Physics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	Good absorbers of heat are	A. Poor emitters B. Non emitters C. Good emitters D. Highly polarized
2	On a cold morning a metal surface will fell colder to touch than a wooden surface, because	A. Metal has high specific heat B. Metal has high thermal conductivity C. Metal has low specific heat D. Metal has low thermal conductivity
3	Heat travels through vacuum by	A. Conduction B. Convection C. Radiation D. Both A and B
4	For making cooking utensils, which of the following pairs of properties is most suited?	A. Low specific heat and high conductivity B. Low specific heat and low conductivity C. High specific heat and high conductivity D. High specific heat and low conductivity
5	If a liquid is heated in weightlessness, the heat is transmitted through	A. Conduction B. Convection C. Radiation D. Neither, because the liquid cannot be heated in weightlessness
6	The coefficient of linear expansion of iron is 0.000011 per°K. An iron rod is 10 metre long at 27°C. The length of the rod will be decreased by 1.1 mm when the temperature of the rod changes to	A. 0°C B. 10°C C. 17°C D. 20°C
7	Two metal rods A and B have their initial lengths in the ratio 2 : 3 and coefficients of linear expansion in the ratio 4 : 3. When they are heated through same temperature difference the ratio of their linear expansion is	A. 1 : 2 B. 2 : 3 C. 3 : 4 D. 8 : 9
8	The length of a metallic rod is 5 meter at 100°C. The coefficient of cubical expansion of the metal will be	A. 2.0 x 10⁻⁵/°C B. 4.0x10⁻⁵/°C C. 6.0x10⁻⁵/°C D. 2.33x10⁻⁵/°C
9	Hydrogen and helium of same volume V at same temperature T and same pressure P are mixed to have same volume V. The resulting pressure of the mixtures will be	A. R/2 B. P C. 2P D. Depending on the relative mass of the gases
10	The kinetic energy of one molecule of a gas at normal temperature and pressure will be (k = 8.31 J/mole K) :	A. 1.7 x 10³J B. 10.2 x 10³J C. 3..4 x 10³J

		D. 6.8 x 10³J
11	At constant temperature, on increasing the pressure of a gas by 5%, its volume. The final temperature of the gas will be	A. 81 K B. 355 K C. 627 K D. 627°C
12	On colliding in a closed container, the gas molecules	A. Transfer momentum to the walls B. Momentum becomes zero C. Move in opposite directions D. Perform Brownian motion
13	At absolute temperature, the kinetic energy of the molecules	A. Becomes zero B. Becomes maximum C. Becomes minimum D. Remain constant
14	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
15	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
16	If the volume of the gas is to be increased by 4 times, then	A. Temperature and pressure must be doubled B. At constant P the temperature must be increased by 4 times C. At constant T the pressure must be increased by four times D. It cannot be increased
17	A real gas can be approximated to an ideal gas at	A. Low density B. High pressure C. High density D. Low temperature
18	If R is gas constant for 1 gram mole, $C_p$and $C_v$are specific heat for a solid then	A. C_p- C_v= R B. C_p- C_{v < R} C. C_p- C_{v = 0} D. C_p- C_{v > R}
19	Triple point of water is	A. 273.16°F B. 372.16K C. 273.16°F D. 273.16
20	Rate of diffusion is	A. Faster in solids than in liquids and gases B. Faster in liquids than in solids and gases C. Equal to solids, liquids and gases D. Faster in gases than in liquids and solids
21	Pressure of a gas at constant volume is proportion to	A. Total energy of gas B. Average P.E to molecules C. Average K.E of molecules D. Total internal energy of gas
22	According to kinetic theory of gases, molecules of a gas behave like	A. Inelastic spheres B. Perfectly elastic rigid sphere C. Perfectly elastic non-rigid spheres D. Inelastic non-rigid spheres
23	10 c.c. each of oxygen and hydrogen are kept in separate flasks. Then which of the following relations is correct?	A. Each have same number of molecules B. Don't have same number of molecules C. Can't be predicted D. None

24	An isochoric process is one which take place at	A. Constant internal energy B. Constant entropy C. Constant volume D. Constant pressure
25	Brownian motion increases due to	A. Increase in size of Brownian particle B. Increase in temperature of medium C. Increase in density of medium D. Increase in viscosity of medium
26	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. 3 : 4
27	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
28	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
29	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
30	Maximum density of H_2O is at the temperature	A. 32°F B. 39.2°F C. 42°F D. 4°F