

# Arjuna NEET 2026

# Inorganic Chemistry

DPP: 1

# Chemical Bonding and Molecular Structure

- Q1** Which among the following is an electron deficient compound?  
(A)  $\text{NH}_3$   
(B)  $\text{PH}_3$   
(C)  $\text{BH}_3$   
(D)  $\text{AsH}_3$

**Q2** The octet rule is observed in  
(A)  $\text{PCl}_5$   
(B)  $\text{CO}_2$   
(C)  $\text{BCl}_3$   
(D)  $\text{SF}_6$

**Q3** 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.

**Q4** An odd electron molecule among the following is  
(A)  $\text{CO}$   
(B)  $\text{SO}_2$   
(C)  $\text{CO}_2$   
(D)  $\text{NO}$

**Q5** 
$$\begin{array}{c} \ddot{\text{N}} = \text{N} = \ddot{\text{N}} \\ (\text{I}) \quad (\text{II}) \quad (\text{III}) \end{array}$$
 Calculate the formal charge of each I, II and III nitrogen atom respectively

**Q6** The formal charge on carbon atom in carbonate ion is:  
(A) +1  
(B) -1  
(C) +4  
(D) Zero

**Q7** Expanded octet is present in  
(A)  $\text{SF}_6$   
(B)  $\text{PCl}_5$   
(C)  $\text{IF}_7$   
(D) All of these

**Q8** Molecule which follows octet rule  
(A)  $\text{ClO}_2$   
(B)  $\text{NO}$   
(C)  $\text{NO}_2$   
(D)  $\text{CCl}_4$

**Q9** In which of the following molecule, central atom has less than 8 electrons in outermost orbit?  
(A)  $\text{SnCl}_4$   
(B)  $\text{BF}_3$   
(C)  $\text{PCl}_5$   
(D) All of these

**Q10** The formal charges on the three O-atoms in  $\text{O}_3$  molecule are  
(A) 0, 0, 0  
(B) 0, 0, -1  
(C) 0, 0, +1  
(D) 0, +1, -1



## Answer Key

Q1 (C)  
Q2 (B)  
Q3 (D)  
Q4 (D)  
Q5 (C)

Q6 (D)  
Q7 (D)  
Q8 (D)  
Q9 (B)  
Q10 (D)



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# Arjuna NEET (2026)

## Inorganic Chemistry

### Chemical Bonding and Molecular Structure

DPP: 2

- Q1** In the following electron-dot structure, calculate the formal charge on each nitrogen atom from left to right



- (A) -1, -1, +1
- (B) -1, +1, -1
- (C) +1, -1, -1
- (D) +1, -1, +1

- Q2** Which of the following is the correct electron dot structure of  $\text{N}_2\text{O}$  molecule?

- (A) : $\ddot{\text{N}} = \text{N} = \ddot{\text{O}}$ :
- (B) : $\ddot{\text{N}} - \text{N} = \ddot{\text{O}}$ :
- (C) : $\text{N} = \text{N} = \ddot{\text{O}}$ :
- (D) : $\text{N} \equiv \overset{+}{\text{N}} - \ddot{\text{O}}$ :

- Q3** In which of the following molecule, central atom has more than 8 electrons in outermost orbit?

- (A)  $\text{SO}_3$
- (B)  $\text{SO}_2$
- (C)  $\text{P}_2\text{O}_5$
- (D) All of these

- Q4** The number of lone pair present in N-atom in  $\text{NH}_4^+$  ion is:

- (A) Zero
- (B) 1
- (C) 2
- (D) 3

- Q5** Which one of the following elements will never obey octet rule

- (A) Na
- (B) F
- (C) S
- (D) H

- Q6** Maximum number of bonds in

- (A)  $\text{CO}_2$
- (B)  $\text{H}_2\text{O}$

- (C)  $\text{H}_2\text{S}$
- (D) All have same number of bonds because all are triatomic molecule

- Q7** Electron deficient species among the following is

- (A)  $\text{PH}_3$
- (B)  $(\text{CH}_3)_2$
- (C)  $\text{BH}_3$
- (D)  $\text{NH}_3$

- Q8** In  $\text{PO}_4^{3-}$  ion the formal charge on the oxygen atom of P – O bond is:

- (A) +1
- (B) -1
- (C) -0.75
- (D) +0.75

- Q9** Formal charge present on carbon atom in CO

- (A) +1
- (B) -1
- (C) -2
- (D) zero

- Q10** The number of lone pair present in N-atom in  $\text{NF}_3$  molecule is:

- (A) Zero
- (B) 1
- (C) 2
- (D) 3

- Q11** Molecule which follows octet rule

- (A)  $\text{ClO}_2$
- (B) NO
- (C)  $\text{NO}_2$
- (D)  $\text{CCl}_4$

- Q12** The average formal charge on oxygen atom in carbonate ion is

- (A)  $-4/3$
- (B)  $-2/3$
- (C)  $-1/3$
- (D)  $-2/4$

- Q13** In which of the following molecule, central atom has less than 8 electrons in outermost orbit?

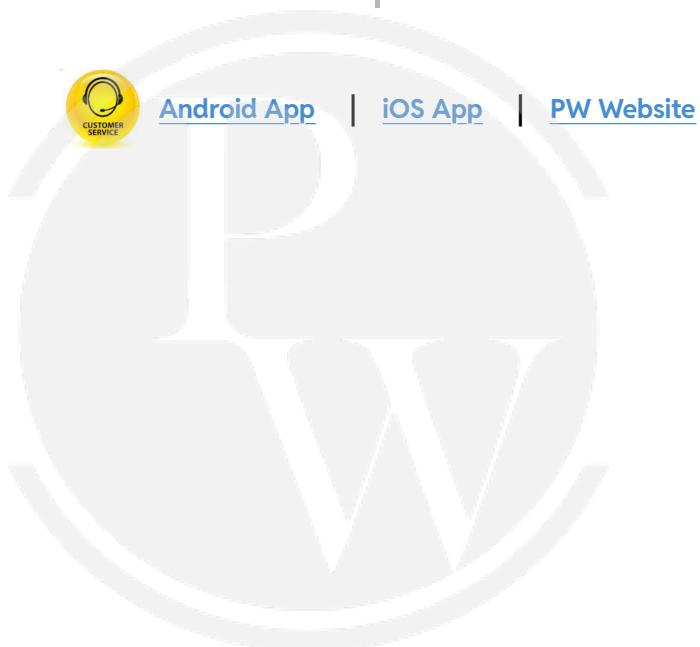
- (A)  $\text{SnCl}_4$
- (B)  $\text{BF}_3$
- (C)  $\text{PCl}_5$
- (D) All of these


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## Answer Key

Q1 (B)  
Q2 (D)  
Q3 (D)  
Q4 (A)  
Q5 (D)  
Q6 (A)  
Q7 (C)

Q8 (C)  
Q9 (B)  
Q10 (B)  
Q11 (D)  
Q12 (B)  
Q13 (B)



# Arjuna NEET 2026

## Inorganic Chemistry

### Chemical Bonding and Molecular Structure

DPP: 3

**Q1** Which of the following molecules does **not** have coordinate bonds?

- (A)  $\text{PH}_4^+$
- (B)  $\text{NO}_2$
- (C)  $\text{O}_3$
- (D)  $\text{CO}_3^{2-}$

**Q2** Which of the following molecules has no dative bond?

- (A) CO
- (B)  $\text{CO}_3^{2-}$
- (C)  $\text{SO}_4^{2-}$
- (D) All of these

**Q3** The ion that is isoelectronic with CO is

- |                    |                    |
|--------------------|--------------------|
| (A) $\text{CN}^-$  | (B) $\text{O}_2^+$ |
| (C) $\text{O}_2^-$ | (D) $\text{N}_2^+$ |

**Q4** Which of the following molecules has more than one lone pair?

- (A)  $\text{SO}_2$
- (B)  $\text{XeF}_2$
- (C)  $\text{SiF}_4$
- (D)  $\text{CH}_4$

**Q5** The pair of compounds having identical shapes for their molecules is

- (A)  $\text{CH}_4$ ,  $\text{SF}_4$
- (B)  $\text{BeCl}_2$ ,  $\text{ClF}_3$
- (C)  $\text{XeF}_2$ ,  $\text{ZnCl}_2$
- (D)  $\text{SO}_2$ ,  $\text{CO}_2$

**Q6** Number of *b. p.* and *l. p.* on N atom in  $\text{NO}_3^-$  is

- (A) 3 b.p. + 1 l.p.
- (B) 4 b.p. + 0 l.p.
- (C) 2 b.p. + 2 l.p.
- (D) 1 b.p. + 1 l.p.

**Q7** Which of the following is not tetrahedral?

- (A)  $\text{CCl}_4$
- (B)  $\text{SiF}_4$
- (C)  $\text{ClO}_4^-$
- (D)  $\text{SF}_6$

**Q8** Among the following molecules:  $\text{SO}_2$ ,  $\text{SF}_4$ ,  $\text{ClF}_3$ ,  $\text{BrF}_5$  and  $\text{XeF}_4$  which of the following shapes **does not** describe any of the molecules mentioned?

- (A) Bent
- (B) Trigonal bipyramidal
- (C) See-saw
- (D) T-shape

**Q9** The shape of  $\text{XeOF}_2$  on the basis of VSEPR theory is

- (A) See saw
- (B) V-shaped
- (C) trigonal planar
- (D) T-shaped

**Q10** Out of  $\text{N}_2\text{O}$ ,  $\text{SO}_2$ ,  $\text{I}_3^+$ ,  $\text{I}_3^-$ ,  $\text{H}_2\text{O}$ ,  $\text{NO}_2^-$  and  $\text{N}_3^-$ , the linear species are

- (A)  $\text{NO}_2^-$ ,  $\text{I}_3^+$ ,  $\text{H}_2\text{O}$
- (B)  $\text{N}_2\text{O}$ ,  $\text{I}_3^+$ ,  $\text{N}_3^-$
- (C)  $\text{N}_2\text{O}$ ,  $\text{I}_3^-$ ,  $\text{N}_3^-$
- (D)  $\text{N}_3^-$ ,  $\text{I}_3^+$ ,  $\text{SO}_2$ .



## Answer Key

Q1 (D)  
Q2 (B)  
Q3 (A)  
Q4 (B)  
Q5 (C)

Q6 (B)  
Q7 (D)  
Q8 (B)  
Q9 (D)  
Q10 (C)



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## Inorganic Chemistry

### Chemical Bonding and Molecular Structure

DPP: 4

**Q1** Molecular formulae and shapes of some molecules are given below. Choose the incorrect match.

Formula	Shape
(1) NH <sub>3</sub>	— Trigonal pyramidal
(2) SF <sub>4</sub>	— Tetrahedral
(3) CIF <sub>3</sub>	— T-shaped
(4) PCl <sub>5</sub>	— Trigonal bipyramidal

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

**Q2** The molecule that has linear structure is

- (A) CO<sub>2</sub>
- (B) NO<sub>2</sub>
- (C) SO<sub>3</sub>
- (D) SiO<sub>2</sub>

**Q3** The geometry of electron pairs around S in SF<sub>6</sub> is

- (A) Octahedral
- (B) Trigonal bipyramidal
- (C) Square pyramidal
- (D) Pentagonal planar

**Q4** Number of 90° angles and 180° angle present in SF<sub>6</sub> molecule respectively are

- (A) 4,4
- (B) 8,3
- (C) 12,3
- (D) 12,4

**Q5** The correct order of repulsion between electron pairs

- (A) lone pair - lone pair = lone pair - bond pair > bond pair - bond pair
- (B) lone pair - lone pair > lone pair - bond pair > bond pair - bond pair

(C) lone pair - lone pair < lone pair - bond pair < bond pair - bond pair

(D) lone pair - lone pair = lone pair - bond pair < bond pair - bond pair

**Q6** In XeO<sub>3</sub> F<sub>2</sub>, the number of bond pair(s), π-bond(s) and lone pair(s) on Xe atom respectively are

- (A) 5, 2, 0
- (B) 4, 2, 2
- (C) 8, 3, 0
- (D) 4, 4, 0

**Q7** Which species has the same shape as NH<sub>3</sub> ?

- (A) SO<sub>3</sub><sup>2-</sup>
- (B) CO<sub>3</sub><sup>2-</sup>
- (C) NO<sub>3</sub><sup>-</sup>
- (D) SO<sub>3</sub>

**Q8** The molecule exhibiting maximum number of non-bonding electron pairs (1.p.) around the central atom is

- (A) XeOF<sub>4</sub>
- (B) XeO<sub>2</sub> F<sub>2</sub>
- (C) XeF<sub>5</sub><sup>-</sup>
- (D) XeO<sub>3</sub>

**Q9** BeCl<sub>2</sub> is not isostructural with

- (A) ICl<sub>2</sub><sup>-</sup>
- (B) C<sub>2</sub>H<sub>2</sub>
- (C) XeF<sub>2</sub>
- (D) GeCl<sub>2</sub>

**Q10** Which of the following species the one having a square planar structure is

- (A) NH<sub>4</sub><sup>+</sup>
- (B) BF<sub>4</sub><sup>-</sup>
- (C) XeF<sub>4</sub>
- (D) SCl<sub>4</sub>



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## Answer Key

- Q1 (B)  
Q2 (A, D)  
Q3 (A)  
Q4 (C)  
Q5 (B)

- Q6 (C)  
Q7 (A)  
Q8 (C)  
Q9 (D)  
Q10 (C)



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# Arjuna NEET (2026)

## Inorganic Chemistry

### Chemical Bonding and Molecular Structure

DPP: 5

- Q1** Which of the following statements about  $\text{CO}_3^{2-}$  ion is correct?
- The C – O bond order is 1.5.
  - The average formal charge on each oxygen atom is -0.67.
  - It has two C – O single bonds and one C = O double bond.
  - The hybridization of central atom is  $\text{sp}^3$ .
- Q2** Which of the following have same hybridisation but are not isostructural?
- $\text{ClF}_3$ ,  $\text{I}_3^-$
  - $\text{BrF}_3$  and  $\text{NH}_3$
  - $\text{CH}_4$  and  $\text{NH}_4^+$
  - $\text{XeO}_3$  and  $\text{NH}_3$
- Q3** Which of the following does not have  $\text{sp}^3$  hybridisation?
- $\text{CH}_4$
  - $\text{XeF}_4$
  - $\text{H}_2\text{O}$
  - $\text{NH}_3$
- Q4** A  $\text{sp}^3$  hybrid orbital contains:
- $\frac{3}{4}$  s-character
  - $\frac{1}{4}$  p-character
  - $\frac{3}{4}$  p-character
  - $\frac{1}{2}$  s-character
- Q5** The hybridisation of S in  $\text{SO}_2$  is
- $\text{sp}$
  - $\text{sp}^2$
  - $\text{sp}^3$
  - $\text{dsp}^2$

- Q6** The correct hybridization state of Sulphur atom in  $\text{SF}_2$ ,  $\text{SF}_4$  and  $\text{SF}_6$  molecules is respectively
- $\text{sp}^3 \text{d}$ ,  $\text{sp}^3$ ,  $\text{sp}^3 \text{d}^2$
  - $\text{sp}^3$ ,  $\text{sp}^3 \text{d}$ ,  $\text{sp}^3 \text{d}^2$
  - $\text{sp}^3 \text{d}^2$ ,  $\text{sp}^3$ ,  $\text{sp}^3 \text{d}$
  - $\text{sp}^3 \text{d}^2$ ,  $\text{sp}^3 \text{d}$ ,  $\text{sp}^3$
- Q7** The hybridization of P in phosphate ion ( $\text{PO}_4^{3-}$ ) is the same as in :
- I in  $\text{ICl}_4^-$
  - S in  $\text{SO}_3$
  - N in  $\text{NO}_3^-$
  - S in  $\text{SO}_3^{2-}$
- Q8** In which of the following molecules/ions are all the bonds not equal?
- $\text{BF}_4^-$
  - $\text{SF}_4$
  - $\text{SiF}_4$
  - $\text{XeF}_4$
- Q9** The hybridization of atomic orbitals of nitrogen in  $\text{NO}_2^+$ ,  $\text{NO}_3^-$  and  $\text{NH}_4^+$
- $\text{sp}$ ,  $\text{sp}^3$  and  $\text{sp}^2$  respectively
  - $\text{sp}$ ,  $\text{sp}^2$  and  $\text{sp}^3$  respectively
  - $\text{sp}^2$ ,  $\text{sp}$  and  $\text{sp}^3$  respectively
  - $\text{sp}^2$ ,  $\text{sp}^3$  and  $\text{sp}$  respectively
- Q10** Decreasing order of size of various hybrid orbitals is
- $\text{sp} > \text{sp}^2 > \text{sp}^3$
  - $\text{sp}^3 > \text{sp}^2 > \text{sp}$
  - $\text{sp}^2 > \text{sp} > \text{sp}^3$
  - $\text{sp} > \text{sp}^3 > \text{sp}^2$


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## Answer Key

Q1 (B)

Q2 (A)

Q3 (B)

Q4 (C)

Q5 (B)

Q6 (B)

Q7 (D)

Q8 (B)

Q9 (B)

Q10 (B)



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# Inorganic Chemistry

## Chemical Bonding and Molecular Structure

DPP: 6



- (C) N : pyramidal,  $sp^3$ , B : planar,  $sp^2$   
 (D) N : pyramidal,  $sp^3$ ; B : tetrahedral,  $sp^3$

**Q13** Correct order of bond angle is :

- (A)  $BeCl_2 > SO_2$   
 (B)  $BeCl_2 < SO_2$   
 (C)  $BeCl_2 = SO_2$   
 (D) Can't predicted

**Q14** The  $AsF_5$  molecule is trigonal bipyramidal. The hybrid orbitals used by the As atoms for bonding

are

- (A)  $d_{x^2-y^2}, d_{z^2}, s, p_x, p_y$   
 (B)  $d_{xy}, s, p_x, p_y, p_z$   
 (C)  $d_{x^2-y^2}, s, p_x, p_y$   
 (D)  $s, p_x, p_y, p_z, d_{z^2}$

**Q15** s – p overlapping is present in

- (A)  $Br_2$   
 (B)  $H_2$   
 (C)  $O_2$   
 (D) HF

## Answer Key

- Q1** (B)  
**Q2** (D)  
**Q3** (B)  
**Q4** (A)  
**Q5** (B)  
**Q6** (A)  
**Q7** (B)  
**Q8** (D)

- Q9** (A)  
**Q10** (A)  
**Q11** (B)  
**Q12** (A)  
**Q13** (A)  
**Q14** (D)  
**Q15** (D)



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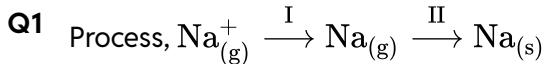
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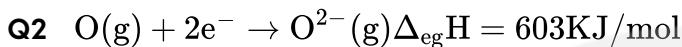
## Inorganic Chemistry

DPP: 7

### Classification of Elements and Periodicity in Properties



- (A) In (I) energy released, (II) energy absorbed
- (B) In both (I) and (II) energy is absorbed
- (C) In both (I) and (II) energy is released
- (D) In (I) energy absorbed, (II) energy Released



The positive value of  $\Delta_{\text{eg}}H$  is due to:

- (A) Energy is released to add on  $1\text{e}^-$  to  $\text{O}^-$
- (B) Energy is required to add on  $1\text{e}^-$  to  $\text{O}^-$
- (C) Energy is needed to add on  $1\text{e}^-$  to  $\text{O}$
- (D) None of the above is correct

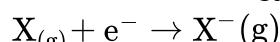
**Q3** The electron affinity values for the halogens shows the following trend

- (A)  $\text{F} < \text{Cl} > \text{Br} > \text{I}$
- (B)  $\text{F} < \text{Cl} < \text{Br} < \text{I}$
- (C)  $\text{F} > \text{Cl} > \text{Br} > \text{I}$
- (D)  $\text{F} < \text{Cl} > \text{Br} < \text{I}$

**Q4** Which of the following configuration will have least electron affinity?

- (A)  $\text{ns}^2\text{np}^5$
- (B)  $\text{ns}^2\text{np}^2$
- (C)  $\text{ns}^2\text{np}^3$
- (D)  $\text{ns}^2\text{np}^4$

**Q5** The amount of energy released for the process



is minimum and maximum respectively for

- (i) F
- (ii) Cl
- (iii) N
- (iv) B

The correct answer is:

- (A) (iii) & (i)
- (B) (iv) & (ii)
- (C) (i) & (ii)
- (D) (iii) & (ii)

**Q6** Which arrangement represents the correct order of electron gain enthalpy (with negative sign) of the given atomic species?

- (A)  $\text{S} < \text{O} < \text{Cl} < \text{F}$
- (B)  $\text{O} < \text{S} < \text{F} < \text{Cl}$
- (C)  $\text{Cl} < \text{F} < \text{S} < \text{O}$
- (D)  $\text{F} < \text{Cl} < \text{O} < \text{S}$

**Q7** Which of the following is affected by stable configuration of an atom?

- (a) Electronegativity
- (b) Ionization potential
- (c) Electron affinity

Correct answer is:

- (A) Only electronegativity
- (B) Only ionization potential.
- (C) Electron affinity and ionization potential
- (D) All of the above

**Q8** The correct order of electron affinity is

- (A)  $\text{Be} < \text{B} < \text{C} < \text{N}$
- (B)  $\text{Be} < \text{N} < \text{B} < \text{C}$
- (C)  $\text{N} < \text{Be} < \text{C} < \text{B}$
- (D)  $\text{N} < \text{C} < \text{B} < \text{Be}$

**Q9** Second electron affinity of an element is

- (A) Always exothermic
- (B) Endothermic for few elements



(C) Exothermic for few elements

(D) Always endothermic

**Q10** In which of the following arrangements the order is not according to the property indicated against it?

(A) Li < Na < K < Rb increasing metallic radius

(B) I < Br < F < Cl increasing electron gain enthalpy (with negative sign)

(C) B < C < N < O increasing first ionisation enthalpy

(D)  $\text{Al}^{3+} < \text{Mg}^{2+} < \text{Na}^+ < \text{F}^-$  increasing ionic size



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## Answer Key

Q1 (C)  
Q2 (B)  
Q3 (A)  
Q4 (C)  
Q5 (D)

Q6 (B)  
Q7 (C)  
Q8 (B)  
Q9 (D)  
Q10 (C)



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## Chemical Bonding and Molecular Structure

DPP: 6



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 (C)  $d_{x^2-y^2}, s, p_x, p_y$   
 (D)  $s, p_x, p_y, p_z, d_{z^2}$

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## Answer Key

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**Q2** (D)  
**Q3** (B)  
**Q4** (A)  
**Q5** (B)  
**Q6** (A)  
**Q7** (B)  
**Q8** (D)

- Q9** (A)  
**Q10** (A)  
**Q11** (B)  
**Q12** (A)  
**Q13** (A)  
**Q14** (D)  
**Q15** (D)



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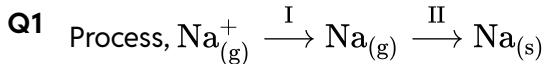
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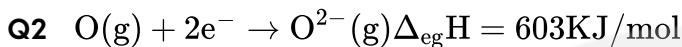
## Inorganic Chemistry

DPP: 7

### Classification of Elements and Periodicity in Properties



- (A) In (I) energy released, (II) energy absorbed
- (B) In both (I) and (II) energy is absorbed
- (C) In both (I) and (II) energy is released
- (D) In (I) energy absorbed, (II) energy Released



The positive value of  $\Delta_{\text{eg}}H$  is due to:

- (A) Energy is released to add on  $1\text{e}^-$  to  $\text{O}^-$
- (B) Energy is required to add on  $1\text{e}^-$  to  $\text{O}^-$
- (C) Energy is needed to add on  $1\text{e}^-$  to  $\text{O}$
- (D) None of the above is correct

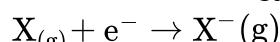
**Q3** The electron affinity values for the halogens shows the following trend

- (A)  $\text{F} < \text{Cl} > \text{Br} > \text{I}$
- (B)  $\text{F} < \text{Cl} < \text{Br} < \text{I}$
- (C)  $\text{F} > \text{Cl} > \text{Br} > \text{I}$
- (D)  $\text{F} < \text{Cl} > \text{Br} < \text{I}$

**Q4** Which of the following configuration will have least electron affinity?

- (A)  $\text{ns}^2\text{np}^5$
- (B)  $\text{ns}^2\text{np}^2$
- (C)  $\text{ns}^2\text{np}^3$
- (D)  $\text{ns}^2\text{np}^4$

**Q5** The amount of energy released for the process



is minimum and maximum respectively for

- (i) F
- (ii) Cl
- (iii) N
- (iv) B

The correct answer is:

- (A) (iii) & (i)
- (B) (iv) & (ii)
- (C) (i) & (ii)
- (D) (iii) & (ii)

**Q6** Which arrangement represents the correct order of electron gain enthalpy (with negative sign) of the given atomic species?

- (A)  $\text{S} < \text{O} < \text{Cl} < \text{F}$
- (B)  $\text{O} < \text{S} < \text{F} < \text{Cl}$
- (C)  $\text{Cl} < \text{F} < \text{S} < \text{O}$
- (D)  $\text{F} < \text{Cl} < \text{O} < \text{S}$

**Q7** Which of the following is affected by stable configuration of an atom?

- (a) Electronegativity
- (b) Ionization potential
- (c) Electron affinity

Correct answer is:

- (A) Only electronegativity
- (B) Only ionization potential.
- (C) Electron affinity and ionization potential
- (D) All of the above

**Q8** The correct order of electron affinity is

- (A)  $\text{Be} < \text{B} < \text{C} < \text{N}$
- (B)  $\text{Be} < \text{N} < \text{B} < \text{C}$
- (C)  $\text{N} < \text{Be} < \text{C} < \text{B}$
- (D)  $\text{N} < \text{C} < \text{B} < \text{Be}$

**Q9** Second electron affinity of an element is

- (A) Always exothermic
- (B) Endothermic for few elements



- (C) Exothermic for few elements  
(D) Always endothermic

**Q10** In which of the following arrangements the order is not according to the property indicated against it?

- (A) Li < Na < K < Rb increasing metallic radius  
(B) I < Br < F < Cl increasing electron gain enthalpy (with negative sign)  
(C) B < C < N < O increasing first ionisation enthalpy  
(D) Al<sup>3+</sup> < Mg<sup>2+</sup> < Na<sup>+</sup> < F<sup>-</sup> increasing ionic size



## Answer Key

Q1 (C)  
Q2 (B)  
Q3 (A)  
Q4 (C)  
Q5 (D)

Q6 (B)  
Q7 (C)  
Q8 (B)  
Q9 (D)  
Q10 (C)



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# Arjuna NEET (2026)

## Inorganic Chemistry

DPP: 8

### Chemical Bonding and Molecular Structure

**Q1** Among the following, the molecule that will have the highest dipole moment is

- (A) H<sub>2</sub>
- (B) HI
- (C) HBr
- (D) HF

**Q2** Which one of the following molecules has the least dipole moment?

- (A) H<sub>2</sub>O
- (B) BeF<sub>2</sub>
- (C) NH<sub>3</sub>
- (D) NF<sub>3</sub>

**Q3** Among the following molecules, which has the zero dipole moment?

- (A) BF<sub>3</sub>
- (B) H<sub>2</sub>O
- (C) NF<sub>3</sub>
- (D) ClO<sub>2</sub>

**Q4** Identify the molecule that has zero dipole moment.

- (A) CH<sub>3</sub>Cl
- (B) CHCl<sub>3</sub>
- (C) CH<sub>2</sub>Cl<sub>2</sub>
- (D) CCl<sub>4</sub>

**Q5** The correct order of dipole moment is

- (A) CH<sub>4</sub> < NF<sub>3</sub> < NH<sub>3</sub> < H<sub>2</sub>O
- (B) NF<sub>3</sub> < CH<sub>4</sub> < NH<sub>3</sub> < H<sub>2</sub>O
- (C) NH<sub>3</sub> < NF<sub>3</sub> < CH<sub>4</sub> < H<sub>2</sub>O
- (D) H<sub>2</sub>O < NH<sub>3</sub> < NF<sub>3</sub> < CH<sub>4</sub>

**Q6** Carbon tetrachloride has no net dipole moment

because of

- (A) Similar electron affinity of C and Cl
- (B) its regular tetrahedral geometry
- (C) its planar geometry
- (D) similar sizes of C and Cl atoms

**Q7** Both CO<sub>2</sub> and H<sub>2</sub>O contain polar covalent bonds but CO<sub>2</sub> is nonpolar while H<sub>2</sub>O is polar because

- (A) H atom is smaller than C atom
- (B) CO<sub>2</sub> is a linear molecule while H<sub>2</sub>O is an angular molecule
- (C) O – H bond is more polar than C – H bond
- (D) CO<sub>2</sub> contains multiple bonds while H<sub>2</sub>O has only single bonds

**Q8** Of the following molecules, the one, which has permanent dipole moment, is

- (A) SiF<sub>4</sub>
- (B) BF<sub>3</sub>
- (C) PF<sub>3</sub>
- (D) PF<sub>5</sub>

**Q9** The dipole moment of the given molecules are such that:

- (A) BF<sub>3</sub> > NF<sub>3</sub> > NH<sub>3</sub>
- (B) NF<sub>3</sub> > BF<sub>3</sub> > NH<sub>3</sub>
- (C) NH<sub>3</sub> > NF<sub>3</sub> > BF<sub>3</sub>
- (D) NH<sub>3</sub> > BF<sub>3</sub> > NF<sub>3</sub>

**Q10** Which of the following has the least dipole moment?

- (A) NF<sub>3</sub>
- (B) SO<sub>3</sub>
- (C) XeO<sub>3</sub>



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(D) NH<sub>3</sub>

## Answer Key

Q1 (D)

Q2 (B)

Q3 (A)

Q4 (D)

Q5 (A)

Q6 (B)

Q7 (B)

Q8 (C)

Q9 (C)

Q10 (B)



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