

# Inter (Part-I) 2019

Chemistry	Group-I	PAPER: I
Time: 20 Minutes	(OBJECTIVE TYPE)	Marks: 17

**Note:** Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- The order of effusion of  $\text{NH}_3$ ,  $\text{SO}_2$ ,  $\text{Cl}_2$  and  $\text{CO}_2$  gases is:

- (a)  $\text{NH}_3 > \text{SO}_2 > \text{Cl}_2 > \text{CO}_2$
- (b)  $\text{NH}_3 > \text{CO}_2 > \text{SO}_2 > \text{Cl}_2$  ✓
- (c)  $\text{Cl}_2 > \text{SO}_2 > \text{CO}_2 > \text{NH}_3$
- (d)  $\text{NH}_3 > \text{CO}_2 > \text{Cl}_2 > \text{SO}_2$

2- The nature of positive rays in discharge tube depends upon the nature of:

- (a) Anode
- (b) Cathode
- (c) Residual gas ✓
- (d) Discharge tube

3- 18 g glucose dissolved in 90 g water has relative lowering of vapour pressure equal to:

- (a)  $\frac{18}{90}$
- (b)  $\frac{1}{6}$
- (c)  $\frac{10}{51}$
- (d)  $\frac{1}{51}$  ✓

4- The unit of rate constant is same as that of rate of the reaction having order:

- (a) Zero ✓
- (b) One
- (c) Fractional
- (d) Two

5- The largest number of molecules is present in:

- (a) 5.4 g of  $\text{N}_2\text{O}_4$
- (b) 2.8 g of CO
- (c) 4.8 g of  $\text{C}_2\text{H}_6\text{O}$
- (d) 3.6 g of  $\text{H}_2\text{O}$  ✓

6- The amount of heat absorbed when one mole of gaseous atoms are formed from the element is called enthalpy of:

- (a) Formation
- (b) Reaction
- (c) Combustion
- (d) Atomization ✓

- 7- Solvent extraction is a separation technique used for the product, which is:  
(a) Non-volatile; thermally unstable  
(b) Volatile; thermally stable  
(c) Non-volatile; thermally stable  
(d) Volatile; thermally unstable ✓
- 8- For HF molecule  $\mu_{\text{obs}}$  is 1.90 D;  $\mu_{\text{ionic}}$  is 4.4 D. The percentage ionic character of HF molecule is:  
(a) 100 (b) 80  
(c) 57 (d) 43 ✓
- 9- The oxidation state of oxygen in  $\text{OF}_2$  is:  
(a) -2 (b) -1  
(c) +1 (d) +2 ✓
- 10- The solid which has no definite crystalline shape:  
(a) Sugar (b) Salt  
(c) Glass ✓ (d) Dry ice
- 11- 1.00 mole of  $\text{SO}_2$  contains:  
(a)  $6.02 \times 10^{23}$  atoms of oxygen  
(b)  $3.01 \times 10^{23}$  molecules of  $\text{SO}_2$   
(c)  $6.02 \times 10^{23}$  molecules of  $\text{SO}_2$  ✓  
(d)  $3.01 \times 10^{23}$  atoms of sulphur
- 12- Quantum numbers, which represent 2p orbitals are:  
(a)  $n = 2, l = 1$  ✓ (b)  $n = 1, l = 2$   
(c)  $n = 1, l = 0$  (d)  $n = 2, l = 0$
- 13- Density of ice is minimum at  $4^\circ\text{C}$  due to:  
(a) Empty spaces in structure of ice ✓  
(b) Tetrahedral shape of crystal of ice  
(c) Large bond lengths  
(d) Large bond angles
- 14- Nature of bonds in  $\text{N}_2$  molecule is:  
(a) One sigma; two pi bonds ✓  
(b) Two sigma; two pi bonds  
(c) Two sigma; one pi bond  
(d) Three pi bonds

- 15- The deviation of a gas from ideal behaviour is maximum at:
- (a)  $-10^{\circ}\text{C}$  and 5 atm ✓      (b)  $-10^{\circ}\text{C}$  and 2 atm  
(c)  $100^{\circ}\text{C}$  and 2 atm      (d)  $0^{\circ}\text{C}$  and 2 atm
- 16- For which of the following reaction, the unit of equilibrium constant ( $K_c$ ) is reciprocal of molar concentration ( $\text{M}^{-1}$ ):
- (a)  $3\text{H}_{2(g)} + \text{N}_{2(g)} \rightleftharpoons 2\text{H}_3\text{N}_{(g)}$   
(b)  $2\text{NO}_{2(g)} \rightleftharpoons \text{N}_2\text{O}_{4(g)}$  ✓  
(c)  $\text{H}_{2(g)} + \text{I}_{2(g)} \rightleftharpoons 2\text{HI}_{(g)}$   
(d)  $\text{N}_{2(g)} + \text{O}_{2(g)} \rightleftharpoons 2\text{NO}_{(g)}$
- 17- The salt dissolved in water forms a solution of pH greater than 7:
- (a) NaCl      (b)  $\text{Na}_2\text{CO}_3$  ✓  
(c)  $\text{CuSO}_4$       (d)  $\text{NH}_4\text{Cl}$

