

**BRAIN INTERNATIONAL SCHOOL**  
**CHEMISTRY Assignment** **Class XI**  
**july '18**

**CH: STATE OF MATTER**

1. How do London forces vary down the group for noble gases?
2. Why it is difficult to compress solids and liquids to a smaller volume by applying pressure?
3. A 20.0 L volume of carbon dioxide gas was collected at 23 ° C and 1 atm pressure. What would be the volume of carbon dioxide if it were collected at 23 ° C and 0.830 atm?
- 4 . Starting from kinetic energy gas equation, prove that the average Kinetic energy of a gas is directly proportional to its absolute Temperature.
5. List the important postulates of kinetic theory of gases.
6. Calculate the pressure exerted by 10.2 g of NH<sub>3</sub> in a 3.0 dm<sup>3</sup> vessel at 25° C
  - (a) Using ideal gas equation
  - (b) Using Vander Waal's equation. The VanderWaal's constant are a= 4.17 dm<sup>6</sup> atm mol<sup>-2</sup> , b= 0.0371 dm<sup>3</sup> mol<sup>-1</sup> .
7. Why water has abnormally high boiling point (373 K) as compared to H<sub>2</sub>S (211 K)?
8. Give reasons for the following:
  - (a) Boiling point of liquid rises on increasing pressure.
  - (b) The level of mercury in a capillary tube is lower than the level Outside when a capillary tube is inserted in mercury.
  - (c) Liquids have higher density and lower compressibility than gases.
9. Write the significance of 'a' and 'b' in Vander Waal's equation.
10. Define the term critical temperature .write its relation with dipole moment.
11. Find packing efficiency of fcc and bcc.