ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	Terminal velocity is the maximum velocity attained by a spherical droplet when the drag force_____the weight of droplet:	A. Is smaller than B. Is greater than C. Becomes equal to D. None of these
2	A massive object falls through a fluid:	A. Faster B. Slower C. Slowest D. None
3	High speed meteors rushing through air reduces to ashes because of:	A. Force of gravity B. High resistance of air C. Drag force D. None of these
4	Stock's law holds for:	A. Motion through free space B. Motion through viscous medium C. Bodies of all shapes D. None of these
5	Viscosity of water is _____ that of air but ___ that of plasma.	A. More, more B. Less, more C. Less, less D. More, less
6	Fluid friction is _____ the friction between two solid surfaces:	A. Greater than B. Smaller than C. Equal to D. None of these
7	Density of fluid is defined as:	A. Its volume to mass ratio B. Product of volume and mass C. Its mass of volume ratio D. None of these
8	Unit of viscosity is:	A. Kg m⁻¹sec⁻¹ B. N s m⁻² C. J s m⁻³ D. All of these
9	Glycerin has viscosity _____ the viscosity of water:	A. More than B. Equal to C. Less than D. None of these
10	A body is moving through a viscous medium eventually comes to rest because of:	A. Force of gravity B. Force of friction C. Its weight D. Both A and C
11	N s $m^{-2}$is unit of:	A. Drag force B. Pressure C. Surface tension D. Coefficient of viscosity
12	Machine parts are jammed due to:	A. Increasing in viscosity of lubricant B. Decreasing in viscosity of lubricant C. Decreasing in surface tension of lubricant D. None of these
13	The body passing a viscous medium affected by:	A. One force only B. Two forces only C. Four forces D. None of these
14	The resistance offered by a fluid to a solid moving inside it is called:	A. Drag force B. Surface force C. Viscosity D. None of these
15	The property of fluids due to which they resist their own flow is called:	A. Drag force B. Surface tension C. Viscosity

		D. None of these
16	In case of planets, the necessary acceleration is provided by:	A. Gravitational force B. Coulomb force C. Frictional force D. None of these
17	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
18	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
19	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
20	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
21	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
22	Angular velocity is a:	A. Scalar quantity B. Vector quantity C. Complex quantity D. None of these
23	Circular motion is an example of motion in:	A. One dimension B. Two dimensions C. Three dimensions D. None of these
24	The useful unit of the angular displacement in SI unit is:	A. Degree B. Revolution C. Radian D. Metre
25	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
26	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
27	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
28	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
29	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
30	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
31	Centripetal force performs:	A. Maximum work B. Negative work C. Positive work D. None of these
32	A rotating body tends to be slower, when its angular acceleration is:	A. Positive B. Negative C. Zero D. Infinity

33	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
34	One radian is equal to:	A. 30.3° B. 45.3° C. 50.3° D. 57.3°
35	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
36	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to one degree D. None of these
37	Centripetal acceleration is also called _____ acceleration:	A. Tangential B. Radial C. Angular D. None of them
38	Direction of motion _____ in circular motion:	A. Changes off and on B. Changes continuously C. Does not change D. None of them
39	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
40	Work is product of:	A. Force and velocity B. Heat and energy C. Force and displacement D. None of these
41	A boy pulls a toy car through a distance of 5 m by applying a force of 0.5 N, Which makes an 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
42	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
43	The work done by a force, keeping an object in circular motion with constant speed is:	A. Zero J B. 1 J C. 0.1 J D. 0.01 J
44	Which force is not a conservative force?	A. Frictional force B. Gravitational force C. Electric force D. Elastic spring force
45	A laborer carrying a load on his head moves from the 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
46	A body moves a distance of 10 m along a straight line under the action of a force of 5 N. If the work done is 25 J, the angle which 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;">°
47	A 100 kg car is moving at a speed of 10 m/sec and comes to rest after covering a distance of 50 m. the amount of work done against friction is:	A. +5 x 10¹J B. +5 x 10²J C. +5 x 10³J D. +5 x 10⁴J
48	When a body 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
49	In the force applied to parallel to the direction of motion, then the work done is:	A. Positive B. Negative C. Zero D. None of these
50	A 2 kg block is held 1 m above floor for 50 seconds. The work done is:	A. Zero B. 10.2 J C. 100 J D. 980 J
51	Work done in lower and bucket into the well is:	A. Zero B. Positive C. Negative D. None of these
52	A field in which the work done is moving a body along closed path is zero is called:	A. Nuclear filed B. Conservative field C. Gravitational field D. Non-conservative field
53	When a force of 0.5 N displaces a body through a distance of 2m in the direction of force, the work done is:	A. 2 J B. 0.25 J C. 1 J D. 0.5 J
54	The work done in 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
55	Which of the following type of force can do no work on the particle on which it acts:	A. Frictional force B. Gravitational force C. Electric force D. Centripetal force
56	The field in which work done is moving body between two points depends upon the path followed is called:	A. Conservative filed B. Non-conservative field C. Electric field D. None of these
57	Work done along a closed path in a gravitational field is:	A. Maximum B. Minimum C. Zero D. Unity
58	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 with the direction of motion will be:	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;">°
59	The space around the earth within which it expects a force of attraction on other bodies is known as:	A. Nuclear field B. Conservative field C. Electric field D. Gravitational field
60	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
61	Work has a dimension as that of:	A. Torque B. Angular momentum C. Linear momentum D. Power
62	If force and displacement are in opposite direction, the work done is taken as:	A. Positive work B. Negative work C. Zero work D. Infinte work
63	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
64	Work is always done on a body when:	A. A force acts on it B. It moves through certain distance C. None of A and B is correct D. Both A and B is correct
65	Work is a:	A. Scalar quantity B. Vector quantity C. Base quantity D. None of these
66	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
67	Force is a:	A. Scalar quantity B. Base quantity C. Derived quantity D. None of these
68	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
69	Body 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
70	Swimming becomes possible because of_____law of motion.	A. First B. Second C. Third D. None of these

71	A dirty carpet is to be cleaned by heating. This is in according with_____law of motion.	A. First B. Second C. Third D. None of these
72	A certain force gives an acceleration of 2 m/sec^{2}to a body mass 5 kg. The same force would give a 20 kg object an acceleration of:	A. 0.5 m/sec² B. 5 m/sec² C. 1.5 m/sec² D. 9.8 m/sec²
73	Slope of velocity time graph represents:	A. Acceleration B. Speed C. Torque D. Work
74	In above figures, tell which set of graphs shows that a body is moving with uniform velocity:	A. (i) and (ii) B. (ii) and (iii) C. (iii) and (iv)
75	If the velocity time graph is a straight line parallel to the time-axis, then it means:	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 these
76	The magnitude of the force producing an acceleration of 10 m/sec^{2}in a body of mass 500 grams is:	A. 3 N B. 4 N C. 5 N D. 6 N
77	The magnitude of the force producing an acceleration of 10 m/sec^{2}in a body of mass 500 grams is:	A. 3 N B. 4 N C. 5 N D. 6 N
78	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
79	A body of mass 5 kg is acted upon by a constant force of 20 n for 7 seconds. The total change in momentum will be:	A. 10 NS B. 100 NS C. 140 NS D. 200 NS
80	When brakes are applied to a fast moving car, the passenger will be thrown:	A. Forward B. Backward C. Downward D. none of these
81	Which one of the following is dimensionless:	A. Acceleration B. Velocity C. Density D. Angle
82	The dimension of linear inertia is:	A. MLT² B. ML⁰T⁻² C. ML⁰T⁰ D. MLT⁻¹
83	A ball is dropped from a height of 4.2 meters. To what height it will rise if there is no loss of KE after rebounding?	A. 4.2 m B. 8.4 C. 12.6 D. None of these
84	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
85	The short distance between two points direction from its initial point to final point is called:	A. Velocity B. Displacement C. Speed D. Distance
86	Ethanol (alcohol) is a type of:	A. Electric fuel B. Bio fuel C. Nuclear fuel D. None of these
87	Root out the conventional source of energy:	A. Energy from blomass B. hydroelectric energy C. Geothermal energy D. None of these
		A. Crop residue B. Natural vegetation

88	Blomass includes:	B. Natural vegetation C. Animal dung D. All of these
89	The consumption source if energy is:	A. Energy from blomass B. Hydroelectric energy C. Geothermal energy D. None of these
90	One KWh is equal to:	A. 3.6 x 10²J B. 3.6 KJ C. 3,6 x 10¹KJ D. 3,6 MJ
91	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
92	When two protons are brought closer potential energy of both of them:	A. Increases B. Decreases C. Remains same D. None of these
93	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
94	Tick the conservative force:	A. tension in a string B. Air resistance C. Elastic spring force D. Frictional force
95	Work done along a closed path in a gravitational force is:	A. maximum B. Minimum C. Zero D. Unity
96	If x-component of a vector is -3 N and y-component is 3 N, then angle of resultant vector will x-axis is:	A. 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;">° B. 315<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. 135<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. 225<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;">°
97	If two forces of magnitudes 3.5 and 2.5 N act on a body such that the angle between the forces is zero, then magnitude of the resultant will be:	A. 1.0 N B. 6 N C. 3.5 N D. 12 N
98	The magnitude of resultant of three vectors is 3. Its x-component is one, y-component is two, then its z-component is:	A. 0 B. 1 C. 2 D. 3
99	The resultant of two velocities 3 m/sec and 400 cm/sec making an angle 90° with each other is:	A. 20 m/sec B. 5 m/sec C. 3 m.sec D. None of these
100	A force of 5 n is acting Y-axis. Its component along X-axis is:	A. 7 N B. 5 N C. Zero

D. 10 N