Physics ECAT Pre Engineering Chapter 5 Circular Motion Online Test

Sr	Questions	Answers Choice
1	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of them
2	A body moving along the circumference of a circle of radius R completes one revolution. The radius of a covered path to the angle subtended at the centre is:	A. Radius of the circle B. Twice the radius C. Thrice the radius D. None of these
3	A rotating body tends to be slower, when its angular acceleration is:	A. Positive B. Negative C. Zero D. Infinity
4	Circular motion is an example of motion in:	A. One dimension B. Two dimensions C. Three dimensions D. None of these
5	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of them
6	When a 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
7	Centripetal force performs:	A. Maximum work B. Negative work C. Positive work D. None of these
8	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;">° 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;">° 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;">° 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;">°
9	Formula for calculating moment of inertia of the bodies of one pair is same. Tick the answer.	A. Disc, sphere B. sphere, hoop C. Thin rod, hoop

		D. Hoop,disc
10	An axis of rotation	A. Is a straight line B. Is normal to the plane of rotation C. Passes through pivot point O D. All of them
11	The number of "Earth stations" which transmit signals to satellites and receive signals from them are:	A. 3 B. 24 C. 126 D. 200
12	Direction of angular momentum is determined by:	A. Right hand rule B. Head to tail rule C. Left hand rule D. None of them
13	In rotational motion, analogue of force F us called:	A. Couple B. Torque C. Mass D. Moment of intertia
14	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
15	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
16	Conventionally the angular velocity is directed at 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
17	A point on the rim of a wheel moves 0.2 m when the wheel turns through an angle of 14.3 degrees. The radius of the wheel is:	A. 0.05 m B. 0.08 m C. 0.8 m D. 0.008 m
18	Direction of motion_____ in circular of motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
19	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continuously C. Does not change D. None of them
20	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
21	When an object moves with a uniform angular velocity, then its instantaneous angular velocity is equal to:	A. Zero B. Its average velocity C. Its angular displacement D. None of these
22	Conventionally the angular velocity is directed to 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 the above
23	A stone is tied to the end of a 20 cm along string is whirled in a horizontal circle. if centripetal acceleration is 9.8 m/sec^2, then its angular velocity in rad/sec is:	A. 22/7 B. 7 C. 14 D. 21
24	Direction of motion _____ in circular motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
25	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
26	One radian is equal to:	A. 30.3° B. 45.3° C. 50.3° D. 57.3°
27	Angular momentum is a:	A. vector quantity B. Imaginary quantity C. Complex Quantity D. Scalar Quantity
28	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
29	_____ 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
30	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 m/sec^{2}in this case, find radius of the circular path:	A. 1 m B. 5 m C. 10 m D. 15 m
31	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 rad/sec² B. -10 rav/sec² C. -10 rad/sec² D. -5 rav/sec²
32	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
33	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
34	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
35	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
36	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
37	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
38	The useful unit of angular replacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
39	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
40	Moment of inertia depends upon:	A. Mass B. Selection of axis of rotation

		C. Both of them D. None of these
41	A point on the rim of a wheel moves 0.2 m when the wheel turns through an angle of 14.3 degrees. The radius of the wheel is	A. 0.05 m B. 0.08 cm C. 0.8 m D. 0.008 m
42	Moment of linear momentum is called.	A. Moment arm B. Moment of inertia C. Inertia D. Angular momentum
43	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of these
44	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
45	One radian is	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
46	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
47	A point on the rim of a wheel moves 0.2 m where the wheel turns through an angle is 14.3 degrees. The radius of the wheel is:	A. 0.05 m B. 0.08 m C. 0.8 m D. 0.008 m
48	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of	A. KHz B. MHz C. GHz D. BHz
49	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
50	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
51	The useful unit of the angular displacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
52	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
53	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continously C. Does not change D. None of them
54	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
55	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
56	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
57	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these

		D. None of these
58	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 B. 0.06 sec C. 15.7 sec D. 0.4 sec
59	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
60	The number of "Earth Stations" which transmit signals to satellites and receive signals fro them are	A. 3 B. 24 C. 126 D. 200
61	Satellites are held in orbits around Earth by its:	A. Gravitational field B. Magnetic field C. Own orbital motion D. Own spin motion
62	Einstein's theory about gravity if 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 above
63	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 X 10⁷N B. 625 N C. 6250 N D. None of these
64	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
65	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
66	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of:	A. KHz B. MHz C. GHz D. BHz
67	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
68	Which one is related to angular motion:	A. Moment of a force B. Moment of inertia C. Moment of momentum D. None of these
69	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 B. 580 N C. 1380 N D. Zero
		A. Greater than one degree

70	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to degree D. none of these
71	A flywheel accelerates from rest to an angular velocity of 7 rad/sec in 7 seconds. Its average acceleration will be:	A. 49 rad/sec² B. 1 rad/sec² C. 0.16 rev/sec² D. Both A and C E. Both B and C
72	The number of countries who manage the largest satellite system is:	A. 3 B. 24 C. 126 D. 200
73	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 B. 580 N C. 1380 N D. Zero
74	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
75	A flywheel accelerates from rest to an angular velocity of 7 rad/sec in 7 seconds. Its average acceleration will be:	A. 49 rad/sec² B. 1 rad/sec² C. 0.16 rev/sec² D. Both A and C E. Both B and C
76	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
77	A rotating wheel accelerates up to the value of 0.75 rev/sec^2after 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
78	In case of planets, the necessary acceleration is provided by:	A. Gravitational force B. Coulomb force C. Frictional force D. None of these