

PART 1 - CHEMISTRY

Topic : d- and f-Block elements

SECTION-A : (Maximum Marks : 8)

This section contains **TWO** 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. One of the products formed from the reaction of permanganate ion with iodide ion in neutral aqueous medium is [JEE Advanced 2025 Paper 1]

(A) I_2 (B) IO_3^- (C) IO_4^- (D) IO_2^-

Scan or tap for the full solution



2. The pair(s) of diamagnetic ions is(are)

(A) La^{3+} , Ce^{4+} (B) Yb^{2+} , Lu^{3+} (C) La^{2+} , Ce^{3+} (D) Yb^{3+} , Lu^{2+}

[JEE Advanced 2025 Paper 1]

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Space for Rough Work

SECTION-B : (Maximum Marks : 8)

This section contains **ONE** paragraph.

Based on each paragraph, there are **TWO** questions.

The answer to each question is a **NON-NEGATIVE INTEGER**.

For each question, enter the correct integer corresponding to the answer in the place designated to enter the answer.

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

Full Marks : +4 If ONLY the correct answer is entered;

Zero Marks : 0 In all other cases.

Paragraph for Questions 3 and 4

When potassium iodide is added to an aqueous solution of potassium ferricyanide, a reversible reaction is observed in which a complex P is formed. In a strong acidic medium, the equilibrium shifts completely towards P. Addition of zinc chloride to P in a slightly acidic medium results in a sparingly soluble complex Q.

3. The number of moles of potassium iodide required to produce two moles of P is ____.

[JEE Advanced 2024 Paper 2]

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full solution



4. The number of zinc ions present in the molecular formula of Q is ____.

[JEE Advanced 2024 Paper 2]

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full solution



Space for Rough Work

JEE ADVANCED D- AND F-BLOCK ELEMENTS — PYQS
Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-A																								
Ques.	1	2																						
Ans.	B	A, B																						

SECTION-B																								
Ques.	3	4																						
Ans.	2	3																						