

Arjuna JEE 2.0 2026

Chemistry

Chemical Bonding and Molecular Structure

DPP: 1

Time duration-26 Mins

Q1 In which one of the following compounds does the central atom obey the octet rule?

- (A) XeF_4
- (B) XeOF_2
- (C) SCl_2
- (D) AlCl_3

Q2 The attractive force which holds various constituents together in different chemical species is called

- (A) valence bond
- (B) chemical bond
- (C) atomic bond
- (D) electrovalent bond

Q3 The octet rule is observed in

- (A) PCl_5
- (B) CO_2
- (C) BCl_3
- (D) SF_6

Q4 Which one of the following contains ionic, covalent and co-ordinate bonds?

- (A) NaOH

(B) NaCl

(C) HCl

(D) NaNCl

Q5 Which of the following is **correct** for the process of formation of a chemical bond?

- (A) Electron-electron repulsion becomes more than the nucleus-electron attraction.
- (B) Energy of the system does not change.
- (C) Energy increases.
- (D) Energy decreases.

Q6 Example of super octet molecule is;

- (A) SF_6
- (B) PCl_5
- (C) IF_7
- (D) All of these

Q7 The number of electrons involved in the bond formation in N_2 molecule is:

- (A) 2
- (B) 4
- (C) 10
- (D) 6

Q8 The octet rule is not obeyed in:

- (A) CO_2
- (B) BCl_3
- (C) PCl_5
- (D) (2) and (3) both

Q9 NH_3 and BF_3 combine readily because of the formation of:



- (A) A covalent bond.
- (B) A hydrogen bond.
- (C) A coordinate bond.
- (D) An ionic bond.

Q10 Which of the following species are hypervalent?

1. ClO_4^- 2. BF_3
3. SO_4^{2-} 4. CO_3^{2-}

- (A) 1, 2, 3
- (B) 1, 3
- (C) 3, 4
- (D) 1, 2



Answer Key

Q1 (C)

Q2 (B)

Q3 (B)

Q4 (D)

Q5 (D)

Q6 (D)

Q7 (D)

Q8 (D)

Q9 (C)

Q10 (B)



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