

## ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	When a body is vibrating, the displacement from mean position:	A. Increases with time B. Decreases with time C. Changes with time D. None of these
2	The restoring force is _____ and opposite to the applied force within _____:	A. Equal, elastic limit B. Different, the walls of the laboratory C. Different, elastic limit D. None of these
3	The SI unit of spring constant is identical with that of:	A. Force B. Surface tension C. Pressure D. Loudness
4	Which one of the following is an example of SHM:	A. Motion in a plane B. Motion in a swing C. Motion in a car D. None of these
5	The unit of spring constant is:	A. J-sec B. Metre C. $\text{Nm}^{-1}$ D. None of these
6	To and fro motion of a body is about its mean position is known as:	A. Translatory motion B. Vibratory motion C. Rotatory motion D. None of these
7	If the waves produced in a microwave oven are of wave-length 12 cm, then their frequency will be:	A. 2500 MHz B. 0.25 MHz C. 2500 KHz D. None of these
8	Free oscillations are always produced by:	A. An applied force B. Gravitational force C. Restoring force and inertia D. Inertia only
9	An object undergoes SHM. Its maximum equilibrium positions:	A. Maximum B. Half of its maximum value C. Zero D. None
10	Second's pendulum is the pendulum whose time period is:	A. 1 second B. 2 second C. 3 second D. None of these
11	The string of a simple pendulum should be:	A. Heavy B. Extensible C. In-extensible D. None of these
12	The time period of a simple pendulum is independent of its:	A. Length B. Mass C. Value of g D. Both A and B
13	A body of mass 0.031 kg attached to one end of a spring of spring constant 0.3 N/m, then time period of spring mass system will be:	A. 1.5 sec B. 2.0 sec C. 2.3 sec D. 2.5 sec
14	Distance covered during one vibration of an oscillating body in terms of amplitude A is:	A. A B. 2 A C. 3 A D. 4 A

A. 90

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B. 180°<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;">°</span>

C. 45°<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;">°</span>

D. 360°<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;">°</span>

15	When quarter of a circle is completed, the phase of vibration is:	
16	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
17	In rotational motion, analogue of force F is called:	A. Couple B. Torque C. Mass D. Moment of inertia
18	The useful unit of angular displacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
19	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
20	A body moving along the circumference of a circle of radius R completes one revolution. The radius of the circular 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
21	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 <sup>2</sup> B. 1 rad/sec <sup>2</sup> C. 0.16 rev/sec <sup>2</sup> D. Both A and C E. Both B and C
22	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 <sup>2</sup> in this case, find radius of the circular path:	A. 1 m B. 5 m C. 10 m D. 15 m
23	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 <sup>7</sup> N B. 625 N C. 6250 N D. None of these
24	A rotating wheel accelerates up to the value of 0.75 rev/sec <sup>2</sup> 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
25	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 <sup>2</sup> B. -10 rev/sec <sup>2</sup> C. -10 rad/sec <sup>2</sup> D. -5 rev/sec <sup>2</sup>
26	A 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

27	A stone is tied to the end of a 20 cm long string is whirled in a horizontal circle. if centripetal acceleration is $9.8 \text{ m/sec}^2$ , then its angular velocity in rad/sec is:	A. 22/7 B. 7 C. 14 D. 21
28	One radian is equal to:	A. 30.3 B. 45.3 C. 50.3 D. 57.3
29	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
30	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of them