

NEET COORDINATION COMPOUNDS — BASIC TERMINOLOGY IN COORDINATION COMPOUNDS — PYQS

Max. Marks: 40
Questions: 10

Section A (MCQ) — 10 questions

Q.1 Which one of the following is an ambidentate ligand? [NEET (UG) 2026]

- (1) Oxalate
- (2) Ethane-1,2-diamine
- (3) Thiocyanate
- (4) Ethylenediaminetetraacetate ion

Scan or tap for the full solution



Q.2 Given below are two statements :

Statement-I: $[\text{Co}(\text{NH}_3)_6]^{3+}$ is a homoleptic complex whereas $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]^+$ is a heteroleptic complex.

Statement-II: Complex $[\text{Co}(\text{NH}_3)_6]^{3+}$ has only one kind of ligands but $[\text{Co}(\text{NH}_3)_4\text{Cl}_2]^+$ has more than one kind of ligands.

In the light of the above statements, choose the correct answer from the options given below.

[NEET (UG) 2024]

- (1) Both Statement-I and Statement-II are true
- (2) Both Statement-I and Statement-II are false
- (3) Statement-I is true but Statement-II is false
- (4) Statement-I is false but Statement-II is true

Scan or tap for the full solution



Q.3 Ethylene diaminetetraacetate ion is a/an:

[RE-NEET (UG) 2024]

- (1) hexadentate ligand
- (2) ambidentate ligand
- (3) monodentate ligand
- (4) bidentate ligand

Scan or tap for the full solution



Q.4 Which of the following is not an ambidentate ligand? [RE-NEET (UG) 2024]

- (1) $\text{C}_2\text{O}_4^{2-}$
- (2) SCN^-
- (3) NO_2^-
- (4) CN^-

Scan or tap for the full solution



Q.5 Homoleptic complex from the following complexes is: [NEET (UG) 2023]

- (1) Diamminechloridonitrito-N-platinum(II)
- (2) Pentaamminecarbonatocobalt(III) chloride
- (3) Triamminetriaquachromium(III) chloride
- (4) Potassium trioxalatoaluminate(III)

Scan or tap for the full solution



Q.6 Which complex compound is most stable?

[NEET (UG) 2023]

- (1) $[\text{Co}(\text{NH}_3)_3(\text{NO}_3)_3]$
- (2) $[\text{CoCl}_2(\text{en})_2]\text{NO}_3$
- (3) $[\text{Co}(\text{NH}_3)_6]_2(\text{SO}_4)_3$
- (4) $[\text{Co}(\text{NH}_3)_4(\text{H}_2\text{O})\text{Br}](\text{NO}_3)_2$

Scan or tap for the full solution



Q.7 Ethylene diaminetetraacetate (EDTA) ion is :

[NEET (UG) 2021]

- (1) Tridentate ligand with three "N" donor atoms
- (2) Hexadentate ligand with four "O" and two "N" donor atoms
- (3) Unidentate ligand
- (4) Bidentate ligand with two "N" donor atoms

Scan or tap for the full solution



Q.8 The sum of coordination number and oxidation number of the metal M in the complex $[\text{M}(\text{en})_2(\text{C}_2\text{O}_4)]\text{Cl}$ (where en is ethylenediamine) is

[AIPMT 2015]

- (1) 6
- (2) 7
- (3) 8
- (4) 9

Scan or tap for the full solution



Q.9 The anion of acetylacetone (acac) forms Co (acac)₃ chelate with Co^{3+} . The rings of the chelate are

[NEET 2013 (Karnataka)]

- (1) five membered
- (2) four membered
- (3) six membered
- (4) three membered.

Scan or tap for the full solution



Q.10 Coordination number of Ni in $[\text{Ni}(\text{C}_2\text{O}_4)_3]^{4-}$ is

[AIPMT 2001]

- (1) 3 (2) 6 (3) 4 (4) 2

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	
Ans.	3	1	1	1	4	2	2	4	3	2	