

NEET CHEMICAL BONDING AND MOLECULAR STRUCTURE — BOND PARAMETERS: BOND LENGTH, BOND ENERGY AND BOND ANGLE — PYQS

Max. Marks: 24

Questions: 6

Section A (MCQ) — 6 questions

Q.1 Identify the correct orders against the property mentioned

Choose the correct answer from the options given below:

- A. $\text{H}_2\text{O} > \text{NH}_3 > \text{CHCl}_3$ - dipole moment
 B. $\text{XeF}_4 > \text{XeO}_3 > \text{XeF}_2$ - number of lone pairs on central atom
 C. $\text{O-H} > \text{C-H} > \text{N-O}$ - bond length
 D. $\text{N}_2 > \text{O}_2 > \text{H}_2$ - bond enthalpy [NEET (UG) 2025]
- (1) A, C only (2) B, C only
 (3) A, D only (4) B, D only

Scan or tap for the full solution



Q.2 Match List-I with List-II:

List - I Molecule		List - II Bond enthalpy (kJ mol^{-1})	
A.	HCl	I.	435.8
B.	N_2	II.	498
C.	H_2	III.	946.0
D.	O_2	IV.	431.0

Choose the correct answer from the options given below: [RE-NEET (UG) 2024]

- (1) A-III, B-IV, C-I, D-II (2) A-IV, B-I, C-III, D-II
 (3) A-IV, B-III, C-II, D-I (4) A-IV, B-III, C-I, D-II

Scan or tap for the full solution



Q.3 The correct order of increasing bond length of C-H, C-O, C-C and C=C is [AIPMT 2011 (Prelims)]

- (1) $\text{C-H} < \text{C=C} < \text{C-O} < \text{C-C}$
 (2) $\text{C-C} < \text{C=C} < \text{C-O} < \text{C-H}$
 (3) $\text{C-O} < \text{C-H} < \text{C-C} < \text{C=C}$
 (4) $\text{C-H} < \text{C-O} < \text{C-C} < \text{C=C}$

Scan or tap for the full solution



Q.4 The energy absorbed by each molecule (A_2) of a substance is 4.4×10^{-19} J and bond energy per molecule is 4.0×10^{-19} J. The kinetic energy of the molecule per atom will be [AIPMT 2009]

- (1) 2.2×10^{-19} J (2) 2.0×10^{-19} J
 (3) 4.0×10^{-20} J (4) 2.0×10^{-20} J

Scan or tap for the full solution



Q.5 The correct order of C-O bond length among CO , CO_3^{2-} , CO_2 is [AIPMT 2007]

- (1) $\text{CO} < \text{CO}_3^{2-} < \text{CO}_2$ (2) $\text{CO}_3^{2-} < \text{CO}_2 < \text{CO}$
 (3) $\text{CO} < \text{CO}_2 < \text{CO}_3^{2-}$ (4) $\text{CO}_2 < \text{CO}_3^{2-} < \text{CO}$

Scan or tap for the full solution



Q.6 The correct order in which the O-O bond length increases in the following is [AIPMT 2005]

- (1) $\text{O}_2 < \text{H}_2\text{O}_2 < \text{O}_3$ (2) $\text{O}_3 < \text{H}_2\text{O}_2 < \text{O}_2$
 (3) $\text{H}_2\text{O}_2 < \text{O}_2 < \text{O}_3$ (4) $\text{O}_2 < \text{O}_3 < \text{H}_2\text{O}_2$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6				
Ans.	3	4	1	4	3	4				