INORGANIC CHEMISTRY

DPP
DAILY PRACTICE PROBLEMS

DPP No. 8

Total Marks : 25

Max. Time : 26 min.

Topic : Chemical Bonding

Type of Questions		M.M., Min.
Single choice Objective ('–1' negative marking) Q.1 to Q.7	(3 marks, 3 min.)	[21, 21]
Subjective Questions ('–1' negative marking) Q.8	(4 marks, 5 min.)	[4, 5]

1. What is the nature of chemical bonding between Cs and F ?

(A) Ionic (B) Covalent (C) Coordinate (D) Metallic

2. The lattice energy of sodium chloride crystal is the energy released when one mole of NaCl(s) is formed from:

(A) Na(g) and Cl(g) atoms (B) $Na^+(g)$ and $Cl^-(g)$ ions

(C) Na(s) and $Cl_2(g)$ (D) crystallization from aqueous solution of sodium chloride.

3. Which does not favour the formation of ionic compound :

(A) the ionization energy of the metal atom should be low.

(B) the lattice energy of the compound formed must be low.

(C) the electron affinity of the non-metal should be high.

(D) the lattice energy of the compound formed must be high.

4. Octet configuration cannot be achieved through :

(A) loss of electrons (B) gain of electrons

(C) sharing of electrons (D) exchange of electrons

5. In which of the following molecules, bonding is not taking place in excited state :

(A) CH_4 (B) BF_3 (C) IF_7 (D) PCl_3

6. The bonds present in N_2O are :

(A) only ionic (B) covalent and co-ordinate

(C) only covalent (D) covalent and ionic

7. Which of the following species does not obey octet rule :

(A) SiF_4 (B) PCl_5 (C) ICl (D) BF_4^-

8. Answer the following :

(i) What is the covalency of Carbon in C_2H_4 ?

(ii) What types of bonds and how many of each are present in NH_4^+ ion ?

Answer Key

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1.	(A)	**2.**	(B)	**3.**	(B)	**4.**	(D)	**5.**	(D)
6.	(B)	**7.**	(B)	**8.**	(i) four (ii) three covalent and one coordinate.				

Hints & Solutions

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5. $C^* \rightarrow 1s^2\ 2s^1\ 2p^3$ 4 unpaired electron $\therefore$ 4 bonds
$B^* \rightarrow 1s^2\ 2s^1\ 2p^2$ 3 unpaired electron $\therefore$ 3 bonds
$I^* \rightarrow 5s^1\ 5p^3\ 5d^3$ 7 unpaired electron $\therefore$ 7 bonds
$P \rightarrow 3s^2\ 3p^3$ 3 unpaired electron $\therefore$ 3 bonds
* represent excited state

8. (i) four (ii) three covalent and one coordinate.