

PART 1 - CHEMISTRY

Topic : p-Block elements (group 15–18)

SECTION-A : (Maximum Marks : 40)

This section contains **TEN** 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;

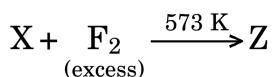
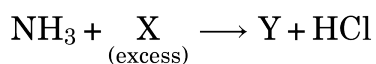
Partial Marks : +1 If two or more options are correct but ONLY one option is chosen and it is a correct option;

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. Correct statement(s) about the compounds X, Y and Z is(are)



[JEE Advanced 2026 Paper 1]

- (A) X is used for sterilizing drinking water. (B) Y has a planar structure.
(C) Z is used in the enrichment of ^{235}U . (D) Y is a stronger Lewis base than ammonia.

Scan or tap for the
full solution 

2. Reaction of PtF_6 with oxygen (O_2) gas results in the formation of an ionic compound, X^+Y^- .

Correct statement(s) is(are)

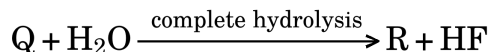
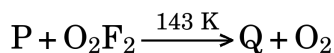
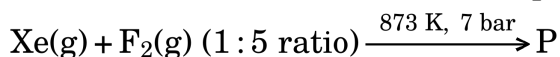
[JEE Advanced 2026 Paper 1]

- (A) The bond order of X^+ is 1.5.
(B) Valence d-orbitals of the metal ion in X^+Y^- has 5 electrons.
(C) PtF_6 acts as an oxidant in this reaction.
(D) PtF_6 acts as a fluorinating agent in this reaction.

Scan or tap for the
full solution 

Space for Rough Work

3. Correct statement(s) about the compounds P, Q and R is(are)



[JEE Advanced 2026 Paper 2]

- (A) P has two lone pairs of electrons on the central atom.
 (B) Q has a perfect octahedral geometry.
 (C) Q can act as a fluorinating agent.
 (D) The molecular structure of R is trigonal pyramidal.

Scan or tap for the full solution



4. The heating of NH_4NO_2 at $60-70^\circ\text{C}$ and NH_4NO_3 at $200-250^\circ\text{C}$ is associated with the formation of nitrogen containing compounds X and Y, respectively. X and Y, respectively, are

[JEE Advanced 2025 Paper 1]

- (A) N_2 and N_2O (B) NH_3 and NO_2 (C) NO and N_2O (D) N_2 and NH_3

Scan or tap for the full solution



5. The complete hydrolysis of ICl , ClF_3 and BrF_5 , respectively, gives

[JEE Advanced 2025 Paper 2]

- (A) IO^- , ClO_2^- and BrO_3^- (B) IO_3^- , ClO_2^- and BrO_3^-
 (C) IO^- , ClO^- and BrO_2^- (D) IO_3^- , ClO_4^- and BrO_2^-

Scan or tap for the full solution



6. The compound(s) with P-H bond(s) is(are)

[JEE Advanced 2025 Paper 2]

- (A) H_3PO_4 (B) H_3PO_3 (C) $\text{H}_4\text{P}_2\text{O}_7$ (D) H_3PO_2

Scan or tap for the full solution



7. At room temperature, disproportionation of an aqueous solution of in situ generated nitrous acid (HNO_2) gives the species

[JEE Advanced 2024 Paper 1]

- (A) H_3O^+ , NO_3^- and NO (B) H_3O^+ , NO_3^- and NO_2 (C) H_3O^+ , NO^- and NO_2 (D) H_3O^+ , NO_3^- and N_2O

Scan or tap for the full solution



8. Based on VSEPR model, match the xenon compounds given in **List-I** with the corresponding geometries and the number of lone pairs on xenon given in **List-II** and choose the correct option.

[JEE Advanced 2024 Paper 1]

List-I		List-II	
P.	XeF_2	1.	Trigonal bipyramidal and two lone pair of electrons

Space for Rough Work

List-I		List-II	
Q.	XeF_4	2.	Tetrahedral and one lone pair of electrons
R.	XeO_3	3.	Octahedral and two lone pair of electrons
S.	XeO_3F_2	4.	Trigonal bipyramidal and no lone pair of electrons
		5.	Trigonal bipyramidal and three lone pair of electrons

(A) P-5, Q-2, R-3, S-1 (B) P-5, Q-3, R-2, S-4 (C) P-4, Q-3, R-2, S-1 (D) P-4, Q-2, R-5, S-3

Scan or tap for the
full solution



9. The species formed on fluorination of phosphorus pentachloride in a polar organic solvent are

[JEE Advanced 2024 Paper 2]

(A) $[\text{PF}_4]^+[\text{PF}_6]^-$ and $[\text{PCl}_4]^+[\text{PF}_6]^-$

(B) $[\text{PCl}_4]^+[\text{PCl}_4\text{F}_2]^-$ and $[\text{PCl}_4]^+[\text{PF}_6]^-$

(C) PF_3 and PCl_3

(D) PF_5 and PCl_3

Scan or tap for the
full solution



10. The compound(s) having peroxide linkage is(are)

[JEE Advanced 2024 Paper 2]

(A) $\text{H}_2\text{S}_2\text{O}_7$

(B) $\text{H}_2\text{S}_2\text{O}_8$

(C) $\text{H}_2\text{S}_2\text{O}_5$

(D) H_2SO_5

Scan or tap for the
full solution



Space for Rough Work

**JEE ADVANCED P-BLOCK ELEMENTS (GROUP 15–18)
— PYQS**

Test Pattern : JEE (Advanced)

ANSWER KEY**SECTION-A**

Ques.	1	2	3	4	5	6	7	8	9	10						
Ans.	A, C	B, C	A, C, D	A	A	B, D	A	B	B	B, D						