Solution of Questions For Short Answer

Chapter 24 Kinetic Theory of Gases

Ans.1.

No as the cylinder is isolated system thus there would be no change in kinetic energy of molecules of gases thus there would be no change in temperature too.

Ans.2.

Because the gas inside cylinder is in liquid form it converts in to gas and occupies rest of the cylinder when the liquid gas is finished there is no more liquid to convert into gas thus in last few minutes the pressure inside cylinder reduces noticeably.

Ans.3.

No as the gas inside cylinder is in liquid form thus we can not consider it as ideal gas.

Ans.4.

Temperature can be transferred only through one molecule to other so there would be no temperature of vacuum , also we cannot define temperature of single molecule we need to calculate temperature of whole gas.

Ans.5.

As the pressure throughout the gas is same thus temperature distribution is same for all molecules.

Ans.6.

In case of neutron gas there would be no internal forces such as electrostatic forces between molecule between atoms of gases thus it can behave like ideal gas better than hydrogen gas.

Ans.7.

As 10kg leads to force of 98N thus as force is applied thus pressure inside the container increases.

Ans.8.

In case of zero pressure the gas might become solid so in that case molecules would not collide with wall thus they will not transfer momentum to the wall.

Ans.9.

When the gas is left for sufficient time , it becomes steady state. This assumption may be justified if the number of molecules is very large.

No we can not assign temperature to the gas, as to assign temperature we need molecules colliding with each other thus transferring heat.

Ans.10.

As charle's law say P is directly proportional to temperature thus as pressure is decreased so the pressure will be.

Ans.11.

As in pressure cooker liquid is changed in to vapors and they increase pressure inside cooker as we know pressure is directly proportional to temperature thus temperature increases along with pressure thus food is cooked faster.

Ans.12.

The collision in moplecules tranfer heat from one to another molecule thus lesser heat is tranfered thus there would be lesser evaporation.

Ans.13.

We can boil water at 30'C w can increase pressure on the water thus we can boil it.

If we touch a flask containing boiling water the flask is insulated thus no heat is tranfeed from inner to outer surface.

Ans.14.

The water on our body evaporates thus we feel cold after coming out of river.