

PART 1 - CHEMISTRY

Topic : Coordination compounds

SECTION-A : (Maximum Marks : 4)

This section contains **ONE** question.

Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is the correct answer.

For each question, choose the option corresponding to the correct answer.

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

Full Marks : +4 If **ONLY** the correct option is chosen;

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

Negative Marks : -1 In all other cases.

1. Among the following options, select the option in which each complex in Set-I shows geometrical isomerism and the two complexes in Set-II are ionization isomers of each other.

[en = $\text{H}_2\text{NCH}_2\text{CH}_2\text{NH}_2$]

[JEE Advanced 2024 Paper 1]

(A) Set-I: $[\text{Ni}(\text{CO})_4]$ and $[\text{PdCl}_2(\text{PPh}_3)_2]$

Set-II: $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{SO}_4$ and $[\text{Co}(\text{NH}_3)_5(\text{SO}_4)]\text{Cl}$

(B) Set-I: $[\text{Co}(\text{en})(\text{NH}_3)_2\text{Cl}_2]$ and $[\text{PdCl}_2(\text{PPh}_3)_2]$

Set-II: $[\text{Co}(\text{NH}_3)_6][\text{Cr}(\text{CN})_6]$ and $[\text{Cr}(\text{NH}_3)_6][\text{Co}(\text{CN})_6]$

(C) Set-I: $[\text{Co}(\text{NH}_3)_3(\text{NO}_2)_3]$ and $[\text{Co}(\text{en})_2\text{Cl}_2]$

Set-II: $[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{SO}_4$ and $[\text{Co}(\text{NH}_3)_5(\text{SO}_4)]\text{Cl}$

(D) Set-I: $[\text{Cr}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$ and $[\text{Co}(\text{en})(\text{NH}_3)_2\text{Cl}_2]$

Set-II: $[\text{Cr}(\text{H}_2\text{O})_6]\text{Cl}_3$ and $[\text{Cr}(\text{H}_2\text{O})_5\text{Cl}]\text{Cl}_2 \cdot \text{H}_2\text{O}$

Scan or tap for the
full solution



Space for Rough Work

**JEE ADVANCED COORDINATION COMPOUNDS —
GEOMETRICAL AND IONIZATION ISOMERISM —
PYQS**

Test Pattern : **JEE (Advanced)**

ANSWER KEY

SECTION-A

[illegible]