

2021-22

22-02-2022

Name:

Write your answer in the boxes provided.

Mobile No:

Test Duration: 30mins

1. The IUPAC name of $\text{Na}_3[\text{Co}(\text{NO}_2)_6]$ is:

- (A) sodiumcobaltnitrite
(B) sodiumhexanitrito cobaltate (III)
(C) sodiumhexanitrocobalt (III)
(D) sodiumhexanitrocobaltate (III)

2. According to the IUPAC nomenclature, sodium nitroprusside is named as:

- (A) sodium pentacyanonitrosyl ferrate (II)
(B) sodium pentacyanonitrosyl ferrate (III)
(C) sodium nitroferricyanide
(D) sodium nitroferrocyanide

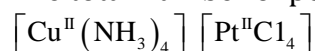
3. The type of isomerism shown by the complex $[\text{CoCl}_2(\text{en})_2]$ is:

- (A) Ionisation isomerism (B) Coordination isomerism
(C) Geometrical isomerism (D) Linkage isomerism

4. When 1 mole of $\text{CrCl}_3 \cdot 6\text{H}_2\text{O}$ is treated with excess of AgNO_3 , 3 moles of AgCl are obtained. The formula of the complex is:

- (A) $[\text{CrCl}_3(\text{H}_2\text{O})_3] \cdot 3\text{H}_2\text{O}$ (B) $[\text{CrCl}_2(\text{H}_2\text{O})_4]\text{Cl} \cdot 2\text{H}_2\text{O}$
(C) $[\text{CrCl}(\text{H}_2\text{O})_5]\text{Cl}_2 \cdot \text{H}_2\text{O}$ (D) $[\text{Cr}(\text{H}_2\text{O})_6]\text{Cl}_3$

5. The total number of possible isomers for the following complex compound is:

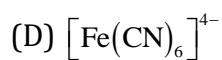
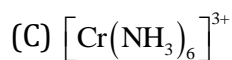
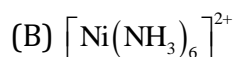
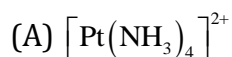


- (A) 3 (B) 6 (C) 5 (D) 4

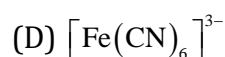
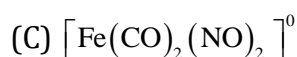
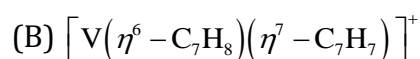
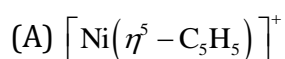
6. The number of unpaired electrons in the complex ion $[\text{CoF}_6]^{3-}$ is:
(atomic number of Co = 27)

- (A) 2 (B) 3 (C) 4 (D) 0

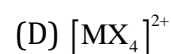
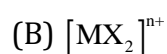
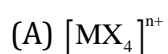
7. Which of the following complexes obeys the EAN rule?



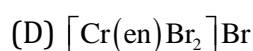
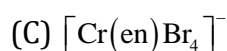
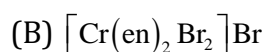
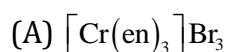
8. Which of the following complexes contains a cationic ligand?



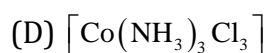
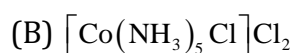
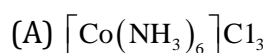
9. If the bidentate ligand L^{2-} in $[\text{ML}_2]^{n-4}$ is replaced by a neutral monodentate ligand X, the formula of the resulting complex ion is:



10. Which among the following will be named as dibromidobis(ethylenediamine)chromium(III) bromide?



11. Which does not give a precipitate with AgNO_3 solution?



12. The effective atomic number of Cr ($Z = 24$) in $[\text{Cr}(\text{NH}_3)_6]\text{Cl}_3$ is:

(A) 35

(B) 27

(C) 33

(D) 36