CHEMISTRY

BOOKS - USHA CHEMISTRY (ODIA ENGLISH)

D- AND F_BLOCK ELEMENT & CO-ORDINATION COMPOUND

Exercise

1. Which of the following alloys does not contain copper?

A. Bronze

B. Brass

C. Bell metal

D. Solder

Answer: D

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2. German silver contains ___ % of silver.

A. 90

B. 10

C. 1

D. 0

Answer: D

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3. In the compound $\left[Fe(H_2O)_5NO\right]SO_4$ the oxidation number of iron is

A. 1

B. 2

C. 3

D. 0

Answer: A

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4. The co-ordination compounds with bidentate ligands are called as

A. complexes

B. ligands

C. chelates

D. double salts

Answer: C

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5. In presence of ligands

A. The five d-orbitals of metal atomorion have same energy

B. The five orbitals split into two set of orbitals kaving different energy

C. The five d-orbitals have different energy

D. none of these

Answer: B

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6. Which of the following can not show linkage isomerism ?

A. CN^-

B. NO_2^-

C. H_2O

D. SCN^-

Answer: C

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7. Transition elements belong to

A. s-block

B. p-block

C. d-block

D. f-block

Answer: C

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8. The general outer electronic configuration of transition elements is

A. nd^{1-10}

B. $(n-1)d^{1-10}ns^2$

C. $(n-1)d^{1-10}ns^{1-2}$

D. $nd^{1-10}ns^{1-2}$

Answer: C

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9. The property which is not characterstic of transition clements is

A. formation of compexes

B. formation of coloured compounds

C. variable oxidation states

D. have low m.p

Answer: D

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10. The no. of unpaired electrons in Fe^{3+} ion (Z=26) is

A. 4

B. 5

C. 6

D. 3

Answer: B

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11. In 1st row transition series the highest oxidation number is shown by

A. Fe

B. Mn

C. Cr

D. Ti

Answer: B

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12. All ligands are

A. Lewis acid

B. Lewis base

C. neutral

D. none of these

Answer: B

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13. Which of the following complex is used for treatment of cancer ?

A. $K_4\left[Fe(CN)_6\right]$

B. Cis-$\left[Pt(NH_3)_2Cl_2\right]$

C. $\left[C^0(NH_3)_6\right]Cl_3$

D. $Na\left[Ag(CN)_2\right]$

Answer: C

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14. The no. of unpaired electrons in Fe^{3+} ion (Z=26) is

A. 2

B. 4

C. 5

D. 3

Answer: C

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15. Write the names of the following compounds : $K_4\left[Fe(CN)_6\right.$

A. Potassium ferrocyanide

B. Potassium ferricyanide

C. Potassium hexacyano ferrate (III)

D. Potassium hexacyanido ferrate (II)

Answer: D

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16. Gun metal is an alloy of

A. Cu and Zn

B. Cu, Sn and Zn

C. Cu and Sn

D. Cu, Zn and Ni

Answer: B

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17. $CuSO_4 5H_2O$ is commonly known as

A. oil of vitriol

B. green vitriol

C. blue vitriol

D. white vitriol

Answer: C

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18. Purest form of iron is called as

A. pig iron

B. cast iron

C. wrought iron

D. steel

Answer: C

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19. Iron becomes passive on treatment with

A. H_2SO_4 dil

B. HCl(conc.)

C. HNO_3 conc.

D. H_2SO_4 conc.

Answer: C

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20. The scientist who explained the structure of co- ordination complexes is

A. Sidgwick

B. Pauling

C. Lewis

D. Werner

Answer: D

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21. The oxidation number of $'Ni'$ in $[Ni(CO)4]$ is _____

A. 0

B. 2

C. 4

D. 1

Answer: A

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22. The effective atomic number of $'Cr'$ in $[Cr(H_2O)6]^{3+}$ ion is ____

A. 30

B. 33

C. 36

D. 39

Answer: B

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23. When steam is passed over red hot iron, the products formed are

A. $Fe_2O_3 + H_2O$

B. $Fe_3O_4 + H_2$

C. $Fl_2O_3 + H_2$

D. FeO+H_2

Answer: B

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24. $FeSO_4.7H_2O$ is known as

A. blue vitriol

B. white vitriol

C. green vitriol

D. none of these

Answer: C

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25. Which of the following natural compound does not exist as co-ordination complex ?

A. haemoglobin

B. Chlorophyll

C. Protein

D. Vitamin-B_{12}

Answer: C

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26. Which of the following ions is coloured in solution ?

A. Zn^{2+}

B. Cu^{+}

C. V^{3+}

D. Ti^{4+}

Answer: C

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27. The highest magnetic moment is shown by the transition configuration

A. d^7

B. d^9

C. d^5

D. d^3

Answer: C

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28. The carbon content in steel is

A. 5-10%

B. 0.25 to 2%

C. 2 to 2.5%

D. 0.1 to 0.25%

Answer: B

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29. Annealing is a process in which

A. steel is heated to bright red and cooled slowly

B. steel is heated bright red and cooled suddenly

C. steel is heated below redness and cooled slowly

D. steel is heated in a current of NH_3 gas.

Answer: B

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30. The IUPAC name of $Ni(CO)_4$ is

A. Nickel tetracarbonyl

B. tetracarbonyl nickel (0)

C. tetracarbonyl nickelate(0)

D. tetracarbonyl nickel

Answer: B

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31. $\left[Co(NH_3)_5Br\right]SO_4$ and $\left[Co(NH_3)_5SO_4\right]Br$ are related as

A. Linkage isomers

B. ionisation isomers

C. Co-ordination isomers

D. none of these

Answer: B

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32. IUPAC name of $Na_3\left[Al(C_2O_4)_3\right]$ is

A. Sodium trioxalatoaluminate (III)

B. Sodium trisoxalatoaluminate (III)

C. Sodium aluminium oxalate

D. Sodium trioxalatonluminute (O)

Answer: A

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33. An octabedral complex is _____ formed when the central metal atom is hybridised.

A. sp^3d

B. sp^3d^2

C. sp^3d^3

D. dsp^3

Answer: B

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34. The most stable oxidation state of iron is

A. 2

B. 3

C. 1

D. 4

Answer: B

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35. The number of moles of ions produced per mole of $K_4[Fe(CN)6]$ in aqueous solution will be _____

A. 5

B. 2

C. 11

D. 10

Answer: A

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36. What is the co-ordination number of $'Co'$ in $\left[Co(NH_3)_6\right]Cl_3$?

A. 6

B. 3

C. 9

D. 4

Answer: A

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37. Which of the following is a transition metal ?

A. Ca

B. Cs

C. Co

D. Cl

Answer: C

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38. Which of the following has highest magnetic moment?

A. Zn^{2+}

B. Fe^{2+}

C. Cr^{3+}

D. Cu^{2+}

Answer: B

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39. Which of the following is not an alloy of copper?

A. bronze

B. type metal

C. gun metal

D. brass

Answer: B

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40. Which of the alloys contains copper ?

A. bell metal

B. gun-metal

C. bronze

D. all of these

Answer: D

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41. Which of the following characteristics of transition metals is associated with its catalytic activity?

A. high ionisation energy

B. variable oxidation state

C. high effective nuclear charge

D. all of these

Answer: B

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42. When pyrolusite is fused with KOH the compound formed is ____

A. K_2MnO_4

B. $KMnO_4$

C. Mn_3O_4

D. $K_2Cr_2O_7$

Answer: A

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43. The product of oxidation of I^- with MnO_4^- in alkaline medium is ____

A. I_2

B. IO^-

C. IO_4^-

D. IO_3^-

Answer: D

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44. Which of the following is the common oxidation state for Lanthanoids ?

A. 4

B. 2

C. 1

D. 3

Answer: D

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45. The purple colour of $KMnO_4$ is due to ___

A. d-d transition

B. charge transfer

C. f-f transition

D. none of these

Answer: B

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46. $KMnO_4$ oxidises oxalates to ____

A. CO

B. CO_3^{2-}

C. CO_2

D. HCO_3^-

Answer: C

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47. How many electrons are involved in the oxidation by $KMnO_4$ in acid medium ?

A. 5

B. 3

C. 1

D. 7

Answer: A

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48. Lanthanide contraction is due to ___

A. imperfect shielding an outer electrons by 4f electrons from the nuclear charge.

B. effective shielding by 4f electron on the valence shell electrons

C. greater shielding of 5d electrons by 4f electrons from the nuclear charge

D. appreciable shielding on outer electrons by 4f electrons from the nuclear charge

Answer: A

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49. Which of the following is an ambidentate ligand?

A. NO_2^-

B. $C_2O_4^{2-}$

C. SO_4^{2-}

D. NH_3

Answer: A

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50. Which of the following is a bridging ligand

A. OH^-

B. NH_3

C. $edta^{4-}$

D. H_2O

Answer: A

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51. The oxidation number of $'Co'$ in the complex $K[Co(CO)4]$ is _____

A. 1

B. -1

C. 3

D. 0

Answer: B

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52. Among the following the most stable complex is

A. $Fe(H_2O_6)]^{3+}$

B. $[Fe(NH_3)_6]^{3+}$

C. $Fe(CN)_6]^{3-}$

D. $[Fe(C_2O_4)_3]^{3-}$

Answer: D

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53. What is spiegeleisen ?

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54. $K_4[Fe(CN)6]$ is an example of ___ salt.

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55. Out of the following which has more number of unpaired electrons ?

$(Fe^{2+}, Ni^{2+}, Cu^{2+})$

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56. How are $[Co(NH_3)_5NO_2]Cl_2$ and $[Co(NH_3)_5ONO]Cl_2$ related?

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57. Write down the elecronie configuration of Fe^{3+}.

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58. Explain why $CuSO_4$ is blue while $ZnSO_4$ is white.

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59. The secondary valency of a metal atom in a complex salt is also called as _____.

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60. What is co-ordination number of a metal atom or ion in a complex salt ?

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61. The number of moles of ions produced per mole of $K_4[Fe(CN)6]$ in aqueous solution will be _____

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62. In a complex salt _____ valency is ionisable.

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63. Explain, why NH_4^+ does not form complex.

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64. Between Sc^{3+} and Cr^{3+} ion which will give colourless compound.

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65. Brass is an alloy of ____ and Zinc.

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66. Write the IUPAC Name of $\left[Co(NH_3)_6\right]Cl_3$

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67. Write the IUPAC Name of $K_3\left[Cr(C_2O_4)_3\right]$

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68. All ligands are _____ (Lewis acid or Lewis base).

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69. What is the compound formed during brown ring test for nitrate.

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70. The carbon content in steel is

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71. Between Fe^{2+} ion and Fe^{3+} ion which is more stable ?

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72. Which of the following ligands can show linkage isomerism ? $\left(SCN^{-}, NH_3, OH^{-}\right)$

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73. Why is $'Zn'$ not considered as transition element ?

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74. Which ions of 1st row transition series show highest paramagnetism ?

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75. Between $\left[Cr(H_2O)_6\right]^{3+}$ and $\left[Fe(H_2O)_6\right]^{2+}$ which is more paramagnetic ?

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76. Discuss the general characteristics properties of transition elements.

Watch Video Solution

77. EDTA is an example of ___ ligand.

Watch Video Solution

78. The primary valency of a central metal atom or lon in a complex is satisfied with ____.

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79. $\left[Co(NH_3)_5Br\right]SO_4$ and $\left[Co(NH_3)_5SO_4\right]Br$ are related as

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80. Why does the size of Hafnium and Zirconium is same although they belong to different periods of same group ?

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81. Between Cu^+ and Co^{2+} which one is paramagnetic ?

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82. What is the co-ordination number of $'Co'$ in the complex $\left[Co(C_2O_4)_3\right]^{3-}$?

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83. Transition metals exhibit ____ oxidation states.

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84. Dilute HCl oxidises metallic iron to _____.

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85. The outermost electronic configuration of $'Cr'$ is _____.

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86. When excess of ammonia is added to copper sulphate solution, a deep blue solution is formed. This is due to formation of _____.

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87. What is ligand?

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88. What is Mohr's salt ?

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89. What do you mean by chelates ?

Watch Video Solution

90. What are the transition elements?

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91. The general outer electronic configuration of transition elements is

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92. The magnetic moment for an ion having d^6 configuration is _____ BM.

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93. What are the shapes of $Ni(CO)_4$ and $Fe(CO)_5$?

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94. The alloy of copper and tin is known as ____.

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95. In electrorefrining of copper the impure copper is made as ___.

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96. Majority of transition metal compounds are ___ and ___.

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97. In 1st row transition series the highest oxidation number is shown by

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98. The outermost electronic configuration of $'Cu'$ is _____.

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99. Write the structural formula of sodium hexafluoridosilicate (IV).

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100. Write the formula of pentaammine chloridochromlum (III) lon.

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101. Why are most of the transition metal compounds are paramagnetic ?

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102. Indicate the primary and secondary valencies of the central metal atom in the complex $K_4\left[Fe(CN)_6\right]$

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103. What is the highest oxidation state of manganese ?

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104. Write the formula of mine complex of $'Cu'$ and Ag.

Watch Video Solution

105. Write the IUPAC same of $[Co(en)_2Cl_2]SO_4$

Watch Video Solution

106. Name two ferrous alloys.

Watch Video Solution

107. Write the formula of tetrammine aquachlorido cobalt (III) chloride.

Watch Video Solution

108. Write the IUPAC Name of $K_3\left[Cr(C_2O_4)_3\right]$

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109. Draw the cis-trans isomers of $\left[Fe(NH_3)_2(CN)_4\right]^-$

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110. Why the solution of $CuSO_4$ and aqueous NH_3 mixed in the molar ration 1:4 does not give the test of Cu^{2+} ion ?

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111. Specify the oxidation number and co-ordination number of the metals in the following complexs. $\left[CoBr_2(en)_2\right]^+$

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112. Specify the oxidation number and co-ordination number of the metals in the following complexs. $[PtCl_4]^{2-}$

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113. What are bidentate ligands? Give an example.

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114. How many ions can be produced from $[Co(NH_3)_6]Cl_3$ in aqueous solution.

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115. Find EAN of Fe in $K_4[Fe(CN)_6]$

Watch Video Solution

116. Write the ionic equation showing the oxidising action of $K_2Cr_2O_7$ with H_2S.

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117. Name a transition clement which does not exhibit variable oxidation state.

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118. Find the magnetic moment value of Co^{2+}

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119. Explain, why Cu^+ ion is not stable in aqueous solution.

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120. Between $\left[Fe(H_2O)_6\right]^{3+}$ and $\left[Fe(CN)_6\right]^{3-}$ which is a low spin complex and why ?

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121. Write the E. C of Lanthanides and Actinides.

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122. Name the two elements of Ist row transition series which have exceptional electronie configuration and why ?

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123. Explain why Fe^{3+} ion is more stable than Fe^{2+} ion in aqueous solution.

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124. What is the reason of paramagnetism in transition metals ?

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125. A complex having molecular formula $Cr(NH_3)_4CI_2Br$ has two isomers $'A'$ and $'B'$. The isomer $'A'$ given a white precipitate with $AgNO_3$ solution, while $'B'$ gives a yellow precipitate. Identify A and B.

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126. What do you mean by passivity of iron ?

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127. Write two important alloys of copper and their uses.

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128. Give two examples of alloy steel and their uses.

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129. What do you mean by double salt and co-rodination compound ? Give one example of each.

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130. Write the name and composition of two iron ore.

Watch Video Solution

131. Find the magnetic moment of Cr^{3+} ion.

Watch Video Solution

132. What are transition metals ? Write their general outer electronic configuration.

Watch Video Solution

133. Explain, why Cu^{+} ion is not stable in aqueous solution.

Watch Video Solution

134. Explain why transition metal ions are usually coloured.

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135. Explain, why $\left[Ni(CN)_4\right]^{2-}$ and $\left[NiCl_4\right]^{2-}$ have different geometry.

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136. What is chelating ligand ?

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137. What are t_{2g} and e_g orbitals ?

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138. Explain the structure of $CoCl_{3.4}NH_3$ on the basis of Werner's theory.

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139. Why do transition metals form complex salts?

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140. Write the co-ordination number, and oxidation number of Fe in $K_4\left[Fe(CN)_6\right]$.

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141. Write IUPAC name of the compound $\left[(C_2H_5)_4Ni\right]\left[ZnCl_4\right]$

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142. Write IUPAC name of the compound $\left[Co(en)_2Cl(ONO)\right]^+$

Watch Video Solution

143. Write IUPAC name of the compound $Na_2[Fe(CN)_5NO]$

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144. What are the ambidentate ligands ? Give examples.

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145. What do yor mean by inner orbital and outer orbital complexes ?

Watch Video Solution

146. Why do transition elements exhibit variable oxidation states ?

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147. Find the magnetic moment of Mn^{2+} ion.

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148. Difference between double salt and complex salt.

Watch Video Solution

149. Why are Zn salts colourless ?

Watch Video Solution

150. Explain why NH_3 is a ligand while NH_4^+ is not.

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151. Name two co-ordination compounds which play important role in living systems.

Watch Video Solution

152. Discuss the importance of co-ordintion compounds in qualitative analysis.

Watch Video Solution

153. Explain why $\left[Fe(H_2O)_6\right]^{2+}$ is paramagnetic while $\left[Fe(CN)_6\right]^{4-}$ is diamagnetic although both are in same oxidation state.

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154. Write the structural formula of EDTA and also give its one use.

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155. What meant by chelate ? Give an example.

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156. What is crystal field splitting ?

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157. Explain, why Mn^{2+} compounds are more stable than Fe^{2+} towards oxidation to their +3 state.

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158. What is the effect of Increasing pH on a solution of potassium dichromate ?

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159. How the variability in oxidation states of transition metals differ from that of non transition metals ?

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160. Predict which of the following will be coloured In aqueous solution giving reason. $(Cu^+, V^{3+}, Zn^{2+}, Sc^{3+}, Fe^{3+}, Co^{2+})$

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161. How the Lanthanoids differ from Actinoids with relative to their oxidation state ?

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162. What are the inner transition elements ?

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163. Which of the following atomie numbers are the inner transition elements ? (59, 65, 29,

103, 94, 74)

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164. Write the electronic configuration of the elements with atomic number 61, 92, 100.

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165. Both copper and zinc have completely filled d-orbitals, but copper is a transition element and zinc is not. Explain.

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166. Between Cr^{2+} and Fe^{2+} which is a stronger reducing, agent in aqueous solution and why?

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167. In 1st row transition series the highest oxidation number is shown by

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168. Which First row transition element exhibits stable +1 oxidation state

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169. Name a transition clement which does not exhibit variable oxidation state.

Watch Video Solution

170. Explain, why Zn, Cd, Hg are called the volatile metal.

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171. $\left[Fe(CN)_6\right]^{4-}$ and $\left[Fe(H_2O)_6\right]^{2+}$, are of different colours in dilate solution, although in both the cases iron is in +2 oxidation state explain.

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172. A solution $\left[Ni(H_2O)_6\right]^{2+}$ is green while a solution of $\left[Ni(CN)_4\right]^{2-}$ is colourless. Explain.

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173. Write three main postulates of VBT for explaining bonding in co-ordination compounds.

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174. Write the ionic equation for the oxidising action of potassium dichromate with iodide.

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175. Write the ionic equation showing the oxidising action of $K_2Cr_2O_7$ with H_2S.

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176. What is misch metal ? Write its two important uses.

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177. Although Zr belongs to 4d and Hf belongs to 5d- transition series but it is quite difficult to separate them. why ?

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178. What are the transition elements?

Watch Video Solution

179. Discuss the general characteristics properties of transition elements.

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180. Write short notes on : Werner's theory of co-ordination compounds.

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181. Write short notes on : Structural isomerism in co-ordination compounds.

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182. Why does copper not liberate H_2 gas from dilute mineral acid ?

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183. Explain why Fe^{3+} ion is more stable than Fe^{2+} ion in aqueous solution.

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184. How does iron react with dilute nitric acid ?

Watch Video Solution

185. Why are Zn^{2+} salts white, while Cu^{2+} salts blue ?

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186. What is spectrochemical series ?

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187. Explain the difference between weak field ligand and strong field ligand.

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188. What is crystal field splitting ?

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189. Purest form of iron is called as

A. cast iron

B. Steel

C. wrought iron

D. pig iron

Answer:

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190. Iron becomes passive on treatment with

A. Conc. H_2SO_4

B. Conc. HNO_3

C. Conc. HCl

D. Conc. HF

Answer:

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191. Bauxite ore mainly containing silica impurity is purified by

A. froth floation

B. gravity separation

C. leaching

D. electromagnetic separation

Answer:

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192. The no. of unpaired electrons in Fe^{3+} ion (Z=26) is

A. 3

B. 4

C. 5

D. 1

Answer:

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193. $\left[Co(NH_3)_5Br\right]Cl$ and $\left[Co(NH_3)_5Cl\right]Br$ are related as-

A. linkage isomers

B. ionisation isomers

C. Functional isomers

D. co-ordination isomers

Answer:

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194. The composition of calamine is _____.

A. ZnS

B. $ZnCO_3$

C. Fe_2O_4Zn

D. ZnO

Answer:

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195. Malachite is the ore of _____.

A. Fe

B. Mn

C. Cu

D. Zn

Answer:

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196. During extraction of Al from bauxite ____ is added to lower the melting point of bauxite.

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197. In $K_4[Fe(CN)6]$, effective atomic number of iron is _____.

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198. What is slag ?

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199. Brass is an alloy of ____ and Zinc.

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200. Azurite is the ore of _____.

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201. Copper metal obtained from Bessemer converter is known as ____.

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202. Write the ionic equation showing the oxidising action of $K_2Cr_2O_7$ with H_2S.

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203. Annealing is a process in which

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204. All transition metals are d-block element but all d-block elements are not transition metal. Explain with an example.

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205. What are the ambidentate ligands ? Give examples.

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206. What is difference between calcination and roasting ?

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207. Find EAN of Fe in $K_4\left[Fe(CN)_6\right]$

Watch Video Solution

208. When steam is passed over red hot iron, the products formed are

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209. What is the effect of Increasing pH on a solution of potassium dichromate ?

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210. What is Goldschmidt aluminothermic process ?

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211. What happens when copper turnings are heated with conc. H_2SO_4 ?

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212. What is lanthanide contraction? Write any two of its consequences.

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213. On the basis of effective atomic number rule explain the hybridisation and molecular formula of iron carbonyl.

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214. Suggest Chemical test to show that $[Co(NH_3)_5Cl]SO_4$ and $[Co(NH_3)_5SO_4]Cl$ are ionisation isomers.

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215. What is ligand?

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216. Explain why transition metal ions are usually coloured.

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217. Write three main postulates of VBT for explaining bonding in co-ordination compounds.

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218. What is leaching ? Glve an example.

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220. Describe the principle of van-Arkel process for refining of metal.

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221. Difference between double salt and complex salt.

Watch Video Solution

222. Write the name and composition of two ores of copper.

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223. Give the principle of extraction of copper from one of its ore.

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224. What are transition metals ? Write their general outer electronic configuration.

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225. Discuss the general characteristics properties of transition elements.

Watch Video Solution

226. Indicate the steps in the preparation of $K_2Cr_2O_7$ from chromite ore.

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227. Write the principle of extraction of 'Zn from its sulphide ore.

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228. What is spectrochemical series ?

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229. Explain the difference between weak field ligand and strong field ligand.

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230. Write two important ores of aluminium.

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231. Discuss the principle of extraction of aluminium from one of its chief ore.

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232. Write two important ores of iron.

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233. Give the principle of extraction of iron from one of its ore.

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234. The correct order of bond dissociation energy of halogens is _____.

A. $F_2 > Cl_2 > Br_2 > I_2$

B. $F_2 < Cl_2 < Br_2 < I_2$

C. $F_2 < Cl_2 > Br_2 > I_2$

D. $F_2 > Cl_2 < Br_2 < I_2$

Answer:

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235. In which reaction ozone acts as reductant ?

A. $PbS + O_3 \rightarrow PbSO_4 + O_2$

B. $KI + O_3 + H_2O \rightarrow KOH + I_2$

C. $BaO_2 + O_3 \rightarrow BaO + O_2$

D. $SnCl_2 + HCl + O_3 \rightarrow SnCl_4 + H_2O$

Answer:

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236. Oxygen and Ozone are ____.

A. isotopes

B. isomers

C. allotropes

D. isosters

Answer:

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237. The shape and hybridisation of XeF_4 is

A. tetrahedral, Sp^3d^2

B. square planar, dsp^2

C. square planar, sp^3d^2

D. octahedral, sp^3d^2

Answer:

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238. The number of P-O-P bonds in phosphorous pentoxide (P_4O_{10}) are

A. 5

B. 6

C. 4

D. 10

Answer:

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239. Which noble gas is called as stranger gas?

A. He

B. Kr

C. Ar

D. Xe

Answer:

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240. P_4 molecule has tetrahedral structure. The $\angle p - p - p$ bond angle is ____

A. $109^\circ 28'$

B. 107°

C. 60°

D. 120°

Answer:

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241. Write the product formed when ammonia reacts with excess of chlorine.

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242. What is composition of Oleum ?

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243. The inert gas used in beacon lights is_____

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244. Name the catalyst used in the contact process of manufacture of H_2SO_4

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245. The most abundant noble gas present in the atmosphere is _____.

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246. Sodium chloride on heating with H_2SO_4 in presence of MnO_2 produce ____ gas.

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247. What is the bond angle in SO_2 molecule ?

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248. Arrange the halogen acids in increasing order of their acidic strength.

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249. What happens when phosphorous acid is heated ?

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250. Why is oxygen a gas sulphur a solid at while room temperature ?

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251. Explain that bleaching action of CL_2 is permanent, while that of SO_2 is temporary.

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252. What are the interhalogen compounds? Give examples.

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253. Give an example of interhalogen compound of chlorine.

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254. Why does xenon form compounds only with fluorine and oxygen ?

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255. Explain why the reducing power for the hydrides of Gr-15 increases down the group

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256. How does ozone react with $SnCl_2$

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257. What happens when Nal is heated with conc. H_2SO_4 ?

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258. Give the principle of manufacture of H_2SO_4 by contact process.

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259. What happens when SO_2 gas is passed through acidified $K_2Cr_2O_7$ solution ?

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260. What happens when NH_3 gas is passed through copper sulphate solution first slowly and then in excess ?

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261. What happens when SO_2gas is passed through lime water first slowly and then in excess ?

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262. Why is H_2SO_4 called as king of the chemicals?

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263. What happens when Cl_2 gas is passed through hot concentrated solution of NaOH ?

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264. What do you mean by tailing of mercury ?

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265. Write the anomalous properties of fluorine.

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266. On the basis of VSEPR theory explain the shape of BrF_3 molecule .

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267. HF can form the salt KHF_2 while HCl does not form $KHCl_2$. Explain.

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268. Write three anomalous behaviour of Nitrogen.

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269. What are the favourable conditions for synthesis of NH_3 by Haber's process ?

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270. What is the compound formed during brown ring test for nitrate.

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271. Discuss briefly the principle involved in the manufacture of nitric acid by Ostwald's process.

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272. What happens when Cl_2 gas is passed through dry slaked lime?

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273. How does nitric acid react with zinc ?

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274. Why are the Gr-18 elements called as inert gases ?

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275. Why does only xenon from stable compounds among the noble gases?

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276. Describe the shape of XeF_6 molecules.

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277. Write all the members of Gr-16 and their electronic configurations.

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278. Describe the Siemen's method preparation of ozone.

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279. Write three properties of oxygen by which it differs from its family members.

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280. How is SO_2 prepared in the laboratory?

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281. Give one example of each in which SO_2 acts as reductant and oxidant respectively.

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