

ECAT Physics Chapter 11 Heat & Thermodynamics

Sr	Questions	Answers Choice
1	At 0° K which of the following properties of a gas will be zero?	A. Kinetic energy B. Potential energy C. Vibrational energy D. Density
2	Real gases strictly obey gas law at:	A. High pressure and low temperatures B. Low pressures and high temperatures C. High pressures and high temperatures D. None of these
3	When two objects are rubbed together, their internal energy	A. remains same B. decreases C. remains the same then decreases D. increases
4	The pressure exerted by the gas is	A. directly proportional to the P.E B. inversely proportional to the P.E C. inversely proportional to the K.E D. directly proportional to the K.E
5	The volume of a gas will be double of what it is at 0°C (pressure remaining constant) at	A. 546 K B. 273 K C. 546 °C D. 273 °C
6	Which of the following is not thermo dynamical function?	A. Enthalpy B. Work done C. Gibb's energy D. Internal energy
7	The bicycle pump provides a good example of	A. first law of thermodynamics B. second law of thermodynamics C. third law of thermodynamics D. none of them
8	The example of irreversible process is	A. slowly liquification B. slowly evaporation C. an explosion D. all of them
9	One mole of any substance contain	A. same number of molecules B. different number of molecules C. may be same or different D. none of them
10	A gas which strictly obeys the gas laws under all conditions of temperature and pressure is called:	A. Ideal gas B. Inert gas C. Real gas D. None of these
11	In case of an ideal gas, the P.E associated with its molecule is	A. maximum B. zero C. minimum D. not fixed
12	In an ideal gas, the molecules have:	A. Kinetic energy only B. Potential energy only C. Both KE and PE D. None of these
13	An isochoric process is one which take place at	A. Constant internal energy B. Constant entropy C. Constant volume D. Constant pressure
14	If the ratio of densities of two gases is 1:4, then the ratio of their rates of diffusion into one another is	A. 2 : 1 B. 4 : 1 C. 1 : 4 D. - : -

15	Tick the correct pair when M denotes the molecular mass and other symbols carry usual meanings:	<p>A. $N = nN_{\text{A}}$, $M = nM_{\text{A}}$</p> <p>B. $n = N/N_{\text{A}}$, $M = mN_{\text{A}}$</p> <p>C. $M = N/N_{\text{A}}$, $N_{\text{A}} = m/n$</p> <p>D. $N = nN_{\text{A}}$, $M = mN_{\text{A}}$</p>
16	Two samples A and B of a gas initially of the same temperature and pressure are compressed from a volume V to a volume $V/2$ such that A is compressed isothermally and B adiabatically. The final pressure	<p>A. A greater than that of B</p> <p>B. A is equal to that of B</p> <p>C. A is less than that of B</p> <p>D. A is twice the pressure of B</p>
17	Truth of kinetic energy is confirmed by:	<p>A. Diffusion of gases</p> <p>B. Brownian motion</p> <p>C. Both A and B</p> <p>D. None of these</p>
18	The basis to define a temperature scale that is independent of material properties is provided by	<p>A. carbon cycle</p> <p>B. nitrogen cycle</p> <p>C. Carnot cycle</p> <p>D. irreversible cycle</p>
19	If n denotes the total number of molecules in cubic vessel such that m is mass of each molecule and l is length of each side of vessel, then nm/l^3 gives the:	<p>A. Force</p> <p>B. Density</p> <p>C. Work done</p> <p>D. Pressure</p>
20	Which of the following is a state variable	<p>A. entropy</p> <p>B. pressure</p> <p>C. volume</p> <p>D. all of them</p>