# ECAT Physics 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 m $sec^{-2}$comes out to be | A. 980 N<br>B. 580 N<br>C. 1380 N<br>D. Zero |
| 2 | 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<br>B. 5 m<br>C. 10 m<br>D. 15 m |
| 3 | Centripetal acceleration is also called _____ acceleration: | A. Tangential<br>B. Radial<br>C. Angular<br>D. None of them |
| 4 | Radian is defined as the angle subtended at the center of a circle by an arc of: | A. Length equal to its diameter<br>B. Length equal to its radius<br>C. Any length<br>D. None of these |
| 5 | 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<br>B. smaller than<br>C. Equal to<br>D. None of these |
| 6 | Centripetal acceleration is also called _____ acceleration | A. Tangential<br>B. Radial<br>C. Angular<br>D. None of them |
| 7 | INTELSAT operates at frequencies 4, 6, 11, 14 having unit of | A. KHz<br>B. MHz<br>C. GHz<br>D. BHz |
| 8 | _____ plays the same role during angular motion as played by the mass in linear motion | A. Torque<br>B. Angular Momentum<br>C. Moment of a force<br>D. Moment of inertia |
| 9 | Angular velocity is a: | A. Scalar quantity<br>B. Vector quantity<br>C. Complex quantity<br>D. None of these |
| 10 | Moment of linear momentum is called. | A. Moment arm<br>B. Moment of inertia<br>C. Inertia<br>D. Angular momentum |
| 11 | 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<br>B. 3.8 m/sec<br>C. 0.6 m/sec<br>D. None of these |
| 12 | Conventionally the angular velocity is directed at an angle of | A. 90° to the axis of rotation<br>B. 30° to the axis of rotation<br>C. 0° to the axis of rotation<br>D. None of the above |
| 13 | 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<br>B. 2.6 rev/sec<br>C. 1.5 rev/sec<br>D. Both A and C |
| 14 | When a body moves with a constant speed in a circle: | A. No work is done on it<br>B. No acceleration is produced in the body<br>C. Velocity remains constant<br>D. None of these |
| 15 | The instantaneous acceleration of a body moving with constant speed in a circle: | A. Remains constant<br>B. Is called centripetal acceleration<br>C. Tangential acceleration |

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| | | D. None of these |
| 16 | The angular speed of a particle moving along a circular path is 5 Pie rad $sec^{-1}$, Its period of motion is: | A. 2.5 sec<br>B. 0.06 sec<br>C. 15.7 sec<br>D. 0.4 sec |
| 17 | INTELSAT operates at frequencies 4, 6, 11, 14 having unit of: | A. KHz<br>B. MHz<br>C. GHz<br>D. BHz |
| 18 | One radian is equal to: | A. 30.3<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;">°<br>B. 45.3<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;">°<br>C. 50.3<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;">°<br>D. 57.3<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;">° |
| 19 | Conventional the angular Velocity is Directed at an angle of: | A. <font face="arial, sans, sans-serif">90</font><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<br>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<br>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<br>D. None of above |
| 20 | The net force acting on a 100 kg man standing in an elevator accelerating downward with a = 0.8 m $sec^{-2}$comes out to: | A. 980 N<br>B. 580 N<br>C. 1380 N<br>D. Zero |