



SMART TEST SERIES

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Name:		Subject:	Chemistry-11
Roll # :		Unit(s):	3,
Class:	Inter Part-I	Test:	Type 4 - SQs + LQs Test - Marks=40
Date:		Time:	

Q.1 Write short answers of the following questions.

(15x2=30)

- (i) Justify the change in the position of a straight line obtained when a graph is plotted between $\frac{1}{V}$ on x-axis and pressure P on the y-axis for a gas at two different temperatures.
- (ii) Define Quantitative Definition of Charles's Law.
- (iii) Define absolute zero. What is its value?
- (iv) What is the difference between centigrade scale and Fahrenheit scale and which relationship is used for their interconversion?
- (v) Convert 40°C into $^{\circ}\text{F}$.
- (vi) What is Charles's law? Which scale of temperature is used to verify that $V/T = k$ (pressure and number of moles are constant)?
- (vii) Derive formula to determine density of a gas from ideal gas equation.
- (viii) Write expression for kinetic equation and root mean square velocity of gases.
- (ix) Define Avogadro's law with two suitable examples.
- (x) Derive an expression to find out the partial pressure of gas.
- (xi) The relative densities of two gases A and B are 1:1.5. Find out the volume of B which will diffuse in the same time in which 150 dm^3 of A will diffuse?
- (xii) Do you think that some of the postulates of kinetic molecular theory of gases are faulty? Point out these postulates.
- (xiii) Derive Boyle's law from KMT.
- (xiv) What is Joule Thomson Effect?
- (xv) What is plasma? How it is formed?

Q.2 Write long answers of the following questions.

(5x2=10)

- 1 Derive an equation to find out the partial pressure of a gas knowing the individual moles of component gases and the total pressure of the mixture.
- 2 A well known ideal gas is enclosed in a container having volume 500 cm^3 at S.T.P. Its mass comes out to be 0.72 g. What is the molar mass of this gas?