

- Q1. Why do we require knowledge of the State of matter while dealing with data of experiments?
- Q2. What determine the state of a substance?
- Q3. Why are aerated water bottles kept under water during summer /
- Q4. The size of weather balloon becomes larger and larger as it ascends up into higher altitudes. Why?
- Q5. What is the boiling point of water at (i) higher altitude (ii) in pressure cooker?
- Q6. What is moist air lighter than dry air?
- Q7. How are the three states of matter compared? Give points of difference.
- Q8. Explain (i) Dispersion forces (ii) Dipole – Dipole forces (iii) Dipole induced Dipole forces (iv) Hydrogen bond by giving example.
- Q9. Draw graph of Boyle's Law.
- Q10. Give most common application of Dalton's law.
- Q11. What names are given to the following Ideal gas relationships?
- (a) Volume and moles at constant T and p. (c) V & T in Kelvin at constant p and n?
- (b) Press of non-reacting gases in mixture of constant T and V.
- Q12. State charle's Law, what is Absolute Law
- Q13. What is isochors and isobar?
- Q14. What is Ideal Gas Equation? Why Gas constant is known as Universal Gas constant.
- Q15. Why Ideal Gas Equation is called equation of state.
- Q16. State and explain Dalton's Law of partial pressures. Prove that partial pressure of a gas is equal to the product of its mole fraction and total pressure in a gaseous mixture.
- Q17. A human adult breathes in approximately 0.50 L of air at 1 atm. with each breath if an air tank holds 10L of air at 200 atm, how many breaths the tank will supply.
- Q18. What will happen to volume of fixed amt. Of gas at a certain T & P if:-
- (a) T is kept constant but press is decreased to $\frac{1}{4}^{\text{th}}$ of original value? (b) Press is halved and temp. in Kelvin is doubled ?
- Q19. Calculate the total press in a 10 L cylinder which contains 0.49 of He, 1.6g of Oxygen and 1.4g of N_2 at 27°C .
Also calculate the partial press of the gas int eh cylinder. Assume ideal behaviour for gases.
- Q20. At what temp centigrade will the volume of gas at 0°C double itself, Pressure remaining constant?