1. In superconducting state

A) entropy decreases    B) thermal conductivity decreases
C) magnetic susceptibility increases    D) both entropy and thermal conductivity decrease

2. Identify the false statement:

A) Type I superconductors show complete Meissner effect
B) Type II superconductors partially admit magnetic flux
C) Type I superconductors have two critical magnetic fields
D) Type II superconductors show partial Meissner effect

3. At constant temperature, the pressure of the given mass of gas is __________ proportional to its volume.

A) inversely    B) directly    C) equally    D) not equally

4. If $\mu_r$ and $\chi_m$ are the relative permeability and susceptibility of a diamagnetic substance then

A) both are negative    B) both are positive
C) $\mu_r$ is positive and $\chi_m$ is negative    D) $\mu_r$ is negative and $\chi_m$ is positive

5. Identify the false statement:

A) Retentivity of soft iron is smaller than that for steel
B) Coercive force for soft iron is smaller than that for steel
C) Permeability for soft iron is greater than that for steel
D) Susceptibility for soft iron is smaller than that for steel

6. If $\chi_p$ and $\chi_f$ are the susceptibility values of a paramagnetic and a ferromagnetic materials, then as temperature increases

A) both the values increase    B) both the values decrease
C) $\chi_p$ increases, but $\chi_f$ decreases    D) $\chi_p$ decreases, but $\chi_f$ increases
7. The internal energy of the system changes from $U_1$ to $U_2$ on the supply of heat $Q$. If $W$ is the work done by the system, then increase in internal energy of the system is

A) $Q$  
B) $Q + W$  
C) $Q - W$  
D) $W$

8. The gas becomes vapour below the temperature called

A) critical temperature  
B) boiling temperature  
C) inversion temperature  
D) Debye temperature

9. The quantity that remains constant in adiabatic and isothermal processes are respectively

A) entropy, pressure  
B) entropy, temperature  
C) pressure, temperature  
D) pressure, entropy

10. The specific heat of the gas

A) remains constant at low pressure  
B) varies from zero to infinity  
C) at constant volume is greater than that at constant pressure  
D) at constant pressure is negative

11. The cause for the correction for the pressure in gas equation introduced by van der Waal is

A) finite size of the molecule  
B) intermolecular force of attraction  
C) intermolecular force of repulsion  
D) intramolecular force

12. A Carnot engine is working between 400 K and 200 K. If the source temperature is doubled, its efficiency increases by

A) 50%  
B) 33.3%  
C) 25%  
D) 75%

13. The dimensional formula of thermal conductivity $K$ is

A) $MLT^{-2}0$  
B) $ML^{-1}0^{-1}$  
C) $ML^{-1}T^{-3}0$  
D) $MLT^{-3}0^{-1}$

14. Thermal conductivity of poor conductors is determined by

A) Forbe’s method  
B) Newton’s law of cooling method  
C) Lee’s disc method  
D) Searle’s method