

Board – CBSE

Class – 11th

Topic – States of Matter: Gases and Liquids

1. What property of molecule is indicated by van der Waal's constant "a"?
2. What is an isotherm?
3. State the condition under which a real gas shows ideal behavior.
4. What do you understand by isobar in a graph?
5. Give two practical applications of Boyle's law.
6. What do you understand by STP and SATP?
7. Give the difference between total kinetic energy and translation kinetic energy. For what type of molecules the two are equal?
8. State Charles' law. Name the temperature at which the volume of a gas becomes equal to zero.
9. Deduce ideal gas equation.
10. Pressure of 1 g of an ideal gas A at 27°C is found to be 2 bar. When 2 g of another ideal gas B is introduced in the same flask at same temperature the pressure becomes 3 bar. Find a relationship between their molecular masses.
11. At a certain temperature the volume of gas sample is 120ml at one atmospheric pressure. Keeping the temperature same the pressure is raised to 5 atm. calculate the final volume of the gas.
12. At what temperature will a given volume of a gas at 0°C becomes double.(Assuming pressure is constant)
13. Explain why -273°C is the lowest possible temperature using Charles'law.
14. Comment on the statement that all gases behave ideally at low pressure and high temperature.
15. Give reason - Tyres of automobiles inflated to lesser pressure, in summer than in winter?
16. 2.9 g of a gas at 95°C occupied the same volume as 0.184 g of dihydrogen at 17°C, at the same pressure. What is the molar mass of the gas?
17. Explain why real gases deviate from ideal gas behavior.
18. Define Dalton's law of partial pressure. How is the pressure of dry gas determined by using this way?
19. Differentiate between a real gas and an ideal gas.
20. A sealed tube which can withstand a pressure of 3 atmospheres is filled with air at 27°C and 760 mm pressure. Find the temperature above which it will burst.