ECAT Pre General Science Physics Chapter 5 Circular Motion Online Test

Sr	Questions	Answers Choice
1	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continously C. Does not change D. None of them
2	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
3	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to degree D. none of these
4	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of them
5	_____ 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
6	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
7	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
8	Moment of inertia depends upon:	A. Mass B. Selection of axis of rotation C. Both of them D. None of these
9	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
10	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
11	Direction of angular momentum is determined by:	A. Right hand rule B. Head to tail rule C. Left hand rule D. None of them
12	Angular momentum is a:	A. vector quantity B. Imaginary quantity C. Complex Quantity D. Scalar Quantity
13	Which one is related to angular motion:	A. Moment of a force B. Moment of inertia C. Moment of momentum D. None of these
14	Satellites are held in orbits around Earth by its:	A. Gravitational field B. Magnetic field C. Own orbital motion D. Own spin motion
15	The number of countries who manage the largest satellite system is:	A. 3 B. 24 C. 126 D. 200

16	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
17	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
18	The number of "Earth Stations" which transmit signals to satellites and receive signals fro them are	A. 3 B. 24 C. 126 D. 200
19	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of	A. KHz B. MHz C. GHz D. BHz
20	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
21	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
22	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
23	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continuously C. Does not change D. None of them
24	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of these
25	One radian is	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
26	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
27	Conventional 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 above

#	Question	Options
28	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
29	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
30	The number of "Earth stations" which transmit signals to satellites and receive signals from them are:	A. 3 B. 24 C. 126 D. 200
31	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of:	A. KHz B. MHz C. GHz D. BHz
32	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
33	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
34	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
35	Direction of motion_____ in circular of motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
36	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
37	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of them
38	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
		A. 30.3° B. 45.3°

39	One radian is equal to:	A. (illegible markup) °

39. One radian is equal to:

C. 50.3°

D. 57.3°

40. 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

41. 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

42. 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/sec^2
- B. -10 rav/sec^2
- C. -10 rad/sec^2
- D. -5 rav/sec^2

43. 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

44. 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 10^7 N
- B. 625 N
- C. 6250 N
- D. None of these

45. 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

46. A flywheel accelerates from rest to an angular velocity of 7 rad/sec in 7 seconds. Its average acceleration will be:
- A. 49 rad/sec^2
- B. 1 rad/sec^2
- C. 0.16 rev/sec^2
- D. Both A and C
- E. Both B and C

47. 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

48. 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

49. The useful unit of angular replacement in SI unit is:
- A. Degree
- B. Revolution
- C. Radian
- D. Metre

50. In rotational motion, analogue of force F us called:
- A. Couple
- B. Torque
- C. Mass
- D. Moment of intertia

51. Angular velocity is a:
- A. Scalar quantity
- B. Vector quantity
- C. Complex quantity
- D. None of these

A point on the rim of a wheel moves 0.2 m where the wheel turns through an angle is 14.3
- A. 0.05 m
- B. 0.08 m

52	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:	B. 0.08 m C. 0.8 m D. 0.008 m
53	Direction of motion _____ in circular motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
54	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
55	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
56	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
57	One radian is equal to:	A. 30.3° B. 45.3° C. 50.3° D. 57.3°
58	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
59	A rotating body tends to be slower, when its angular acceleration is:	A. Positive B. Negative C. Zero D. Infinity
60	Centripetal force performs:	A. Maximum work B. Negative work C. Positive work D. None of these
61	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
62	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
63	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/sec^2 B. -10 rev/sec^2 C. -10 rad/sec^2 D. -5 rev/sec^2
64	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
65	A flywheel accelerates from rest to an angular velocity of 7 rad/sec in 7 seconds. Its average acceleration will be:	A. 49 rad/sec^2 B. 1 rad/sec^2 C. 0.16 rev/sec^2 D. Both A and C E. Both B and C
66	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
67	The useful unit of the angular displacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
68	Circular motion is an example of motion in:	A. One dimension B. Two dimensions C. Three dimensions D. None of these
69	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these

70	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
71	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
72	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
73	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
74	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
75	In case of planets, the necessary acceleration is provided by:	A. Gravitational force B. Coulomb force C. Frictional force D. None of these
76	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
77	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
78	Moment of linear momentum is called.	A. Moment arm B. Moment of inertia C. Inertia D. Angular momentum