**I.P.S.Sr.Sec.School**

**Max Time : 1 hr** **Class : 11th Chemistry Max Marks : 30**

**Unit Test**

1. Define Boyle’s law ? [ 3 ]
2. Define open system , closed system and isolated system ? [ 3 ]
3. 200 mL of a gas are found to have a pressure of 750 mm. What will be its volume if the pressure is doubled at the same temperature? [ 3 ]
4. A gas cylinder containing cooking gas can withstand a pressure of 14.9 atmospheres. The pressure gauge of the cylinder indicates 12 atmosphere at 27˚C. Due to sudden fire in the building, the temperature starts raising. At what temperature the cylinder will explode? [ 3 ]
5. Separate out the following into extensive and intensive property :

Volume , Temperature , Pressure , Boiling point , Free energy [ 3 ]

1. One litre flask containing vapours of methyl alcohol ( Mol mass = 32 ) at pressure of 1 atm and 25˚C was evacuated till the final pressure was 10-3mm. How many molecules of methyl alcohol were left in the flask? [ 3 ]
2. The density of a gas 3.80 g L-1 at STP. Calculate the density at 27˚C and 700 torr pressure. [ 3 ]
3. The enthalpy change (H) for the reaction : N2 (g) + 3 H2 (g) → 2 NH3 (g) is – 96 KJ at 298 K. What is U at 350 K. [ 3 ]
4. What will be the pressure exerted by a mixture of 3.2 g of methane and 4.4 g of carbon dioxide contained in a 9 dm3 flask at 27˚C? [ 3 ]
5. 38 mL of most nitrogen gas were collected at 27˚C and 746.5 mm pressure. Calculate the volume of the gas at 0˚C and 760 mm pressure. (Aq. Tension at 27˚C is 26.5 mm). [ 3 ]