

PART 1 - CHEMISTRY

Topic : Chemical bonding and molecular structure

SECTION-A : (Maximum Marks : 20)

This section contains **FIVE** questions.

Each question has **FOUR** options (A), (B), (C) and (D). **ONE OR MORE THAN ONE** of these four option(s) is(are) correct answer(s).

For each question, choose the option(s) corresponding to (all) the correct answer(s).

Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 ONLY if (all) the correct option(s) is(are) chosen;

Partial Marks : +3 If all the four options are correct but ONLY three options are chosen;

Partial Marks : +2 If three or more options are correct but ONLY two options are chosen, both of which are correct;

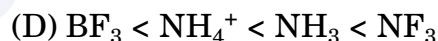
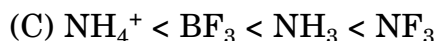
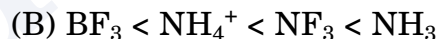
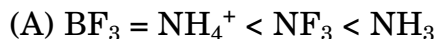
Partial Marks : +1 If two or more options are correct but ONLY one option is chosen and it is a correct option;

Zero Marks : 0 If none of the options is chosen (i.e. the question is unanswered);

Negative Marks : -1 In all other cases.

For example, in a question, if (A), (B) and (D) are the ONLY three options corresponding to correct answers, then choosing ONLY (A), (B) and (D) will get +4 marks; choosing ONLY (A) and (B) will get +2 marks; choosing ONLY (A) and (D) will get +2 marks; choosing ONLY (B) and (D) will get +2 marks; choosing ONLY (A) will get +1 mark; choosing ONLY (B) will get +1 mark; choosing ONLY (D) will get +1 mark; choosing no option (i.e. the question is unanswered) will get 0 marks; and choosing any other combination of options will get -1 marks.

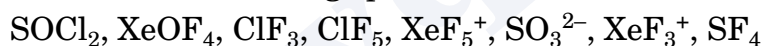
1. The correct order of dipole moments for the given species is [JEE Advanced 2026 Paper 1]



Scan or tap for the
full solution



2. Consider the following species:



List-I contains different molecular shapes and **List-II** contains total number of species with the same molecular shapes from the given species. Match each entry in **List-I** with the appropriate entry in **List-II** and choose the correct option. [JEE Advanced 2026 Paper 1]

List-I		List-II	
P.	See-saw	1.	one
Q.	T-Shaped	2.	two
R.	Trigonal Planar	3.	three
S.	Square Pyramidal	4.	four
		5.	zero

Space for Rough Work

- (A) $P \rightarrow 1; Q \rightarrow 2; R \rightarrow 5; S \rightarrow 3$
 (C) $P \rightarrow 3; Q \rightarrow 2; R \rightarrow 1; S \rightarrow 4$

- (B) $P \rightarrow 5; Q \rightarrow 4; R \rightarrow 2; S \rightarrow 3$
 (D) $P \rightarrow 1; Q \rightarrow 3; R \rightarrow 5; S \rightarrow 4$

Scan or tap for the full solution



3. The correct order of ONO bond angle in the given species is [JEE Advanced 2026 Paper 2]

- (A) $\text{NO}_2^+ < \text{NO}_2 < \text{NO}_3^- < \text{NO}_2^-$
 (C) $\text{NO}_3^- < \text{NO}_2^- < \text{NO}_2 < \text{NO}_2^+$

- (B) $\text{NO}_2^- < \text{NO}_3^- < \text{NO}_2 < \text{NO}_2^+$
 (D) $\text{NO}_2^- < \text{NO}_3^- < \text{NO}_2^+ < \text{NO}_2$

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4. Regarding the molecular orbital (MO) energy levels for homonuclear diatomic molecules, the INCORRECT statement(s) is(are) [JEE Advanced 2025 Paper 1]

- (A) Bond order of Ne_2 is zero.
 (B) The highest occupied molecular orbital (HOMO) of F_2 is σ -type.
 (C) Bond energy of O_2^+ is smaller than the bond energy of O_2 .
 (D) Bond length of Li_2 is larger than the bond length of B_2 .

Scan or tap for the full solution



5. The option(s) in which at least three molecules follow Octet Rule is(are)

[JEE Advanced 2024 Paper 1]

- (A) CO_2 , C_2H_4 , NO and HCl
 (C) BCl_3 , NO , NO_2 and H_2SO_4

- (B) NO_2 , O_3 , HCl and H_2SO_4
 (D) CO_2 , BCl_3 , O_3 and C_2H_4

Scan or tap for the full solution



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**JEE ADVANCED CHEMICAL BONDING AND
MOLECULAR STRUCTURE — PYQS**

Test Pattern : JEE (Advanced)

ANSWER KEY**SECTION-A**

Ques.	1	2	3	4	5																		
Ans.	B	A	B	B, C	A, D																		