

Physics ECAT Pre Engineering Chapter 5 Circular Motion

| Sr | Questions | Answers Choice |
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| 1 | 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 |
| 2 | Circular motion is an example of motion in: | A. One dimension B. Two dimensions C. Three dimensions D. None of these |
| 3 | _____ plays the same role during angular motion as played by the mass in linear motion | A. Torque B. Angular Momentum C. Moment of a force D. Moment of inertia |
| 4 | Centripetal acceleration is also called _____ acceleration | A. Tangential B. Radial C. Angular D. None of these |
| 5 | 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 |
| 6 | 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 |
| 7 | Which one is related to angular motion: | A. Moment of a force B. Moment of inertia C. Moment of momentum D. None of these |
| 8 | 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 |
| 9 | Conventionally the angular velocity is directed to 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 number of countries who manage the largest satellite system is: | A. 3 B. 24 C. 126 D. 200 |

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| 11 | A flywheel accelerates from rest to an angular velocity of 7 rad/sec in 7 seconds. Its average acceleration will be: | <p>A. 49 rad/sec^2</p> <p>B. 1 rad/sec^2</p> <p>C. 0.16 rev/sec^2</p> <p>D. Both A and C</p> <p>E. Both B and C</p> |
| 12 | The number of "Earth Stations" which transmit signals to satellites and receive signals from them are | <p>A. 3</p> <p>B. 24</p> <p>C. 126</p> <p>D. 200</p> |
| 13 | The useful unit of angular displacement in SI unit is: | <p>A. Degree</p> <p>B. Revolution</p> <p>C. Radian</p> <p>D. Metre</p> |
| 14 | 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: | <p>A. 5 rad/sec^2</p> <p>B. -10 rad/sec^2</p> <p>C. -10 rad/sec^2</p> <p>D. -5 rad/sec^2</p> |
| 15 | One radian is | <p>A. Greater than one degree</p> <p>B. Less than one degree</p> <p>C. Equal to one degree</p> <p>D. None of these</p> |
| 16 | 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: | <p>A. 38 m/sec</p> <p>B. 3.8 m/sec</p> <p>C. 0.6 m/sec</p> <p>D. None of these</p> |
| 17 | The angular speed of a particle moving along a circular path is $5\pi \text{ rad sec}^{-1}$, Its period of motion is: | <p>A. 2.5 sec</p> <p>B. 0.06 sec</p> <p>C. 15.7 sec</p> <p>D. 0.4 sec</p> |
| 18 | Formula for calculating moment of inertia of the bodies of one pair is same. Tick the answer. | <p>A. Disc, sphere</p> <p>B. sphere, hoop</p> <p>C. Thin rod, hoop</p> <p>D. Hoop, disc</p> |
| 19 | Centripetal force performs: | <p>A. Maximum work</p> <p>B. Negative work</p> <p>C. Positive work</p> <p>D. None of these</p> |
| 20 | A rotating body tends to be slower, when its angular acceleration is: | <p>A. Positive</p> <p>B. Negative</p> <p>C. Zero</p> <p>D. Infinity</p> |