

1. 14 gm of  $N_2$  gas occupies 11.2 litre at STP. And the volume occupied by the same mass of gas at 2 atm pressure and  $273^\circ C$  .  
Ans. 11.2L
2. 20 gm of a gas x occupies 11.2 litres at 2 atm pressure and  $27^\circ C$  . Find molecular mass of the gas.  
Ans. 22g
3. Find the temperature at which 5 moles of a gas occupies 20L at 10 atm pressure.  
Ans. -487.21K
4. 10 gm of gas at atmospheric pressure is cooled from  $273^\circ C$  to  $0^\circ C$  keeping the volume constant. What would be its pressure?  
Ans. 0.5 atm
5. 400 ml of oxygen at  $27^\circ C$  was cooled to  $-3^\circ C$  without change in pressure. Find the contraction in volume.  
Ans. 40ml
6. Find the pressure at which the volume of a gas decreases by 60% , if the initial pressure was 12atm at a constant temperature.  
Ans. 30 atm
7. 16 gm of  $O_2$  and 3 gm of  $H_2$  mixed and kept at 1 atm pressure and  $0^\circ C$  . Find the total volume occupied by the gas mixture.  
Ans. 44.8 L
8. 80 ml of  $O_2$  takes 2 min to pass through the hole what volume of  $SO_2$  will pass through the hole in 3 min.  
Ans. 120/ root 2
9. Equal masses of  $H_2$  , He and  $CH_4$  are mixed in empty container at 300 K. When total pressure is 52 atm. The partial pressure of  $CH_4$  in the mixture \_\_\_\_\_.  
Ans. 4atm
10. Equal masses of methane and sulphur dioxide are mixed in an empty container at 298 K. Find the fraction of total pressure by methane.  
Ans. 4/5
11. 0.4 g of a gas A occupies a volume of 880 ml. If 0.2 g of carbondioxide gas occupies a volume of 640 ml at same temperature and pressure. Find molecular mass of A.  
Ans. 20g
12. Four 1 litre flasks are separately filled with the gases  $O_2, N_2, CO_2, O_3$  under the same conditions. The ratio of number of molecules in these gases.  
Ans. 1:1:1
13. A mixture of  $H_2$  and  $O_2$  at one bar pressure contains 20% by weight of  $H_2$  . Find the partial pressure of hydrogen is  
Ans. 2/3 bar
14. The density of a gas at  $27^\circ C$  and 1 atm is d. At what temperature would its density be 0.5 d, if the pressure is kept constant?  
Ans. 600K
15. Equal amount of two gases of molecular weight 4 and 40 are mixed. The pressure of the mixture is 1.1 atm. What will be the partial pressure of the lighter gas in this mixture.  
Ans. 1atm