rotating stool with his arms outstretched, brings his arms towards the chest, then its angular velocity will:	A. Increase B. Decrease C. Remains constant D. None of these
4	A rotating wheel accelerates up to the value of 0.75 rev/sec^2 after 2 seconds of its start. Its angular velocity becomes:	A. 9.42 rad/sec B. 2.6 rev/sec C. 1.5 rev/sec D. Both A and C
5	Satellites are held in orbits around Earth by its:	A. Gravitational field B. Magnetic field C. Own orbital motion D. Own spin motion
6	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
7	A body can have constant velocity when it follows:	A. A circular path B. A rectilinear path C. Trajectory of a projectile D. None of these
8	When an object moves with a uniform angular velocity, then its instantaneous angular velocity is equal to:	A. Zero B. Its average velocity C. Its angular displacement D. None of these
9	Conventionally the angular velocity is directed at an angle of	A. 90° to the axis of rotation B. 30° to the axis of rotation C. 0° to the axis of rotation D. None of the above
10	The rear wheels of an automobile are rev/sec which is reduced to 38 rad/sec in 5 seconds when brakes are applied. Its angular acceleration is:	A. 5 rad/sec^2 B. -10 rad/sec^2 C. -10 rad/sec^2 D. -5 rad/sec^2
11	Which one is related to angular motion:	A. Moment of a force B. Moment of inertia C. Moment of momentum D. None of these
12	One radian is equal to:	A. 30.3° B. 45.3° C. 50.3° D. 57.3°
13	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
14	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of them
15	The net force acting on a 100 kg man standing in an elevator accelerating downward with $a = 9.8 \text{ m sec}^{-2}$ comes out to be	A. 980 N B. 580 N C. 1380 N D. Zero

16	In rotational motion, analogue of force F is called:	A. Couple B. Torque C. Mass D. Moment of inertia
17	A flywheel accelerates from rest to an angular velocity of 7 rad/sec in 7 seconds. Its average acceleration will be:	A. 49 rad/sec^2 B. 1 rad/sec^2 C. 0.16 rev/sec^2 D. Both A and C E. Both B and C
18	A stone tied to the end of a 20 cm long string is whirled in a horizontal circle. If centripetal acceleration is 9.8 m/sec^2 , then its angular velocity is rad/sec is:	A. $22/7$ B. 7 C. 14 D. 21
19	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
20	One radian is equal to:	A. 30.3° B. 45.3° C. 50.3° D. 57.3°