

## PPSC Physics Topic 3 Thermal Properties of Matter

Sr	Questions	Answers Choice
1	Which kind of thermodynamic process is defined as with no heat transfer into or out of a system i.e. $Q = 0$	A. Isobaric process B. Isochoric process C. Isothermal process D. Adiabatic process
2	Andrews isothermal helps to measure	A. Boiling point B. Boyle's temperature C. Temperature of inversion D. Critical temperature
3	A given mass of air occupies $12 \text{ m}^2$ at normal atmospheric pressure if the pressure is increased to 4 times the original value without changing the temperature what volume will the air occupy.	A. $3 \text{ cm}^3$ B. $6 \text{ cm}^3$ C. $9 \text{ cm}^3$ D. $12 \text{ cm}^3$
4	If the number of gas molecules in a cubical vessel is increase from $N$ to $3N$ then its pressure and total energy will be.	A. Half B. Three times C. Double D. Four times
5	Why freezer a refrigerator is located in the top section	A. Motor is not affected B. Heat gained from environment is less C. The entire chamber of freezer is cooled quickly D. Heat gained from environment is more
6	A diatomic gas contains only	A. Translational K.E. B. Rotational K.E. C. Vibrational K.E. D. All of these
7	if temperature on Celsius scale is $50^\circ\text{C}$ the temperature on Fahrenheit scale will be.	A. $102^\circ\text{F}$ B. $108^\circ\text{F}$ C. $112^\circ\text{F}$ D. $122^\circ\text{F}$
8	Advantage of using gases as thermometric substrates is that	A. Gases have a small coefficient of expansion B. Expansion of gases is irregular C. Gases can be obtained in pure form D. Gases have a large coefficient of expansion.
9	If a gas does $10 \text{ J}$ of external work while expanding then the change in internal energy is equal to.	A. $0 \text{ J}$ B. $10 \text{ J}$ C. $-10 \text{ J}$ D. $100 \text{ J}$
10	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
11	Two steam engine A and B have their sources at $900 \text{ K}$ and $600 \text{ K}$ and their sinks are at $450 \text{ K}$ and $300 \text{ K}$ respectively.	A. They are equally efficient B. A is less efficient than B C. A is more efficient than B D. Their efficiencies cannot be determined
12	Which quantity must be the same for two bodies if they are to be in thermal equilibrium.	A. Internal energy B. P.E C. Temperature D. Mass
13	Which of the following has negative specific heat	A. $\text{Ne}$ B. $\text{CO}_2$ C. $\text{O}_2$ D. Saturated vapours
14	An immersion heater rated at $150 \text{ W}$ is fitted into a large block of ice at $0^\circ\text{C}$ . The specific latent heat of fusionism $300 \text{ J g}^{-1}$ . How long does it take to melt $10 \text{ g}$ of ice.	A. $5 \text{ s}$ B. $10 \text{ s}$ C. $15 \text{ s}$

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15 What is the mean free path in a gas.

A. The distance travelled by a molecule before hitting a wall  
B. the average distance travelled by a molecule in one second  
C. the average distance travelled by molecules in one second  
D. The root mean square velocity

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16 Most cooking involves

A. Adiabatic process  
B. Isothermal process  
C. Isobaric process  
D. Isochoric process

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17 The term used for heat capacity per unit mass is.

A. Latent heat  
B. Specific heat  
C. Energy density  
D. Specific energy

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18 The specific heat of liquid

A. Decreases with temperature  
B. Increases with temperature  
C. Remains constant with change in temperature  
D. Increases with pressure

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19 Mean free path of gas molecules is inversely proportional to its.

A. Volume  
B. Pressure  
C. Temperature  
D. Weight

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20 The behavior of the gases that can be easily liquefied is like that of the.

A. Triatomic gases  
B. Ideal gases  
C. Van der walls gases  
D. Dia atomic gases

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