ECAT Pre General Science Physics 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	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
3	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
4	Moment of inertia depends upon:	A. Mass B. Selection of axis of rotation C. Both of them D. None of these
5	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
6	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
7	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
8	The number of "Earth stations" which transmit signals to satellites and receive signals from them are:	A. 3 B. 24 C. 126 D. 200
9	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of them
10	Centripetal force performs:	A. Maximum work B. Negative work C. Positive work D. None of these
11	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
12	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
		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;

13	Conventional the angular Velocity is Directed at an angle of:	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
14	The useful unit of angular replacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
15	Satellites are held in orbits around Earth by its:	A. Gravitational field B. Magnetic field C. Own orbital motion D. Own spin motion
16	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of:	A. KHz B. MHz C. GHz D. BHz
17	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;">°
18	Direction of angular momentum is determined by:	A. Right hand rule B. Head to tail rule C. Left hand rule D. None of them
19	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
20	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
21	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these

		D. None of these
22	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
23	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
24	A rotating body tends to be slower, when its angular acceleration is:	A. Positive B. Negative C. Zero D. Infinity
25	_____ 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
26	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 B. 5 m C. 10 m D. 15 m
27	Which one is related to angular motion:	A. Moment of a force B. Moment of inertia C. Moment of momentum D. None of these
28	Angular momentum is a:	A. vector quantity B. Imaginary quantity C. Complex Quantity D. Scalar Quantity
29	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
30	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
31	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
32	Direction of motion_____ in circular of motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
33	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
34	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
35	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
36	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
37	One radian is	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
38	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
		A. Moment arm B. Moment of inertia

39	Moment of linear momentum is called.	B. Moment of inertia C. Inertia D. Angular momentum
40	One radian is equal to:	A. 30.3° B. 45.3° C. 50.3° D. 57.3°
41	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to degree D. none of these
42	The useful unit of the angular displacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
43	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of these
44	Circular motion is an example of motion in:	A. One dimension B. Two dimensions C. Three dimensions D. None of these
45	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
46	Direction of motion _____ in circular motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
47	The number of "Earth Stations" which transmit signals to satellites and receive signals fro them are	A. 3 B. 24 C. 126 D. 200
48	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
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	In rotational motion, analogue of force F us called:	A. Couple B. Torque C. Mass D. Moment of intertia
51	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
52	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
53	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
54	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
55	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
56	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
57	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continously C. Does not change D. None of them
58	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of	A. KHz B. MHz C. GHz D. BHz
59	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
60	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
61	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continuously C. Does not change D. None of them
62	In case of planets, the necessary acceleration is provided by:	A. Gravitational force B. Coulomb force C. Frictional force D. None of these
63	The number of countries who manage the largest satellite system is:	A. 3 B. 24 C. 126 D. 200
64	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
65	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
66	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
67	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
68	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
69	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
70	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
71	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
72	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
73	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
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 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
76	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
77	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
78	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