

Name:		Roll No.		Subject	Chemistry
Test Type	Only Exercise MCQs	Class	11 <sup>th</sup>	Date	
Chapter	03	Unit	03	Time	

## Q. No. 1: Multiple Choice Questions (MCQs)

### I. Chemical bond formation takes place when:

- a) Force of attraction is equal to the force of repulsion  
 b) Force of repulsion is greater than force of attraction  
 c) Force of attraction overcomes force of repulsion  
 d) None of these

### II. An ionic compound $A^+B^-$ is most likely to be formed when:

- a) Ionization energy of A is high and electron affinity of B is low  
 b) Ionization energy of A is low and electron affinity of B is high  
 c) Both the ionization energy of A and electron affinity of B are high  
 d) Both the ionization energy of A and electron affinity of B are low

### III. Which of the following molecules has zero dipole moment?

- a)  $NH_3$                       b)  $CHCl_3$                       c)  $H_2O$                       d)  $BF_3$

### IV. The numbers of $\sigma$ and $\pi$ bonds in the $N_2$ molecule are:

- a) One  $\sigma$  and one  $\pi$  bond                      b) One  $\sigma$  and two  $\pi$  bonds  
 c) Three  $\sigma$  bonds only                      d) Two  $\sigma$  and one  $\pi$

### V. Which of the following species has unpaired electrons in antibonding molecular orbitals?

- a)  $O_2^{2+}$                       b)  $N_2^{2-}$                       c)  $B_2$                       d)  $F_2$

### VI. The shape of $ICl_5$ according to the VSEPR model is:

- a) Tetrahedral                      b) Trigonal planar                      c) Trigonal bipyramidal                      d) T-shape

### VII. Which of the following molecules has a net dipole moment?

- a)  $CO_2$                       b)  $CS_2$                       c)  $SO_2$                       d)  $CCl_4$

### VIII. How many electrons are present in the valence shell of P in $PO_4^{3-}$ ?

- a) 8                      b) 10                      c) 12                      d) 14

### IX. How many extra electrons than a normal octet are there in the valence shell of I in $ICl_5$ ?

- a) 2                      b) 3                      c) 4                      d) 5

### X. What is the type and shape of $[ICl_4]^-$ according to the VSEPR model?

- a)  $AB_4$ , tetrahedral                      b)  $AB_4$ , pyramidal  
 c)  $AB_5$ , trigonal bipyramidal                      d)  $AB_6$ , square planar

### XI. Which of the following molecules has a central atom with $sp^3$ hybridization and a tetrahedral electron pair geometry?

- a)  $BF_3$                       b)  $SO_2$                       c)  $CCl_4$                       d)  $PCl_5$

### XII. Which of the following species contains a dative bond?

- a)  $CH_4$                       b)  $NaCl$                       c)  $NH_4^+$                       d)  $O_2$