

## ECAT Physics Chapter 5 Circular Motion Online Test

Sr	Questions	Answers Choice
1	Radian is defined as the angle subtended at the center of a circle by an arc of:	A. Length equal to its diameter B. Length equal to its radius C. Any length D. None of these
2	A body moving along the circumference of a circle of radius R completes one revolution. The radius of the covered path to the angle subtended at the center is:	A. Radius of the circle B. Twice the radius C. Thrice the radius D. None of these
3	A flywheel accelerates from rest to an angular velocity of 7 rad/sec in 7 seconds. Its average acceleration will be:	A. $49 \text{ rad/sec}^2$ B. $1 \text{ rad/sec}^2$ C. $0.16 \text{ rev/sec}^2$ D. Both A and C E. Both B and C
4	A car is turning around a corner at 10 m/sec as it travels along an arc of circle. If value of centripetal acceleration is $10 \text{ m/sec}^2$ in this case, find radius of the circular path:	A. 1 m B. 5 m C. 10 m D. 15 m
5	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
6	A rotating wheel accelerates up to the value of $0.75 \text{ rev/sec}^2$ 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
7	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. $5 \text{ rad/sec}^2$ B. $-10 \text{ rad/sec}^2$ C. $-10 \text{ rad/sec}^2$ D. $-5 \text{ rad/sec}^2$
8	A car is 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	A stone is tied to the end of a 20 cm long string is whirled in a horizontal circle. if centripetal acceleration is $9.8 \text{ m/sec}^2$ , then its angular velocity in rad/sec is:	A. 22/7 B. 7 C. 14 D. 21
10	One radian is equal to:	A. $30.3^\circ$ B. $45.3^\circ$ C. $50.3^\circ$ D. $57.3^\circ$

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11	When a body is moves along a circular path with constant speed, it has an acceleration, which is always directed:	A. Along the tangent B. Toward the centre C. Away from the centre D. None of them
12	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of them
13	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
14	Direction of motion_____ in circular of motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
15	Conventionally the angular velocity is directed to an angle of:	A. 90° B. 30° C. 0° D. None of the above