Physics ECAT Pre Engineering Chapter 11 Heat & Thermodynamics

Sr	Questions	Answers Choice
1	For the working of a heat engine, there must be	A. a source of heat at high temperature B. a sink at low temperature C. both of them D. none of them
2	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
3	The absolute temperature for an ideal gas is	A. directly proportional to the rotational K.E of gas molecules B. directly proportional to the vibrational K.E of gas molecules C. directly proportional to the average translational K.E.of gas molecules D. directly proportional to the P.E. of gas molecules
4	When two objects are rubbed together, their internal energy	A. remains same B. decreases C. remains the same then decreases D. increases
5	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
6	An isochoric process is one which take place at	A. Constant internal energy B. Constant entropy C. Constant volume D. Constant pressure
7	The concept of entropy was introduced into the study of thermodynamics in	A. 1856 B. 1865 C. 1656 D. 1685
8	The ideal gas law is	A. P = nRT B. V = nRT C. PV =RT D. PV =nRT
9	A carnot cycle consists of	A. One step B. two step C. three steps D. four steps
10	When heat is removed from the system	A. negative B. positive C. zero D. any one of them
11	Generally a temperature scale is established by	A. one fixed point B. two fixed point C. three fixed point D. four fixed point
12	The highest efficiency of a heat engine whose low temperature is 17°C and the high temperature is 200°C is	A. 70% B. 100% C. 35% D. 38%
13	Truth of kinetic energy is confirmed by:	A. Diffusion of gases B. Brownian motion C. Both A and B D. None of these
		A. a finite volume of gas consists of very large number of molecules B. the gas molecules are in random

14	Which of the following is not an assumption of kinetic energy	motion C. collision between the gas molecules are inelastic D. the size of the gas molecules is much smaller than the separation between molecules
15	A diatomic gas molecule has	A. translational energy B. rotaional energy C. vibrational energy D. all of them
16	The behaviour of gases is well accounted by the kinetic theory based on	A. microscopic approach B. macroscopic approach C. both of them D. none of them
17	In thermodynamics, internal energy is the function of	A. temperature B. pressure C. state D. none of them
18	If N is the total number of molecules and V is the volume of the container, then the expression for the pressure of gas is	A. P=P/V<1/2mv²> B. P=2N/V<1/2mv²> C. P=2/3N/V<1/2mv²> D. P=2/3N/V<mv²>
19	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
20	First law of thermodynamic is special case of	A. Law of conservation of energy B. Charle's law C. Law of conservation of mass D. Boyle's law