



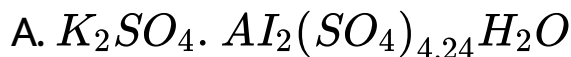
CHEMISTRY

NCERT - FULL MARKS CHEMISTRY(TAMIL)

COORDINATION COMPOUNDS AND BIO- COORDINATION COMPOUNDS

Self Evaluation A Choose The Correct Answer

1. Which is a double salt ?



B. NaCl

C. $K_4[Fe(CN)_6]$

D. KCl

Answer:

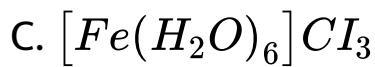


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2. An example of complex compound having coordination number 4

A. $K_4[Fe(CN)_6]$

B. $[Co(en)_4]Cl_3$



Answer:



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3. The geometry of $[Cu(NH_3)_4]^{2+}$ complex ion

A. Linear

B. Tetrahedral

C. Square planar

D. Angular

Answer:



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4. An example of a chelating ligand is



B. Chloro

C. Bromo

D. en

Answer:



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5. The geometry of complex ion $[Fe(CN)_6]^{4-}$ is

A. tetrahedral

B. square planar

C. Octahedral

D. triangular

Answer:



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6. The oxidation number of nickel in the complex ion $[NiCl_4]^{2-}$ is

A. +1

B. -1

C. +2

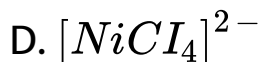
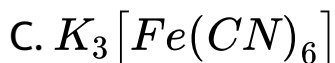
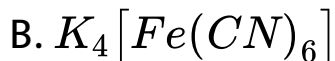
D. -2

Answer:



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7. Which is not an anionic complex?



Answer:



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8. The geometry of $[Ni(CN)_4]^{2-}$ is

A. Tetrahedral

B. Square planar

C. Triangular

D. Octahedral

Answer:



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9. An example of an ambidentate ligand is

A. CN^-

B. CI^-



Answer:



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10. $[FeF_6]^{4-}$ Paramagnetic because

A. F^- is a weaker ligand

B. F^- is a strong ligand

C. F^- is a flexidentate ligand

D. F^- is a chelating ligand

Answer:



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11. In $[Fe^{11}(CN)_6]^{4-}$ the central metal ion is

A. Fe

B. Fe^{2+}

C. Fe^{+3}

D. CN^-

Answer:



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12. The coordination number of Ni(II) in $[Ni(CN)_4]^{2-}$ is

A. 2

B. 4

C. 5

D. 6

Answer:



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13. The name of $[Pt^{IV}(NH_3)_2Cl_2]^{2+}$ is

- A. Diamminedichloroplatinum(IV) ion
- B. Diamminedichloroplanitate(IV)
- C. Diamminedichloroplatinum
- D. Dichlorodiammineplatinum(IV) ion

Answer:

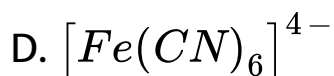


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14. For a compound

$K_4[Fe(CN)_6] \rightarrow 4K^+ + [Fe(CN)_6]^{4-}$ the

complex ion is



Answer:



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15. A metal ion from the first transition series forms an octahedral complex with magnetic moment of

4.9 BM and another octahedral complex which is diamagnetic .The metal ion is



Answer:



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16. Paramagnetic moment is expressed in

A. Debye unit

B. K Joules

C. BM

D. ergs

Answer:



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17. The type of isomerism found in the complex



A. Hydrate isomerism

B. Coordination isomerism

C. Linkage isomerism

D. Ionisation

Answer:



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18. What are the important features of valence bond theory?

A. geometry

B. magnetic

C. nature of ligand

D. colour

Answer:



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Self Evaluation B Answer In One Or Two Sentences

1. What are simple salts? Give one example.



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2. What are double salts? Give one example.



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3. Which is a double salt ?



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4. What are ligands and coordination number?



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5. Give one example for a monodentate ligand, a bidentate ligand and a chelating ligand.



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6. Name the following complexes

(a) $[Co(NH_3)_5(H_2O)]Cl_3$ (b) $Na[B(NO_3)_4]$



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7. Write the IUPAC name for the following

(i) $K_2[Fe(CN)_3(Cl)_2(NH_3)]$



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8. Give the structure for the following compounds

(i) Pentaamminechlorocobalt (III) ion

(ii) Triamminetrinitrito -kN Cobalt (III)

(iii) tetraammineaquabromidocobalt (III) nitrate

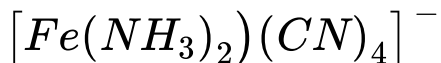
(iv) Dichloridobis (ethane-1,2-diamine)cobalt (III)
chloride

(v) Tetraamminecopper(II) sulphate



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9. Draw the structures of geometrical isomers of



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10. What are chelates? Give one example.



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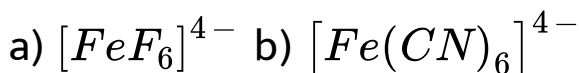
Self Evaluation C Answer Not Exceeding 60 Words

1. Explain coordination and ionisation isomerism with suitable examples.



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2. Mention the type of hybridisation and magnetic property of the following complexes using VB theory



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3. For the complexes

$K_4[Fe(CN)_6]$, $[Cu(NH_3)_4]SO_4$ mention

a) Name b) Central metal ion c) Ligands d)

Coordination number



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4. How is the paramagnetic moment related to the number of unpaired electrons in?

a) $K_4[Fe(CN)_6]$ b) $K_3[Fe(CN)_6]$



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5. In what way $[FeF_6]^{4-}$ differs from $[Fe(CN)_6]^{4-}$.



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6. $[Ni(CN)_4]^{2-}$ diamagnetic, whereas $[NiCl_4]^{2-}$ is paramagnetic. Explain.



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7. $[Cu(NH_3)_4]^{2+}$ is square planar, where as $[NiCl_4]^{2-}$ is tetrahedral. Explain.



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8. What are the limitations of VB theory?



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9. The ferric state of haemoglobin is called



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10. Chlorophyll in a leaf is required for.....



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