

Physics ECAT Pre Engineering Chapter 5 Circular Motion

Sr	Questions	Answers Choice
1	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
2	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
3	The angular speed of a particle moving along a circular path is $5\pi \text{ rad sec}^{-1}$, Its period of motion is:	A. 2.5 sec B. 0.06 sec C. 15.7 sec D. 0.4 sec
4	The instantaneous acceleration of a body moving with constant speed in a circle:	A. Remains constant B. Is called centripetal acceleration C. Tangential acceleration D. None of these
5	A disc rolls down a hill and its speed at bottom is found to be 11.4 m/sec. Height of the hill is then nearly:	A. 10 m B. 12 m C. 13 m D. 15 m
6	In rotational motion, analogue of force F is called:	A. Couple B. Torque C. Mass D. Moment of inertia
7	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of them
8	A toy car moves around a circular track of radius 0.3 m at the rate of 120 rev/min. The speed V of the car is:	A. 38 m/sec B. 3.8 m/sec C. 0.6 m/sec D. None of these
9	Moment of inertia depends upon:	A. Mass B. Selection of axis of rotation C. Both of them D. None of these
10	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
11	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
12	The useful unit of angular replacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
13	When a body moves with a constant speed in a circle:	A. No work is done on it B. No acceleration is produced in the body C. Velocity remains constant D. None of these
14	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continuously C. Does not change D. None of them
15	Einstein's theory about gravity is better than Newton's because it gave explanation of:	A. Inverse square law B. Bending of light C. Both A and B D. None of these

		D. None of above
16	A car is turning around a corner at 10 m/sec as it travels along an arc of a circle. If value of centripetal acceleration is 10 m/sec^2 in this case, find radius of the circular path:	A. 1 m B. 5 m C. 10 m D. 15 m
17	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
18	The number of "Earth stations" which transmit signals to satellites and receive signals from them are:	A. 3 B. 24 C. 126 D. 200
19	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
20	If a gymnast 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. Remain constant D. None of these