

## ECAT Pre General Science Physics Chapter 11 Heat & Thermodynamics

Sr	Questions	Answers Choice
1	R.M.S velocity of a particle is $V$ at pressure $P$ . If pressure increases by two times, then R.M.S velocity becomes	A. $2V$ B. $3V$ C. $0.5V$ D. $V$
2	The value of $E_{\text{Coulomb}}$ is:	A. $9 \times 10^9 \text{ Nm}^2 \text{ C}^{-2}$ B. $8.85 \times 10^{12} \text{ C}^2 \text{ N}^{-1} \text{ m}^{-2} \text{ C}^{-2}$ C. $8.85 \times 10^{12} \text{ Nm}^2 \text{ C}^{-2}$ D. $9 \times 10^9 \text{ C}^2 \text{ N}^{-1} \text{ m}^{-2} \text{ C}^{-2}$
3	What temperature is the same on Celsius scale as well as on Fahrenheit scale?	A. $32^\circ\text{C}$ B. $-32^\circ\text{C}$ C. $-40^\circ\text{C}$ D. $-212^\circ\text{C}$
4	Efficiency of Carnot engine is independent of the	A. temperature of sink B. temperature of source C. nature of the working substances D. none of them
5	The absolute temperature of the triple point of water is	A. $100^\circ\text{C}$ B. $4^\circ\text{C}$ C. $373 \text{ K}$ D. $273.16 \text{ K}$
6	The coefficient of linear expansion of iron is $0.00011 \text{ per}^\circ\text{K}$ . An iron rod is $10 \text{ m}$ long at $27^\circ\text{C}$ . The length of the rod will be decreased by $1.1 \text{ mm}$ when the temperature of the rod changes to	A. $0^\circ\text{C}$ B. $10^\circ\text{C}$ C. $17^\circ\text{C}$ D. $20^\circ\text{C}$
7	Average KE of a gas molecule has:	A. Direct relation with absolute temperature and inverse relation with pressure B. Direction relation with both absolute temperature and pressure C. Inverse relation with both absolute temperature and pressure D. None of these
8	First law of thermodynamics tells us that heat energy can be converted into equivalent amount of work, but it is silent about	A. how heat is absorbed B. how heat extracted C. how this conversion takes place D. none of them
9	The only significant motion possessed by the mono-atomic gas represented is:	A. Translatory B. Rotatory C. Vibratory

		D. None of these
10	Carnot heat engine only used	A. isothermal processes B. adiabatic processes C. both of them D. none of them
11	The second law of thermodynamics is concerned with the circumstances in which	A. heat can be converted into work B. direction of flow of heat C. none of them D. both of them
12	According to the second law, which is must to produce work	A. a source contains a large amount of heat energy B. two sources at the same temperature C. two sources at the different temperatures D. a source contains a small amount of energy
13	The temperature of gas is produced by	A. At potential energy of its molecules B. The kinetic energy of its molecules C. The attractive force between its molecules D. The repulsive force between its molecules
14	The efficiency of carnot engine cannot be 100% or one unless cold reservoir is at	A. 100 K B. 273 K C. 0 K D. -273 K
15	The curve representing an isothermal process is called	A. adiabat B. isotherm C. fixed temperature D. none of them
16	Pressure exerted by a gas is	A. Independent of density of the gas B. Inversely proportional to the density of the gas C. Directly proportional to the square of the density of the gas D. Directly proportional to the density of the gas
17	The rate of change of momentum of a molecule is equal to:	A. Pressure B. Work C. Density D. Force
18	Energy gas behaves like an ideal gast at	A. High temperature and low pressure B. Low temperature and high pressure C. Both A and B D. None
19	In an adiabatic expansion, the temperature of the gas	A. increases B. becomes zero C. decreases D. decreases rapidly
20	While deriving equation of pressure by kinetic theory of gases, we take into account:	A. Only linear motion of molecules B. Only rotational motion C. Only vibratory motion D. All of these