

NEET COORDINATION COMPOUNDS — COLOUR IN COORDINATION COMPOUNDS — PYQS

Max. Marks: 20
Questions: 5

Section A (MCQ) — 5 questions

Q.1 The correct order of the wavelength of light absorbed by the following complexes is,

- A. $[\text{Co}(\text{NH}_3)_6]^{3+}$ B. $[\text{Co}(\text{CN})_6]^{3-}$
 C. $[\text{Cu}(\text{H}_2\text{O})_4]^{2+}$ D. $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$

Choose the correct answer from the options given below:

[NEET (UG) 2025]

- (1) $\text{C} < \text{D} < \text{A} < \text{B}$ (2) $\text{C} < \text{A} < \text{D} < \text{B}$
 (3) $\text{B} < \text{D} < \text{A} < \text{C}$ (4) $\text{B} < \text{A} < \text{D} < \text{C}$

Scan or tap for the full solution



Q.2 The order of energy absorbed which is responsible for the color of complexes

- (A) $[\text{Ni}(\text{H}_2\text{O})_2(\text{en})_2]^{2+}$
 (B) $[\text{Ni}(\text{H}_2\text{O})_4(\text{en})]^{2+}$ and
 (C) $[\text{Ni}(\text{en})_3]^{2+}$

is

[NEET (UG) 2022]

- (1) $(\text{A}) > (\text{B}) > (\text{C})$ (2) $(\text{C}) > (\text{B}) > (\text{A})$
 (3) $(\text{C}) > (\text{A}) > (\text{B})$ (4) $(\text{B}) > (\text{A}) > (\text{C})$

Scan or tap for the full solution



Q.3 Correct increasing order for the wavelengths of absorption in the visible region for the complexes of Co^{3+} is

[NEET 2017]

- (1) $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$, $[\text{Co}(\text{en})_3]^{3+}$, $[\text{Co}(\text{NH}_3)_6]^{3+}$
 (2) $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$, $[\text{Co}(\text{NH}_3)_6]^{3+}$, $[\text{Co}(\text{en})_3]^{3+}$
 (3) $[\text{Co}(\text{NH}_3)_6]^{3+}$, $[\text{Co}(\text{en})_3]^{3+}$, $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$
 (4) $[\text{Co}(\text{en})_3]^{3+}$, $[\text{Co}(\text{NH}_3)_6]^{3+}$, $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$

Scan or tap for the full solution



Q.4 Which of the following complex ions is not expected to absorb visible light?

[AIPMT 2010 (Prelims)]

- (1) $[\text{Ni}(\text{CN})_4]^{2-}$ (2) $[\text{Cr}(\text{NH}_3)_6]^{3+}$
 (3) $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$ (4) $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$

Scan or tap for the full solution



Q.5 Which of the following complex ions is expected to absorb visible light?

(At. nos. $\text{Zn} = 30$, $\text{Sc} = 21$, $\text{Ti} = 22$, $\text{Cr} = 24$)

[AIPMT 2009]

- (1) $[\text{Ti}(\text{en})_2(\text{NH}_3)_2]^{4+}$ (2) $[\text{Cr}(\text{NH}_3)_6]^{3+}$
 (3) $[\text{Zn}(\text{NH}_3)_6]^{2+}$ (4) $[\text{Sc}(\text{H}_2\text{O})_3(\text{NH}_3)_3]^{3+}$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5						
Ans.	4	3	4	1	2						