

## ECAT Physics Online Test

Sr	Questions	Answers Choice
1	Which of the following options correctly states the equation of continuity for an ideal fluid?	<p>A. <math>A_1 v_1 = A_2 v_2</math>  <math>V_1 = V_2</math></p> <p>B. <math>A_1 v_1 = A_2 v_2</math>  <math>V_2 = V_1</math></p> <p>C. <math>A_1 v_1 = A_2 v_2</math>  <math>V_1 = V_2</math></p> <p>D. none of the above</p>
2	On colliding in a closed container, the gas molecules	<p>A. Transfer momentum to the walls            B. Momentum becomes zero            C. Move in opposite directions            D. Perform Brownian motion</p>
3	A body is executing free vibrations when it oscillates	<p>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</p>
4	Real gases strictly obey gas law at:	<p>A. High pressure and low temperatures            B. Low pressures and high temperatures            C. High pressures and high temperatures            D. None of these</p>
5	A wire is bent into a ring of radius R is given a charge q. The magnitude of the electrical field at the centre of the ring is	<p>A. Two            B. 1/2            C. Zero            D. 3/2</p>
6	Velocity of a body changes if	<p>A. direction of the body changes            B. speed of the body changes            C. neither speed nor direction changes            D. either speed or direction changes</p>
7	The straight current carrying conductor experiences maximum force in a uniform magnetic field when it is placed	<p>A. parallel to the field            B. Perpendicular to the field            C. At an angle of 45 to the field            D. None of the above</p>
8	Maximum density of H <sub>2</sub> O is at the temperature	<p>A. 32<span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°F</span>            B. 39.2<span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°F</span>            C. 42<span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°F</span>            D. 4<span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°F</span></p>
9	The power factor of resonant series circuit is	<p>A. 1            B. 0            C. -1            D. 0.5</p>
10	An LED emits light when it is:	<p>A. Forward biased            B. Reverse biased            C. Operated without battery            D. Operated with heat source            E. None of these</p>
11	The maximum drag force on a falling sphere is 9.8 N, its weight is	<p>A. 1 N            B. 9.8 N            C. 4.9 N            D. Cannot be calculated</p>

A. increases

12	In an adiabatic expansion, the temperature of the gas	B. becomes zero C. decreases D. decreases rapidly
13	Which of the following represents an electric current?	A. $C^{-1}$ B. $CS^{-1}$ C. $JS^{-1}$ D. $\text{dynes}^{-1}$
14	Two sources of sound are said to be coherent if	A. They produce sounds of equal intensity B. They produce sounds of equal frequency C. They produce sound waves vibrating with the same phase D. They produce sound waves with zero or constant phase difference all instant of time
15	In crystalline solids, atoms are held about their equilibrium positions depending upon the strength of:	A. Adhesive force B. Nuclear forces C. Inter atomic cohesive force D. Electromagnetic force E. None of these
16	Time period of simple pendulum is independent of	A. length B. mass C. acceleration due to gravity D. none of them
17	Zirconia is classified as:	A. Ceramic solid B. Ionic compound C. Metal D. Either (A) or (B) E. Either (B) or (C)
18	Magnetic flux passing through the an element of are A placed perpendicular to a uniform magnetic field $B$ is:	A. Maximum B. Minimum C. Zero D. Very small E. None of these
19	A body of mass 5 kg is acted upon by a total change in momentum will be:	A. 10 NS B. 100 NS C. 140 NS D. 200 NS
20	A second's pendulum is a pendulum whose time period is	A. 1 second B. 2 seconds C. 3 seconds D. 4 seconds