ECAT Physics Chapter 5 Circular Motion

Sr	Questions	Answers Choice
1	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
2	The center of mass of a sphere lies at:	A. The axis of the sphere B. Circumference of sphere C. Center of the sphere D. None of them
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	Moment of inertia depends upon:	A. Mass B. Selection of axis of rotation C. Both of them D. None of these
5	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
6	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
7	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
8	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^2in this case, find radius of the circular path:	A. 1 m B. 5 m C. 10 m D. 15 m
9	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
10	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
11	Conventional the angular Velocity is Directed at an angle of:	A. 90<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">° to the axis of rotation B. 30<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">° to the axis of rotation C. 0<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial;

		background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">° to the axis of rotation D. None of above
12	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
13	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
14	Final velocity of a hoop is _____ the final velocity of a disc having same mass and radius on coming down an inclined plane.	A. Greater than B. smaller than C. Equal to D. None of these
15	The rear wheels of an automobile are rotating with an angular velocity of 14 rev/sec which is reduced to 38 rad/sec in 5 second when brakes are applied. Its angular acceleration is:	A. 5 rad/sec² B. -10 rev/sec² C. -10 rad/sec² D. -5 rev/sec²
16	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continously C. Does not change D. None of them
17	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
18	When body moves along a circular path with constant speed, it has an acceleration, which is always directed;	A. Along the tangent B. Towards the centre C. Away from the centre D. None of them
19	One radian is equal to:	A. 30.3° B. 45.3° C. 50.3° D. 57.3°
20	Which of the following pairs does not have identical dimensions?	A. Torque and energy B. Energy and work C. Momentum and impulse D. Mass and moment of inertia