

Physics ECAT Pre Engineering Chapter 11 Heat & Thermodynamics

Sr	Questions	Answers Choice
1	Generally a temperature scale is established by using certain physical properties of a material which varies	A. nonlinearly with temperature B. linearly with temperature C. either of them D. none of them
2	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
3	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
4	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
5	Which quantity is important in stating the entropy of the system	A. initial entropy B. final entropy C. change in entropy D. none of them
6	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. $8 : 9$
7	We can express the work in term of	A. directly measurable variables B. indirectly measurable variables C. either of them D. both of them
8	On the compression stroke of the petrol engine, the inlet valve is closed and the mixture is compressed	A. adiabatically B. isothermally C. isochorically D. isobarically
9	Which of the following is a state variable	A. entropy B. pressure C. volume D. all of them
10	The absolute temperature of the triple point of water is	A. 100°C B. 4°C C. 373 K D. 273.16 K
11	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
12	Which of the following is not thermo dynamical function?	A. Enthalpy B. Work done C. Gibb's energy D. Internal energy
13	On a cold morning a metal surface will feel 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
14	The rate of change of momentum of a molecule is equal to:	A. Pressure B. Work C. Density

15 In all natural processes where heat flows from one system to another, there is always a net
A. decrease in entropy
B. increase in entropy
C. decrease or increase in entropy
D. none of them

16 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

17 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

18 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

19 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

20 If an amount of heat enters the system it could
A. decrease the internal energy
B. not change the internal energy
C. increase the internal energy
D. none of them