ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	The string of a simple pendulum should be:	A. Heavy B. Extensible C. In-extensible D. None of these
2	The time period of a simple pendulum is independent of its:	A. Length B. Mass C. Value of g D. Both A and B
3	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
4	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
5	When quarter of a circle is completed, the phase of vibration is:	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;">° 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;">° 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;">° 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;">°
6	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
7	In rotational motion, analogue of force F us called:	A. Couple B. Torque C. Mass D. Moment of intertia
8	The useful unit of angular replacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
9	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
10	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
11	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
12	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
13	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
14	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
15	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
16	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
17	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
18	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;">°
19	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
20	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of them

21	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
22	Direction of motion_____ in circular of motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
23	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
24	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
25	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
26	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of:	A. KHz B. MHz C. GHz D. BHz
27	The number of "Earth stations" which transmit signals to satellites and receive signals from them are:	A. 3 B. 24 C. 126 D. 200
28	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
29	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
30	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

		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
31	The work done on the body will be zero if:	A. No force is applied on the body B. Force is applied but no displacement C. Angle between F(force) and d(displacement) is 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;">° D. All of these are correct
32	A boy pulls a toy car through a distance of 5 m by applying a force of 0.5 N, which makes and angle of 60° with the horizontal. The work done by the boy is:	A. 1.25 J B. 12.5 J C. 125 J D. None of these
33	If we draw a graph between d (along x-axis) and F (along y-axis) and get a straight line horizontal to x-axis, then area under this straight line represents:	A. Power B. Work C. Pressure D. None of these
34	When a wall is pushed by a person very strongly, he has done:	A. Maximum work B. Zero work C. Positive work D. Negative work
35	The work done by a force keeping an object in circular motion with constant speed is:	A. Zero J. B. 0.1 J C. 1 J D. 0.01 J
36	Which force is not a conservative force:	A. Frictional force B. Gravitational force C. Electric force D. Elastic spring force
37	A labourer carrying a distance a load on his head moves from rest on a horizontal road to another point where he comes to rest. He has done:`	A. Minimum work B. Maximum work C. Zero work D. Negative work
38	A body moves a distance of 10 m among a straight line under the action of a force of 5 N. If the work done is 25 J, the angle which the force makes with the direction of motion of a body is:	A. 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;">° 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;">° C. 60<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. 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;">°
39	A 100 Kg car is moving at the speed of 10 m/sec and comes to rest after covering a distance of 50 m. The amount of work done against the friction is:	A. +5 X 10¹J B. +5 X 10²J C. +5 X 10³J D. +5 X 10⁴J
40	The total work done in moving the body up and then down through the same height in a gravitational field is equal to:	A. mgh B. Its wight C. Weight X height D. Zero
41	When the body is moves against the force of friction on a horizontal plane, the work done by the body is:	A. Positive B. Negative C. Zero D. None of these
42	In the force applied is parallel to the direction of motion, then work done is:	A. Maximum B. Minimum C. Zero D. None of these
43	A two Kg block is held 1 m above the floor for 50 seconds, the work done is:	A. Zero B. 10.2 J C. 100 J D. 980 J
44	Work done is lowering the bucket into the well is:	A. Zero B. Positive C. Negative D. None of these
45	The angle between centripetal force and displacement of the body moving in a circle is:	A. 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;">° B. 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;">° C. 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;">° D. None of these
46	Tick the conservation force:	A. Tension in a string B. Air resistance force C. Elastic spring D. Frictional force
47	The work done moving a body between two points in a conservation field is independent of the:	A. Direction B. Force applied C. Path followed by the body ` D. Power
48	The field in which work done in moving a body between two points depends upon the path followed is called:	A. Conservative field B. Non-conservative field C. Electric field D. None of these
		A. 60<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. 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;">° C. 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;">° D. 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;">°
49	A body moves a distance of 10 m along a straight line under the action of a force of 5 N and work done is 25J. The angle which the force makes the direction of motion will be:	
50	The space around the earth within it exerts a force of attraction on other bodies of known as:	A. Nuclear field B. Conservative field C. Electric field D. Gravitational field
51	Work done is maximum when angle between force and displacement is:	A. 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;">° B. 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;">° C. 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;">° D. None of these
52	Work has the dimension as that of:	A. Torque B. Angular momentum C. Linear momentum D. Power
53	If force and displacement are in opposite direction, the work done is taken as:	A. Positive work B. Negative work C. Zero work D. Infinite work
54	The work performed on an object does not depend on:	A. Force applied B. Angle at which force is inclined to the displacement C. Initial velocity of the object D. Displacement
55	Work is always done on a body when:	A. A force acts on it B. It moves through certain distance C. None of A or B is correct D. Both A and B is correct
56	Work is a:	A. Scalar quantity B. Vector quantity C. Base quantity D. None of these

57	The time rate of change of displacement is called:	A. Time B. Acceleration C. Speed D. Velocity
58	One newton is a force that produces an acceleration of 0.5 m/sec^{2}in a body of mass:	A. 2 kg B. 3 kg C. 4 kg D. 8 kg
59	Force is a:	A. Scalar quantity B. Base quantity C. Derived quantity D. None of these
60	An object is dropped from a height of 100 m. Its velocity at the moment it touches the ground is:	A. 100 m/sec B. 140 m/sec C. 1960 m/sec D. 196 m/sec
61	Bodies which falls freely under gravity provides good example of motion under:	A. Uniform acceleration B. Non-uniform acceleration C. Uniform velocity D. None of these
62	Swimming becomes possible because of_____law of motion:	A. First B. Second C. Third D. None of these
63	A dirty carpet is to be cleaned by heating. This is an accordance with____ law of motion:	A. First B. Second C. Third D. None of these
64	A certain force gives an acceleration of 2 m/sec2 to a body if mass 5 kg. The same force would give a 29 kg object an acceleration of:	A. 0.5 m/sec2 B. 5 m/sec2 C. 1.5 m/sec2 D. 9.8 m/sec2
65	Slope of velocity-time graph represents:	A. Acceleration B. Speed C. Torque D. Work
66	In the above figures, tell which set is graphs shows that a body is moving uniform velocity:	A. (i) and (ii) B. (ii) and (iii) C. (i) and (iii) D. (ii) and (iv)
67	If the velocity time graph is a straight line parallel to time-axis, then it means that:	A. The body is moving with uniform velocity B. The body is moving with uniform acceleration C. The body is at rest D. None of above
68	The magnitude of the force producing an acceleration of 10 m/sec2 in a body of mass 500 grams is:	A. 3 N B. 4 N C. 5 N D. 6 N
69	A body is moving with constant velocity of 10 m/sec in the north east direction. Then its acceleration will be:	A. 10 m/sec2 B. 20 m/sec2 C. 30 m/sec2 D. Zero
70	A body of mass 5 kg is acted upon by a total change n momentum will be:	A. 10 NS B. 100 NS C. 140 NS D. 200 NS
71	When brakes are applied to a fast moving car, the passengers will be thrown:	A. Forward B. Backward C. Downward D. None of these
72	Which one of the following is dimensionless.	A. Acceleration B. Velocity C. Density D. Angle
		A. MLT² B. ML<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-

73	The dimension of linear inertia is:	attachment: initial; background-origin: initial; background-clip: initial;">°<span style="font-size: 10.5pt; line-height: 107%; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">T⁻² C. ML<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;">°T<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. MLT⁻¹
74	A ball is dropped from a height of 4.2 meters. To what height will take it rise if there is no loss of KE after rebounding?	A. 4.2 m B. 8.4 m C. 12.6 m D. none of these
75	A body moving with an acceleration of 5 m/sec^{2}started with velocity of 10 m/sec. What will be the distance traversed in 10 seconds?	A. 150 m B. 250 m C. 350 m D. 400 m
76	The shortest distance between two points directed from its initial point to final point is called:	A. Velocity B. Displacement C. Speed D. Distance
77	Ethanol (alcohol) as a type of:	A. Electric fuel B. Bio fuel C. Nuclear fuel D. None of these
78	Root out of the conventional source of energy:	A. Energy from biomass B. Hydroelectric energy C. Geothermal energy D. None of these
79	Biomass includes:	A. Crop residue B. Natural vegetation C. Animal dung D. All of these
80	The consumption of energy by a 1000 watt heter in half an hour is:	A. 5 Kwh B. 0.5 Kwh C. 2.5 Kwh D. 3.2 Kwh
81	One KWh is equal to:	A. 3.6 x 10²J B. 3.6 KJ C. 3.6 x 10¹KJ D. 3.6 MJ
82	The velocity given to a body to go out of the influence of earth's gravity is known as:	A. Terminal velocity B. Orbital velocity C. Escape velocity D. None of these
83	When two protons are brought closer potential energy of both of them:	A. Increases B. Decreases C. Remains same D. None of these
84	A body of weight 1 N has a kinetic energy of 1 joule when its speed is:	A. 1.46 m sec⁻¹ B. 2.44 m sec⁻¹ C. 3.42 m sec⁻¹ D. 4.43 m sec⁻¹
85	Tick the conservation force:	A. Tension in a string B. Air resistance string C. Elastic spring force D. Frictional force

86	Work done along a closed path in a gravitational field is:	A. Maximum B. Minimum C. Zero D. Unity
87	Relativistic mechanics is a branch of physics, which deal with the bodies moving with velocities:	A. More then c B. Approaching c C. Equal to c D. Much less than x
88	The branch of physics, which deals with the structure an properties of solids is called:	A. Plasma physics B. Solid state physics C. Any of above D. Astro physics
89	Density is defined as:	A. Mass per volume B. Volume per mass C. Mass x volume D. Mass per length
90	High energy physics is branch of physics, which deals with:	A. Stars and galaxies B. Sub-atomic particles C. Light and sound D. Molecules
91	In the equation $E=mc^2$value of c is:	A. 1,86,000 miles per hour B. 1,86,000 miles per sec C. 3 X 10⁸m/sec D. Both A and C E. Both B and C
92	From sand, we get a material used for construction of computer chips. That material is called:	A. Germanium B. Silicon C. Copper D. Lead
93	The branch of physics which is mainly concerned with the motion of bodies under the action of forces is called:	A. Optics B. Mechanics C. Thermodynamics D. Astro physics
94	Electron is a particle whose mass is:	A. Greater than that of a proton B. Smaller than that of a proton C. Smaller than that of a proton or a neutron D. Greater than that of an atom
95	Aerodynamics is a branch of:	A. Hydrodynamics B. Thermodynamics C. Both of them D. Statics
96	The branch of physics which deals with the properties of fundamental particles is called:	A. High energy physics B. Molecular physics C. Astrophysics D. Space physics
97	Particles have the mass smallest of following is:	A. Electron B. Proton C. Neutron D. Quark
98	The mechanics, which deals with the objects moving with velocities approaching that of light is called:	A. Relativistic mechanics B. Wave mechanic C. Quantum mechanics D. Statics
99	Astrophysics is a branch of physics, which deals with:	A. Sub-atomic particles B. Stars and galaxies C. Light and sound D. Music
100	The information from far side of the universal are gathered by:	A. Radio telescope B. Microscope C. Telescope D. Spectro scpe