

<b>CHEMISTRY-11</b>	<b>Chapter#03 (Complete) Test-2B</b>		
	Name:	Class:	ID:
Date: / /	<b>Marks Total: 30</b>	<b>Marks Obtained:</b>	
Time Allowed: 50 Min.			

Maximum Marks: 06

**(OBJECTIVE TYPE)**

Time Allowed: 10 Min.

**NOTE:** Tick The Correct Option:

- Number of molecules in one  $\text{dm}^3$  of water is close to:
 

(a)  $\frac{6.02}{22.4} \times 10^{23}$       (b)  $\frac{12.04}{22.4} \times 10^{23}$       (c)  $\frac{18}{22.4} \times 10^{23}$       (d)  $55.6 \times 6.02 \times 10^{23}$
- Which of the following will have highest rate of diffusion?
 

(a)  $\text{CO}_2$       (b)  $\text{NH}_3$       (c)  $\text{HCl}$       (d)  $\text{SO}_2$
- 1 atm is equal to:
 

(a) 101325 torr      (b) 101325 Pa      (c) 101325  $\text{Nm}^{-2}$       (d) Both 'b' & 'c'
- If the pressure on a gas is doubled, the density of the gas will become:
 

(a) Double      (b) Four times      (c) Half      (d) Same
- Kinetic equation was derived by:
 

(a) Bernoulli      (b) Maxwell      (c) Clausius      (d) Boltzmann
- The SI units of van der Waals constant 'a' are:
 

(a)  $\text{Nm}^{-4} \text{mol}^{-2}$       (b)  $\text{Nm}^{-2} \text{mol}^{-2}$       (c)  $\text{Nm}^{+4} \text{mol}^{-2}$       (d)  $\text{Nm}^{+2} \text{mol}^{-2}$

Maximum Marks: 24

**(SUBJECTIVE TYPE)**

Time Allowed: 40 Min.

**SECTION-I**

**Q.2: Give brief answers to the following questions: (16)**

- Define pressure. What is the SI unit of pressure?
- The graph between P and PV is a straight line. Explain why?
- What is R? What is its physical significance?
- Do you think that 1 mole of  $\text{H}_2$  and 1 mole of  $\text{NH}_3$  at  $0^\circ\text{C}$  and 1 atm pressure will have Avogadro's number of particles?
- Differentiate between diffusion and effusion.
- Polar gases have higher critical temperature than non-polar gases. Why?
- $\text{H}_2$  and He are ideal at room temperature but  $\text{SO}_2$  and  $\text{Cl}_2$  are non-ideal Explain.
- What is plasma?

**SECTION-II**

**NOTE:** Attempt All Questions:

(08)

**Q.3: Derive an expression from general gas equation to calculate the density of gas.**

**Q.4: A sample of nitrogen gas is enclosed in a vessel of volume  $380 \text{ cm}^3$  at  $120^\circ\text{C}$  and pressure of  $101325 \text{ Nm}^{-2}$ . This gas is transferred to a  $10 \text{ dm}^3$  flask and cooled to  $127^\circ\text{C}$ . Calculate the pressure in  $\text{Nm}^{-2}$  exerted by the gas at  $27^\circ\text{C}$ .**