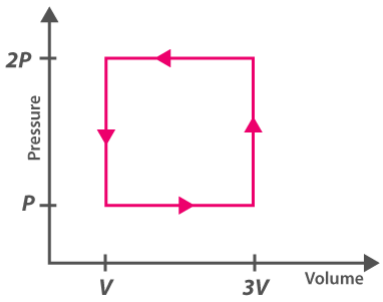
INDIAN SCHOOL NIZWA - WORKSHEET

PHYSICS

CH: 12

THERMODYNAMICS

Name: _____ Date:_____ Class: XI Sec: _A__

1.	Which of the following variables is a thermodynamic state variable (a) Work (b) Heat (c) Internal energy (d) None of these
2.	When steam is converted into water, internal energy of the system (a) Increases (b) Decreases (c) Remains constant (d) Becomes zero
3.	A thermodynamic system is explained with the help of the graph ABCD. What is the heat rejected by the system during the cycle?  (a) pV (b) 2pV (c) 4pV (d) 1/2pV
1.	What is meant by free expansion?
2.	What is a cyclic process? What is the change in the internal energy of a system after it completes one cycle of such a process?

3.	Out of the parameters: temperature, pressure, work and volume, which parameter does not characterise the thermodynamic state of matter?
4.	Is internal energy of a gas a function of pressure? Comment.
5.	Is it possible to increase the temperature of a gas without giving it heat?
6.	The temperature of a gas rises during an adiabatic compression, although no heat is given to the gas from outside. Why?
7.	A gas does work during adiabatic expansion. What is the source of mechanical energy so produced?
8.	Na me the thermodynamic variables defined by (i) Zeroth law (ii) first law of thermodynamics.
9.	What is the specific heat of a gas in an isothermal process?
10.	A liquid is being converted into steam at its boiling point. What will be the specific heat at this time?
11.	State two limitations of first law of thermodynamics.
12.	What is the significance of area under closed curve on a P V diagrams indicate?
13.	At 0^0C and normal atmospheric pressure, the volume of 1g of water increases from $1cm^3$ to $1.091cm^3$ on freezing. What will be the change in its internal energy? Normal atmospheric pressure is 1.013×10^5 Pa. Latent heat of ice = 80 cal g^{-1}.
14.	Calculate the specific heat at constant volume for a gas. Given specific heat at constant pressure is 6.85cal $mol^{-1} K^{-1}$.
15.	One mol of oxygen is heated at a constant pressure from 0^0C. what must be the quantity of heat that should be supplied to the gas for the volume to be doubled? The specific heat of oxygen under these conditions is 0.218cal $mol^{-1} K^{-1}$.
16.	Assertion: An adiabatic compression or expansion should be a sudden process Reason: There should be no time for the heat exchange to happen during an adiabatic process. Assertion: The process of isothermal compression or expansion should be very slow. Reason: For an isothermal process the walls of the container must be perfectly insulating.