ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	The amplitude of oscillation of each atom in a metallic crystal rises with the	A. rise in temperature B. decrease in temperature C. even temperature remains constant D. all of them
2	The molecules or ions in a crystalline solids are	A. static B. not static C. randomly moving D. all of them
3	The vast majority of solids are in the form of	A. amorphous structure B. polymeric structure C. crystalline structure D. all of them
4	The neighbours of every molecule in crystalline solids are arranged in	A. an irregular manner B. a regular manner C. any manner D. none of them
5	The solids which has structure in-between order and disorder are called	A. amorphous solids B. polymeric solids C. crystalline solids D. all of them
6	There is a regular arrangement of molecules in a	A. amorphous solids B. polymeric solids C. crystalline solids D. none of them
7	If a freely oscillating system is subjected to an external force, then	A. free vibrations will take place B. the body will move with its natural frequency C. forced vibrations will take place D. none of them
8	The natural frequency of a pendulum which is vibrating freely, depends upon its	A. mass B. length C. material D. all of them
9	The frequency of free vibrations is known as	A. free frequency B. forced frequency C. natural frequency D. un-natural frequency
10	A body is executing free vibrations when it oscilates	A. with the interference of an external force B. without the interference of an external force C. with the interference of an internal force D. none of them
11	If a simple pendulum is shifted from karachi to K-2 cliff, its time period	A. remains the same B. decreases C. increases D. none of them
12	The time period of pendulums of different lengths would be	A. same B. different C. both of them D. none of them
13	A second's pendulum is a pendulum whose time period is	A. 1 second B. 2 seconds C. 3 seconds D. 4 seconds
14	If the mass of the simple pendulum becomes double, its time period	A. increase B. decreases C. remains constant D. none of them

15	If we increase the length of a simple pendulum four times, its time period will become	A. 2 times B. 3 times C. 4 times D. 6 times
16	Energy is dissipated and consequently the energy mass system do not oscillate indefinitely because of	A. very small energy B. very large energy C. frictional forces D. acceleration due to gravity
17	The total energy of spring mass system is	A. zero B. changing with time C. constant D. none of them
18	When the bob of simple pendulum is at mean position, its K.E will be	A. maximum B. minimum C. zero D. all of them
19	When the bob of simple pendulum is at extreme position, its K.E. will be	A. maximum B. minimum C. zero D. all of them
20	When a mass 'm' is pulled slowly through a distance 'x_o' , the elastic potential energy of the spring would be	A. P.E=Kx²_o B. P.E= 1/2kx_o C. P.E=1/2Kx²_o D. P.E=Kx²_o
21	When a mass 'm' is pulled slowly, the spring stretches by an amount x_o, then the work done will be	A. W=Kx_o B. W=1/2Kx_o C. W=1/2Kx²_o D. W=4Kx_o
22	When a mass 'm' is pulled slowly, the spring stretches by an amount x_0,then the average force would be	A. F= Kx₀ B. F=1/2Kx₀ C. F=2Kx₀ D. F=4Kx₀
23	If the time period a simple pendulum is 2 s, its frequency would be	A. 2 Hz B. 1.5 Hz C. 1.0 Hz D. 0.5 Hz
24	If the length of a simple pendulum is 0.25 m its time period would be	A. 1.0 s B. 2.0 s C. 3.0 s D. 4.0 s
25	Time period of simple pendulum is independent of	A. length B. mass C. acceleration due to gravity D. none of them
26	Time period of a simple pendulum depends upon the	A. length of the pendulum B. acceleration due to gravity C. none of them D. both of them
27	If the length of second pendulum becomes four times then its time period will become	A. Four time B. Two times C. Six times D. Eight times
28	The weight 'mg' of the bob is resolved into	A. one component B. two components C. three components D. four components
29	The bob of a simple pendulum is suspended by	A. string B. heavy inextensible string C. light extensible string D. light inextensible string
30	A simple pendulum consists of a	A. small light bob B. small heavy bob C. big light bob D. big heavy bob
31	Acceleration of the mass at any instant is given by	A. a=k/m x B. a= - m/k x C. a = - k/m x D. a=m/k x
		A. displacement B. amplitude

32	The phase determines the	B. amplitude C. frequency D. state of motion of vibrating body
33	The characteristic of a body executing S.H.M is that its acceleration is	A. inversely proportional to displacement B. directly proportional to displacement C. independent of displacement D. equal to zero
34	The instantaneous velocity of a body moving along a circle is directed	A. along the radius B. along the tangent C. away from the circle D. none of them
35	When half of the cycle of a body executing S.H.M is completed, then the phase of the vibration will be	A. 45° B. 90° C. 135° D. 180°
36	Angular frequency 'w' is basically a characteristics of	A. linear motion B. circular motion C. both of them D. none of them
37	The expression for restoring force is	A. F=ma B. F=kx C. F= -kx D. Kx=ma
38	If F=0.04 N and X=4 cm then K=	A. 1 Nm⁻¹ B. 2 Nm⁻¹ C. 3 Nm⁻¹ D. 4 Nm⁻¹
39	The expression of Hook's law is	A. F=ma B. F=kx C. F= -kx D. -kx=ma
40	SI unit of frequency is	A. second B. hertz C. revolution D. vibrations/sec
41	Si units of time period is	A. second B. hertz C. revolution D. vibration/sec
42	An object undergoes S.H.M has maximum acceleration when its displacement form the means position	A. maximum B. zero C. half of the maximum value D. one third of the maximum value
43	An object undergoes S.H.M has maximum speed when its displacement from the mean position is	A. maximum B. zero C. half of the maximum value D. one third of the maximum value
44	The wave form of S.H.M will be	A. square wave B. sine wave C. rectified wave D. saw-tooth wave
45	If the displacement of a body executing S.H.M is plotted against time, then the curve is known as	A. frequency of S.H.M B. period of S.H.M C. wave form D. none of them
46	Which of the following does not exhibit S.H.M?	A. a plucked violin string B. a mass attached to a spring C. a train shunting between two terminals D. a simple pendulum
47	Which of the following is an example of a S.H.M?	A. motion of a projectile B. motion of a train along a circular path C. motion of swing D. electrons revolving sound the

		nucleus
48	When a body is performing S.H.M., its acceleration is	A. inversely proportional to the displacement B. directly proportional to the applied force C. directly proportional to the amplitude D. directly proportional to the displacement but in opposite direction
49	For a body executing S. H. M, its	A. momentum remains constant B. potential energy remains constant C. kinetic energy remains constant D. total energy remains constant
50	The maximum displacement of a body on either side of its equilibrium position is called	A. frequency B. amplitude C. displacement D. time period
51	The number of vibrating body at any instant from its equilibrium position is called	A. displacement B. frequency C. amplitude D. time period
52	The time required to complete on vibration is called	A. frequency B. total time C. time period D. velocity
53	One complete round trip of the body about its mean position is called	A. displacement B. vibration C. a complete motion D. an acceleration
54	The vibratory motion of a body whose magnitude of acceleration is directly proportional to the magnitude of its displacement and is always directed towards the equilibrium position is called	A. rotatory motion B. motion under gravity C. angular motion D. simple harmonic motion
55	The vibratory or oscillatory motion of a body is	A. translatory motion B. back and forth motion about its mean position C. free all motion D. circular motion
56	The force which opposes the applied force producing the displacement in the spring is called	A. restoring force B. periodic force C. centripetal force D. resistive force
57	The restoring force always directed towards the	A. extreme position B. mean position C. both of them D. none of them
58	When a body is pulled away from its rest or equilibrium position and then released, the body oscillates due to	A. applied force B. momentum C. restoring force D. none of them
59	Example of vibratory motion is	A. mass suspended from a spring B. a bob of simple pendulum C. mass attached to a spring placed D. all of them
60	When an oscillatory motion repeats itself, then this type of motion is called	A. vibratory motion B. constant motion C. fixed motion D. periodic motion
61	When a body moves to and fro motion, this type of motion is called	A. translatory motion B. circular motion C. oscillatory motion D. all of them
62	The internal pressure of the blood is	A. less than the external atmospheric pressure B. greater than the external atmospheric pressure C. equal to the external atmosphericpressure D. none of them
63	Under normal circumstances, the volume of blood is sufficient to keep the vessels	A. flatted for all times B. inflated for all times C. inflated for small times D. none of them

64	Blood vessels can be stretch like rubber, therefore they are	A. rigid B. hard C. very thick D. not rigid
65	A high concentration of red blood cells increases its viscosity from	A. 3 - 5 times that of mercury B. 5 - 8 times that of mercury C. 3 - 5 times that of water D. 5 - 8 times that of water
66	The density of blood is nearly equal to that of	A. mercury B. sodium C. water D. honey
67	Blood is an	A. Compressible fluid B. incompressible fluid C. hard D. none of them
68	A device used to measure the speed of liquid flow is known as	A. barometer B. speedometer C. sphygmomanometer D. venture-meter
69	If one of the pipes has a much smaller diameter than the other and are placed horizontally then form both sides of Bernoulli's equation, we can drop the term	A. P B. 1/2 fv² C. pgh D. none of them
70	Where the streamlines are very far apart from each other, the pressure will be	A. low B. zero C. high D. all of them
71	Where the streamlines are very close to each other, the pressure will be	A. low B. zero C. high D. all of them
72	According to the Bernoulli's equation, where the speed of the fluid is high, the pressure will be	A. low B. zero C. high D. all of them
73	The velocity gained by the fluid in falling through the distance (h_1 - h2) under the action of gravity is equal to the speed of the action of gravity is equal to the speed of the	A. orifices B. efflux C. fluid D. none of them
74	In deriving the Bernoulli's equation, we assume that the fluid is	A. incompressible B. no viscous C. flows in a steady manner D. all of them
75	Bernoulli's equation is the fundamental equation in fluid dynamics, which relates pressure to fluid	A. speed B. height C. none of them D. both of them
76	The pressure will change in the pipe, as the fluid moves through that pipe of varying	A. cross-section B. height C. none of them D. both of them
77	The mass of fluid passing through any cross-section per unit time is called	A. electric flux B. magnetic flux C. mass flux D. none of them
78	Rate of flow can be expressed in	A. litre/sec B. litre-sec C. sec/litre D. sec/litre-m
79	The un-steady streamline flow is called	A. laminar flow B. turbulent flow C. both of them D. none of them
80	The smooth or steady streamline flow is known as	A. laminar flow B. turbulent flow C. both of them D. none of them
81	A tube tapers from 20 cm diameter to 2 cm, the velocity at first cross-section is 50 ms^{-1}then velocity at second cross-section is	A. 5000 cms⁻¹ B. 500 cms⁻¹ C. 50 cms⁻¹

		D. 0.5 cm/s
82	The equation of continuity is	A. A₁A_{2 = V}₁V₂ B. A_{1/}_V_{1 =}A_{2/}V₂ C. _V_{1/}A₁₌V_{2/}A₂ D. A₁_V_{1 =}A₂V₂
83	Above a certain velocity of a fluid is called	A. turbulent flow B. steady flow C. either of them D. both of them
84	The irregular and unsteady flow of the fluid is called	A. turbulent flow B. steady flow C. either of them D. both of them
85	When there is no internal frictional forces between the adjacent layers of fluid, then the fluid is called	A. incompressible B. compressible C. viscous D. non viscous
86	The fluid is incompressible, if itsdensity is	A. zero B. constant C. very high D. very small
87	If the flow is incompressible and the flow is steady then the mass of the fluid through the pipe	A. increases B. decreases C. becomes zero D. is conserved
88	The product of cross-sectional area of the pipe and the fluid speed at any point along the pipe is called	A. constant rate B. volume rate C. flow rate D. steady rate
89	The product of cross-sectional area of the pipe and the fluid speed at any pint along the pipe is	A. very high B. very low C. constant D. zero
90	According to the equation of continuity, when water falls from the tap, it's speed increases and its cross-sectional area	A. decreases B. increases C. becomes zero D. none of them
91	When a fluid is in motion, its flow can be considered as	A. turbulent B. streamline C. either or them D. neither of them
92	If every particle of the flow that passes a particular point, moves along the same path as followed by particles which passed the point earlier, then this flow is said to be	A. turbulent B. streamline C. abrupt D. none of them
93	During the steady flow, different streamlines	A. cannot across each other B. can across each other C. either of them D. neither of them
94	When each particle of the fluid moves along a smoth path, this path is known as	A. straight path B. smooth path C. haphazard path D. steamline
95	When the different streamlines cannot cross each other, then this condition is known as	A. continuity condition B. turbulent flow condition C. steady flow condition D. none of them
96	The direction of the streamlines is the same as the direction of the	A. force B. torque C. velocity D. weight
97	A water hose with an internal diameter of 20 mm at the outlet discharges 30 kg of water in 60 s. What is water speed at the outlet if density of water is 1000 kg/m^3during its steady flow	A. 1.3 m/s B. 1.6 m/s C. 1.9 m/s D. 2.2 m/s

98	The terminal velocity of water droplet of radius 1 x 10^{-4}m and desity 1000 kg m^{-3}descending through air of viscosity 19 x 10^{-6}kg. m^{-1} s^{-1} is	A. 2.5 ms⁻¹ B. 3.2 ms⁻¹ C. 4.3 ms⁻¹ D. 1.1 ms⁻¹
99	At the starting point of the free fall motion of an object, its acceleration will be	A. maximum B. minimum C. zero D. none of them
100	The body will move with terminal velocity when it acquires	A. minimum speed B. zero speed C. maximum speed D. none of them