

PART 1 - CHEMISTRY

Topic : Coordination compounds

SECTION-1 : (Maximum Marks : 3)

- 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 : +3 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. The correct order of the wavelength maxima of the absorption band in the ultraviolet-visible region for the given complexes is [JEE Advanced 2025 Paper 1]

- (A) $[\text{Co}(\text{CN})_6]^{3-} < [\text{Co}(\text{NH}_3)_6]^{3+} < [\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O})]^{3+} < [\text{Co}(\text{NH}_3)_5(\text{Cl})]^{2+}$
(B) $[\text{Co}(\text{NH}_3)_5(\text{Cl})]^{2+} < [\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O})]^{3+} < [\text{Co}(\text{NH}_3)_6]^{3+} < [\text{Co}(\text{CN})_6]^{3-}$
(C) $[\text{Co}(\text{CN})_6]^{3-} < [\text{Co}(\text{NH}_3)_5(\text{Cl})]^{2+} < [\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O})]^{3+} < [\text{Co}(\text{NH}_3)_6]^{3+}$
(D) $[\text{Co}(\text{NH}_3)_6]^{3+} < [\text{Co}(\text{CN})_6]^{3-} < [\text{Co}(\text{NH}_3)_5(\text{Cl})]^{2+} < [\text{Co}(\text{NH}_3)_5(\text{H}_2\text{O})]^{3+}$

Scan or tap for the full solution



Space for Rough Work

SECTION-2 : (Maximum Marks : 4)

- This section contains **ONE** question.
- The answer to each question is a **NUMERICAL VALUE**.
- For each question, enter the correct numerical value of the answer (in decimal notation, truncated / rounded-off to the **SECOND DECIMAL PLACE**; e.g. 6.25, 7.00, -0.33, -.30, 30.27, -127.30) 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.

2. The sum of the spin only magnetic moment values (in B.M.) of $[\text{Mn}(\text{Br})_6]^{3-}$ and $[\text{Mn}(\text{CN})_6]^{3-}$ is ____.

[JEE Advanced 2025 Paper 2]

Scan or tap for the
full solution



Space for Rough Work

Test Pattern : JEE (Advanced)

[illegible]