

PPSC Physics Topic 3 Thermal Properties of Matter

Sr	Questions	Answers Choice
1	For which process is the relation $\Delta Q = \Delta V$ true.	A. Isothermal B. Adiabatic C. isobaric D. Isochoric
2	if temperature on Celsius scale is 50 °C the temperature on Fahrenheit scale will be.	A. 102 °F B. 108 °F C. 112 °F D. 122 °F
3	What is a measure of the total energy of a thermodynamics system.	A. Entropy B. Enthalpy C. Randomness D. Chaos theory
4	Which of the given geometries will result in the largest convection coefficient.	A. Vertical plate B. Diagonal plate C. horizontal plate facing upwards D. Horizontal plate facing downwards
5	Mean free path of gas molecules is inversely proportional to its	A. Volume B. Pressure C. Temperature D. Size
6	In Isochoric process there is no	A. Work done B. Internal energy change C. Volume change or work done D. Heat exchanged
7	To which law of thermodynamics, the concept of temperature is related to.	A. Zeroth law B. First law C. Second law D. Third law
8	Which of the following is a thermodynamic potential	A. Internal energy B. Enthalpy C. Gibb's free energy D. All of these
9	The law of equation of energy is applicable to the system whose constituents are.	A. At rest B. In orderly motion C. in random motion D. Moving at constant speed
10	The base unit of temperature in SI is	A. Fahrenheit B. Celsius C. Kelvin D. Rankine
11	A frictionless heat engine can be 100% efficient only if its exhaust temperature is	A. Equal to the input temperature B. Less than the input temperature C. 0 °C D. 0 K
12	Which temperature is the absolute measure of temperature.	A. Thermodynamic temperature B. Freezing point C. Boiling point D. Absolute zero
13	What is the average K.E. of gas molecules at temperature equal to K.	A. $kt/3$ B. $3/2 KT$ C. $1/2 KT$ D. $2/3 KT$
14	Which law states that if two systems are in thermal equilibrium with a third system they are also in the thermal equilibrium with each other.	A. Third law of thermodynamics B. Second law of thermodynamics C. First law of thermodynamics D. Zeroth law of thermodynamics
15	A fixed mass of an ideal gas absorbs 1000 J of heat and expands under a constant pressure of 20 kPa from a volume of $25 \times 10^{-3} \text{ m}^3$ to a volume $50 \times 10^{-3} \text{ m}^3$ The change internal energy of the gas is.	A. 500 J B. 1000 J C. -1000 J D. Zero

16	Which of the following should not change in isothermal operation.	A. Heat constant B. Volume C. Pressure D. Temperature
17	At absolute zero of temperature.	A. The molecular energy is zero B. Molecules have translational K.E C. Molecules have rotational K.E. D. Molecules have maximum energy
18	Mean free path in a gas is the	A. Distance travelled by a molecule before hitting a wall B. Average distance travelled by a molecule in one second C. Average distance travelled between molecules between any two successive collisions D. Root mean square velocity
19	Which law states that a change in the internal energy of a closed thermodynamic system is equal to the difference between the heat supplied to the system and the amount of work by the system on the surrounding.	A. Zeroth law of thermodynamics B. First law of thermodynamics C. Second law of thermodynamics D. Third law of thermodynamics
20	The highest efficiency of a heat engine whose low temperature is 17 °C and the high temperature of 200 °C is.	A. 20% B. 30% C. 35% D. 40%