



CHEMISTRY

BOOKS - MBD CHEMISTRY (ODIA ENGLISH)

TRANSITION METALS (d-BLOCK ELEMENTS)

QUESTION BANK

1. Brass contains which metals?



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2. Write the formula of copper amine complex cation.



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3. Write down the composition of German silver.



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4. Name any two alloys of steel.



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5. Write two important ores of iron.



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6. Name two alloys of copper.



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7. Which one is more paramagnetic: Fe^{3+} or Fe^{3+} ?



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8. What is formula of green vitriol ?



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9. What is formula of Mohr's salt.



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10. What is % of carbon in cast iron and in steel ?



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11. What happens when potassium iodide is added to $CuSO_4$ solution ?



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12. Cast iron is harder than pure iron . Why ?



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13. Calculate the oxidation number of chromium in $K_2Cr_2O_7$.



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



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15. What is Bessemerisation ?



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16. Which is the lightest transition metal ?



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17. The highest oxidation state of transition metal is what ?



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18. Paramagnetic character of transition elements is due to ____ .



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19. The hardness of iron is mostly due to the presence of _____.



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20. Composition of copper metal is _____.



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21. The purity of blistered copper is _____.



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



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23. Blue vitriol is _____ .



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24. Cast iron contains maximum percentage of

_____.



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25. Azurite is the ore of _____.



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26. Bell metal is an alloy of :



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27. German silver is alloys of _____.



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28. Mohr's salt is _____.



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29. Galvanised iron sheets have coating of :



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30. $FeSO_4 \cdot 7H_2O$ is known as



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31. Percentage of carbon in steel is ____.



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32. Brass contains _____.



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33. Important iron ore is _____ .



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34. Purest form of iron is _____ .



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35. Fe_3O_4 is known as _____ .



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36. $FeSO_4 \cdot 7H_2O$ is known as



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37. Constantan is alloys of ____.



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38. Cu, Ag and Au are called white metals. Is it true or false?



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39. Which is the lightest transition metal ?



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40. The chemical formula of chromite mineral :



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41. d-block elements are called inner transition elements.,



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42. f-block elements are called transition elements.



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



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44. What happens when blue vitriol is heated?



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45. What is the oxidation number of nickel in $Ni(CO)_4$?



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46. Why Zn, Cd and Hg are not regarded as transition elements?



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47. Define the term tempering and nitriding.



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48. What is the role of limestone in the extraction of iron from red haematite?



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49. Write one method for the preparation of $CuSO_4$. Also write its uses.



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50. Write the ground state electronic configuration of Fe^{3+} ion.



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51. Give the formula and the name of one ammine complex of copper.



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52. How can you get wrought iron from cast iron ?



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53. Why transition elements form a large number of complexes?



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54. Complete the chemical reaction.



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55. Complete the chemical reaction.



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56. Explain magnetic behavior of transition elements.



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57. Ferric oxide crystallises in a hexagonal close packed array of oxide ions with two out of every three octahedral holes occupied by ferric ions. Derive the formula of the ferric oxide.



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58. What are alloy steels? Give three examples.



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59. Differentiate the processes annealing and hardening.



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60. What is blue vitriol? How it is prepared?



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61. What happens when NH_4OH solution is added drop by drop to $CuSO_4$ solution till excess?



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62. Write some characteristics of transition elements.



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63. Discuss general trends in properties of first row transition metals.



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64. Describe preparation and properties of $K_2Cr_2O_7$



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65. Discuss preparation and properties of $KMnO_4$



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66. Discuss chemistry of lanthanoids.



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67. What is lanthanoid contraction? Explain its causes and effects.



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68. Briefly describe the chemistry of actinoids.



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69. Ferric oxide in furnace is reduced by

A. C

B. H_2

C. CO

D. CO_2

Answer: C



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70. Potassium manganate (K_2MnO_4) is formed when :

A. Cl_2 is passed into an aqueous $KMnO_4$ solution

B. MnO_2 is fused with KOH in air

C. Formaldehyde reacts with $KMnO_4$ in presence of strong alkali

D. $KMnO_4$ reacts with concentrated H_2SO_4

Answer: B



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71. A solution of $Cr(NO_3)_3$ slowly turns green when concentrated HCl is added to it. It is due to the formation of:



Answer: D



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72. In the manufacture of iron from an iron oxide ore , limestone is added because it acts as :

- A. An oxidising agent
- B. A reducing agent
- C. A flux
- D. A precipitating agent

Answer: C



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73. Steel contains :

- A. 2.5 – 4.5 % C

B. 0.5 – 1.5 % C

C. 0.12 – 0.25 % C

D. 1 – 2 % C

Answer: B



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74. Stainless steel contains:

A. 50 % Cr

B. 2.5 % Cr

C. 14 % Cr

D. 2 % Cr

Answer: C



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75. Carbon content in wrought iron is :

A. 0.1 – 0.5 %

B. 1.5 – 2 %

C. 0.2 %

D. 2 – 5 %

Answer: A



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76. The alloy which contains nickel is :

A. Brass

B. Bell metal

C. Bronze

D. German silver

Answer: D



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77. The metal used for making armoured steel for tanks and domestic safes is :

A. Maganese

B. Aluminium

C. Lead

D. Chromium

Answer: A



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78. The process of nitriding used in the treatment of steel is :

A. Heating steel in an atmosphere of

ammonia

B. Heating steel to a bright redness and

cooling

C. Heating steel to bright redness and then cooling by plunging in air

D. None

Answer: B



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79. Roasting is used during metallurgical operations for :

A. Galena

B. Iron pyrites

C. Copper glance

D. All

Answer: D



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80. Pig iron is converted into steel by decreasing the amount of carbon contained in it, in a:

A. Blast furnace

B. Pyrite burner

C. Bessemer's converter

D. None of these

Answer: C



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81. Mond process is used in the extraction of :

A. Co

B. Ni

C. Mo

D. Zn

Answer: B



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82. Manganese steel contains:

A. Fe + C + Mn

B. Fe + C + Al

C. Fe + Mn

D. Fe + Mn + Cr

Answer: A



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83. Iron is rendered passive in concentrated :

A. H_2SO_4

B. H_3PO_4

C. HCl

D. HNO_3

Answer: D



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84. Wrought iron is :

A. Pure iron with 0.1 to 0.2 % C

B. Pig iron

C. An alloy of steel

D. Impure sulphide ore of iron

Answer: A



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85. Platinum , palladium , iridium , etc are called noble metals because:

A. Alfred Nobel discovered them

B. They are inert towards many common reagents

C. They are shining , lustors and pleasing to
look

D. They are found in native state

Answer: B



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86. Which of the following is a ferrous alloy ?

A. Invar

B. Solder

C. Magnalium

D. Type metal

Answer: A



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87. The raw materials fed into the blast furnace for making iron are :

A. FeO , $CaCO_3$ and coke

B. Fe_2O_3 , CaO and coke

C. Fe_2O_3 , $CaCO_3$ and coke

D. Fe_3O_4 , $Ca(OH)_2$ and coke

Answer: C



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88. A clock spring is heated to a high temperature and then suddenly plugged into cold water. This treatment will cause the metal to become :

- A. Soft and ductile
- B. More springy than before
- C. Hard and brittle
- D. Strongly magnetic

Answer: C



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89. The process of covering iron sheet with a layer of zinc is called:

A. Galvanizing

B. Zinc plating

C. Tempering

D. Rusting

Answer: A



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90. Which form of iron has lowest percentage of carbon ?

A. Cast iron

B. Wrought iron

C. Steel

D. All have same percentage

Answer: B



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91. A substance which is not paramagnetic is :



B. $KMnO_4$

C. $TiCl_3$

D. $VOBr_2$

Answer: B



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92. Galvanization means:

A. Deposition of Zn on Fe

B. Deposition of Al on Fe

C. Deposition of Sn on Fe

D. Deposition of Cu on Fe

Answer: A



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93. Substances which do not react with cold water but react with steam are :

A. C , Ca , SO_2

B. Fe , Al , Cl_2

C. CO_2 , Na , Mg

D. Co , Fe , Mn

Answer: B



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94. The following reaction describes the rusting of iron, $4Fe + 3O_2 \rightarrow 4Fe^{3+} + 6O^{2-}$. Which one of the following statements is incorrect:

A. This is an example of a redox reaction

B. Metallic iron is reduced to Fe^{2+}

C. Fe^{3+} is an oxidising agent

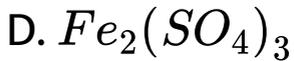
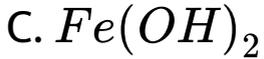
D. Metallic iron is a reducing agent

Answer: B



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95. Which is formed when $FeSO_4$ reacts with an oxidising agent ?



Answer: D



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96. Iron sheets are galvanized mainly to :

A. Harden the surface

B. Increase lustre

C. Prevent action of water

D. Prevent action of oxygen and water

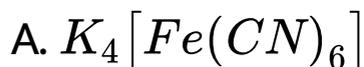
Answer: D

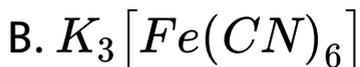


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97. Correct formula of potassium ferrocyanide

is :





D. Galena

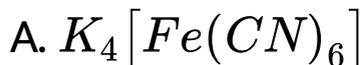
Answer: A

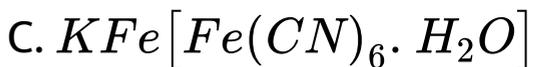
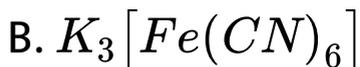


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98. Correct formula of potassium ferricyanide

is :





Answer: B



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99. Which metal corrodes readily in moist air ?

A. Gold

B. Silver

C. Nickel

D. Iron

Answer: D



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100. The colour of Mohr's salt,

$(NH_4)_2SO_4Fe(SO_4).6H_2O$ is :

A. White

B. Green

C. Violet

D. Blue

Answer: B



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101. Which is not an ore of iron ?

A. Haematite

B. Magnetite

C. Cassiterite

D. Limonite

Answer: C



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102. In india iron is obtained from the ore :

A. Cassiterite

B. Azurite

C. Haematite

D. Cryolite

Answer: C



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103. Platinum metal can be dissolved in :

- A. Hot concentrated hydrochloric acid
- B. Hot concentrated nitric acid
- C. Hot dilute sulphuric nitric acid
- D. A mixture of hydrochloric and nitric acids

Answer: D



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104. The stainless steel developed in india contains the following special components :

- A. Vanadium and cobalt
- B. Nickel and magnesium
- C. Maganese and chromium
- D. Aluminium and zinc

Answer: C



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105. In india steel plants are not located at :

A. Jamshedpur

B. Bhilai

C. Rourkela

D. Nangal

Answer: D



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106. one of the components of stainless steel

is :

A. Cr

B. Mg

C. Sn

D. W

Answer: A



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107. The alloy of steel that is used for making automobile parts and utensils is :

A. Stainless steel

B. Nickel steel

C. Tungsten steel

D. Chromium steel

Answer: A



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108. The purest form of commercial iron is :

- A. Cast iron
- B. Pig iron
- C. Wrought iron
- D. steel

Answer: C



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109. A metal forms a volatile carbonyl is:

A. Iron

B. Nickel

C. Cobalt

D. Titanium

Answer: B



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110. The extraction nickel involves:

A. The formation of $Ni(CO)_4$

B. The decomposition of $Ni(CO)_4$

C. The formation and thermal decomposition of $Ni(CO)_4$

D. The formation and catalytic decomposition of $Ni(CO)_4$

Answer: C



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111. In the metallurgy of iron , when limestone is added to the blast furnace , the calcium ion ends up as :

A. Slag

B. Gangue

C. Metallic calcium

D. Calcium carbonate

Answer: A



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112. Rusting of iron is a chemical reaction . The reaction is :

A. Analysis

B. Displacement

C. Oxidation of Fe

D. Double decomposition

Answer: C



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113. Haematite is an ore of :

A. Boron

B. Iron

C. Manganese

D. Copper

Answer: B



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114. The properties of cast iron , wrought iron and steel are different because they have :

A. Different contents of sulphur

B. Different contents of carbon

C. Traces of different elements

D. Traces of different iron oxides

Answer: B



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115. A hard and resistant alloy generally used in tip of nib of pen is :

A. Os , Ir

B. Pt , Cr

C. V , Fe

D. Fe , Cr

Answer: B



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116. Which occurs in nature in free state ?

A. Fe

B. Co

C. Ni

D. Pt

Answer: D



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117. The general electronic configuration of transition elements is

A. $(n - 1)d^{1-5}$

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

C. $(n - 1)d^{1-10}ns^{0-2}$

D. None

Answer: C



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118. Transition elements are good conductor of current because :

A. They are metals

B. They are all solids

C. They have free electrons in outer energy
orbits

D. All of these

Answer: D



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119. Iron is :

- A. Normal element
- B. Transition element
- C. Typical element
- D. Inert element

Answer: B



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120. Transition elements are coloured due to:

- A. Small size
- B. Metallic nature
- C. Unpaired d-electrons
- D. None

Answer: C



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121. A transition element X has the configuration $[Ar]d^4$ in its +3 oxidation state.

Its atomic number is

A. 25

B. 26

C. 22

D. 19

Answer: A



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122. Elements of group 11 and 12 are:

- A. Normal elements
- B. Transition elements
- C. Alkaline earth metals
- D. Alkali metals

Answer: B



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123. Formation of interstitial compounds make the transition metal :

- A. More soft
- B. More ductile
- C. More metallic
- D. More brittle

Answer: D



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124. $K_3[Co(NO_2)_6]$ is :

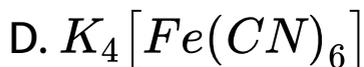
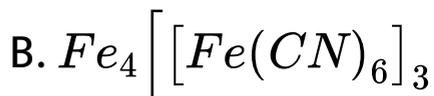
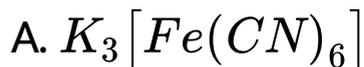
- A. Fischer's salt
- B. Thenard's blue
- C. Rinman's green
- D. Blue vitriol

Answer: A



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125. Prussian blue is :



Answer: B



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126. Ferrous sulphate is called as:

A. Green vitriol

B. White vitriol

C. Jeweller.s rouge

D. Glauber.s salt

Answer: A



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127. Percentage of nickel in nickel steel is :

A. 19 %

B. 35 %

C. 39.5 %

D. 8.5 %

Answer: B



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128. Iron is obtained on large scale from haematite,

A. By reduction

B. By oxidation

C. By reduction followed by oxidation

D. By oxidation following by reduction

Answer: B



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129. In comparison to ferrous salts , ferric salts are :

A. More stable

B. Less stable

C. Equally stable

D. None of the above

Answer: A



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130. Which form contains the maximum percentage of carbon ?

A. Wrought iron

B. Cast iron

C. Malleable iron

D. steel

Answer: B



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131. Which statement is correct ?

A. Iron belongs to 3d-transition series of the periodic table

B. Iron belong to f-block of the periodic table

C. Iron belongs to first transition series

D. Iron belongs to group VIII of the periodic

Answer: D



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132. Addition of $FeCl_3$ solution to

$K_4[Fe(CN)_6]$ solution gives :

A. Ferro-ferricyanide

B. Ferri-ferrocyanide

C. Ferri-ferricyanide

D. None

Answer: B



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133. Fe ore is concentrated by :

A. Magnetic treatment

B. Froth floatation

C. Electrolysis

D. Roasting

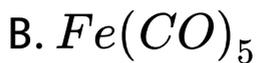
Answer: A



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134. Finely divided iron combines with CO to give :





Answer: B



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135. The term fools gold is used for a mineral which shines like gold . It is :

A. Iron pyrite

B. Copper glance

C. Cinnabar

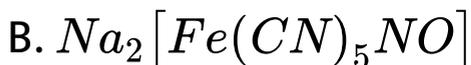
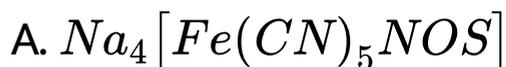
D. Cadmium sulphide

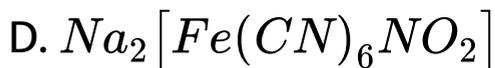
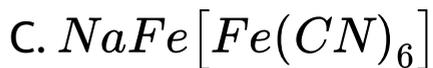
Answer: A



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136. The formula of sodium nitroprusside is:



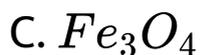


Answer: B



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137. Magnetite is :





Answer: C



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138. Automobile engine blocks are made up of :

A. Stainless steel

B. Nickel - chromium steel

C. Cast iron

D. Wrought iron

Answer: C



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139. Invar is an alloy of :

- A. Steel and chromium
- B. Vanadium and manganese
- C. Tungstrn and chromium
- D. steel and nickel

Answer: D



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140. Pig iron :

- A. Contains carbon and other impuriies
- B. Is pure from of iron
- C. Is same as wrought iron
- D. Is same as steel

Answer: A



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141. The formula of haematite is :



Answer: B



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142. Iron rusts in the presence of :

A. O and N_2

B. O_2 and moisture

C. Moisture only

D. O_2 only

Answer: B



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143. Which match is incorrect ?

A. Ammonia soda process - manufacture of potassium carbonate

B. Bessemer's process - manufacture of steel

C. Mac arther and forrest process - extraction of silver

D. Dow's process - manufacture of phenol

Answer: A



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144. Iron, once dipped in concentrated H_2SO_4 , does not displace copper from copper sulphate solution, because :

- A. It is less reactive than copper
- B. A layer of sulphate is deposited on it
- C. A layer of oxide is deposited on it
- D. None

Answer: C



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145. Wood's metal is an alloy of :

A. Pb

B. Zn

C. Fe

D. Sn

Answer: A



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146. The grey cast iron contains :

- A. Iron carbide
- B. Silicon carbide
- C. Silicon dioxide
- D. Graphite

Answer: D



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147. Soft and pliable steel is obtained by :

A. Tempering

B. Nitriding

C. Annealing

D. None

Answer: C



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148. Pig iron is manufactured using :

- A. An electric furnace
- B. A blast furnace
- C. An open hearth furnace
- D. None of these

Answer: B



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149. Which of the following has the highest percentage of carbon ?

A. Stainless steel

B. Pig iron

C. Solder

D. German silver

Answer: B



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150. Clock pendulums are made from :

A. Brass

B. Invar

C. Solder

D. German silver

Answer: B



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151. Steel that is resistant to acids is :

- A. Carbon steel
- B. Molybdenum steel
- C. Stainless steel
- D. Nickel steel

Answer: B



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152. Which one of the metals does not form amalgam ?

A. Fe

B. Cu

C. Ag

D. Zn

Answer: A



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153. Silver is a soft metal . It is hardened by alloying it with small amount of :



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154. From which from of iron, other forms of iron can be produced ?

- A. Cost iron
- B. Wrought iron
- C. Pig iron
- D. steel

Answer: C



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155. Which from of iron is least ducite ?

A. Hard steel

B. Cast iron

C. Mild steel

D. Wrought iron

Answer: B



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156. The fusible alloy of cadmium is

- A. Bell metal
- B. Monel metal
- C. Wood metal
- D. Guinea gold

Answer: C



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157. Stainless steel does not rust because :

A. Nickel present in it does not rust

B. Iron forms a hard chemical compound
with chromium present in it

C. Chromium and nickel combine with iron

D. Chromium forms an oxide layer that
protects iron from rusting

Answer: D



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158. Passivity of iron is due to the formation of thin film of its :

A. Oxide

B. Carbonate

C. Nitride

D. Hydroxide

Answer: A



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159. Iron gets rusted due to the action of :

A. Oxygen

B. water

C. Moisture

D. All of these

Answer: D



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160. Hard steel contains :

A. No carbon

B. 0.6 – 1.5 % carbon

C. 5 % carbon

D. 0.5 – 0.2 % carbon

Answer: B



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161. The sand stone in some iron ores is removed by:

- A. Carbon filters
- B. Compressed air
- C. Limestone
- D. sulphide acid

Answer: C



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162. Most of the known elements are :

A. Metals

B. Non-metals

C. Transition elements

D. Rare earths

Answer: A



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163. Mn belongs to :

A. s-block

B. p-block

C. d-block

D. f-block

Answer: C



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164. Orford process is used in extraction of :

A. Fe

B. Co

C. Pt

D. Ni

Answer: D



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165. The percentage of carbon is same in :

A. Cast iron and pig iron

B. Cast iron and steel

C. Pig iron and steel

D. Pig iron and wrought iron

Answer: A



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166. The highest magnetic moment for transition metals exist for :

A. $3d^9$

B. $3d^7$

C. $3d^5$

D. $3d^3$

Answer: C



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167. The carbo content of :

A. Cast iron is in between that of steel and wrought iron

B. Pig iron is in between that of steel and wrought iron

C. Steel is in between that of cast iron and wrought iron

D. Wrought iron is in between that of steel and cast iron

Answer: C



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168. Near the top of a blast furnace employed for the extraction of iron the metal oxides are reduced to spongy iron by :

A. Carbon

B. CO

C. CO_2

D. Limestone

Answer: B



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169. Zinc , cadmium and mercury are :

A. d-block elements

B. p-block elements

C. s-block elements

D. f-block elements

Answer: A



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170. Essential constituent of an amalgam is :

A. Fe

B. An alkali metal

C. Silver

D. Mercury

Answer: D



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171. The chloride that turns black on addition of NH_4OH is :

A. $AgCl$

B. $PbCl_2$

C. Hg_2Cl_2

D. Both (b) and (c)

Answer: C



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172. Calomel may be freed from traces of metallic mercury by washing with :

A. *dil. HNO₃*

B. *dil. H₂SO₄*

C. Water

D. Aqua regia

Answer: A



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173. Spelter is:

A. Impure Cu

B. Impure zinc

C. ZnO

D. CuO

Answer: B



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174. Amalgams are:

A. Always solid

B. Highly coloured alloys

C. Alloys which contain mercury as one of
the contents

D. Compounds of mercury

Answer: C



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175. Chemical name of corrosive sublimate is :

A. Mercurous chloride

B. Zinc chloride

C. Mercuric chloride

D. Aluminium chloride

Answer: C



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176. Consider an ideal gas contained in a vessel. If the intermolecular interaction suddenly begins to act, which of the following will happen :

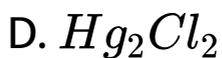
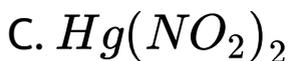
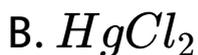
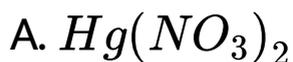
- A. Place it in hot strong nitric acid
- B. Place it in cold dilute hydrochloric acid
- C. Heat it gently in a sand - bath
- D. Heat it in chlorine

Answer: C



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177. Mercury on heating with aqua - regia yields :



Answer: B



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178. The meniscus of mercury in a glass tube is :

A. Convex upwards

B. Concave

C. Plane

D. Convex inwards

Answer: A



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179. Which statement about corrosive sublimate is incorrect ?

A. It is prepared by heating mercury in chloride

B. It reduces stannic chloride

C. it oxidises stannous chloride

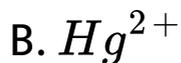
D. It sublimes readily

Answer: B



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180. Nessler's reagent is :



Answer: D



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181. Calomal is :

A. Hg_2Cl_2 and Hg

B. $HgCl_2$

C. Hg + $HgCl_2$

D. Hg_2Cl_2

Answer: D



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182. Cinnabar is an ore of :

A. Lead

B. Zinc

C. Silver

D. Mercury

Answer: D



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183. The colour of solution obtained by adding excess of KI in the solution of $HgCl_2$ is :

A. Orange

B. Brown

C. Red

D. Colourless

Answer: D



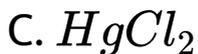
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184. From an aqueous solution of zinc sulphate, normal zinc carbonate may be precipitated by :



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185. The substance that sublimes on heating is :



D. NaCl

Answer: C



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186. Calamine is :



Answer: B



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187. Mercury is transpored in metal containers made of :

A. Silver

B. Lead

C. Iron

D. `Alumium

Answer: C



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188. Sulphide ore of zinc is concentrated by :

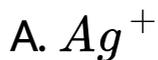
- A. Floatation process
- B. Electromagnetic process
- C. Gravity process
- D. Distillation

Answer: A



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189. Zn cannot displace ____ ion from the aqueous solution:

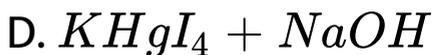
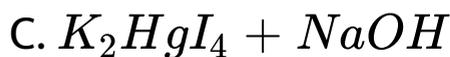
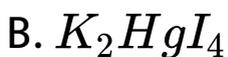


Answer: D



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190. Nessler's reagent is :



Answer: C



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191. Rinman's green is :

A. $\text{ZnO} \cdot \text{CoO}$

B. A green pigment

C. Both (a) and (b)

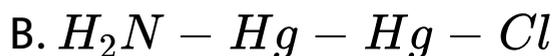
D. None

Answer: C



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192. Calomel reacts with ammonium hydroxide to form :



Answer: A



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193. Mercury forms amalgams with all except :

A. Al

B. Zn

C. Ni

D. Fe

Answer: D



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194. Which statement about group 12 elements is wrong ?

A. Zinc forms an alloy with copper

B. Zn_2^{2+} is stable

C. Mercury gives compounds with +1 and +2 Valencies

D. Hg is a liquid element

Answer: B



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195. Which metal cation forms stronger complex salt ?



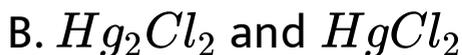
D. All of same strength

Answer: C



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196. A metal gives two chlorides *A* and *B*. *A* gives black precipitate with NH_4OH and *B* gives white. With *KI*, *B* gives a red precipitate soluble in excess of *KI*. *A* and *B* are respectively:



Answer: B



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197. Mercury is purified by :

A. Solidifying

B. Distillation in vaccum

C. Treatment with dil. HNO_3

D. Electrolytic method

Answer: B



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198. The calomel present in an electrode is :



Answer: B



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199. An element which is highly toxic for plants and animals is ?

A. Au

B. Mn

C. Hg

D. Ca

Answer: C



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200. Zinc sulphate is known as :

- A. Zinc blende
- B. White vitriol
- C. Blue vitriol
- D. Calamine

Answer: B



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201. Lithopone , a white pigment , consists of :

A. Al_2O_3 and $CaCO_3$

B. BaS and $PbSO_4$

C. ZnS and $BaSO_4$

D. PbS and MgO

Answer: C



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202. The lowest degree of paramagnetism per mol of the compound in the following will be shown by :



Answer: B



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203. Zinc oxide is :

A. A basic oxide

B. An acidic oxide

C. A neutral oxide

D. An amphoteric oxide

Answer: D



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204. A compound is yellow when hot and white when cold. The compound is :

A. Al_2O_3

B. PbO

C. CaO

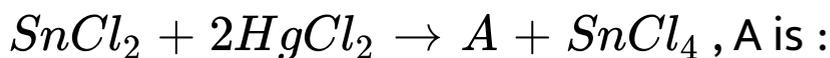
D. ZnO

Answer: D



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205. In the reaction



A. HgCl_2

B. Hg

C. HgCl

D. $HgCl_3$

Answer: A



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206. The colour of zinc sulphide is :

A. Yellow

B. White

C. Brown

D. Black

Answer: B



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207. The metal which liberates hydrogen from

hot NaOH solution is :

A. Zn

B. Cu

C. Ag

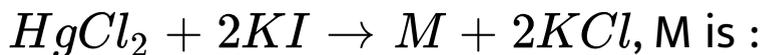
D. Fe

Answer: A



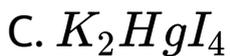
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208. In the reaction



A. HgI_2

B. K_2HgI_3

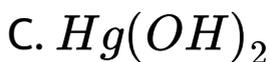
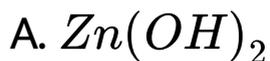


Answer: C



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209. Which compound cannot be prepared ?



D. $HgCl_2$

Answer: C



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210. Black HgS :

A. Dissolves in cone . HCl on boiling

B. Dissolves in boiling HCl + a crystal of



C. Dissolves in $NaOH$

D. None

Answer: B



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211. Which is known as Philosopher's wool ?

A. HgO

B. CdO

C. BaO

D. ZnO

Answer: D



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212. Which compound is deliquescent ?



Answer: C



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213. Zinc white is a better white pigment than lead because it :

- A. Has more covering power than lead white
- B. Is not blackened by the action of H_2S
- C. Is soluble in water
- D. Becomes yellow when heated

Answer: B



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214. An important Zn ore is :

- A. Calamine
- B. Pitch blende
- C. Cryolite
- D. None

Answer: A



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215. Chemical name of vermilion is :

- A. Mercuric sulphide
- B. Mercurous sulphide
- C. Zinc sulphide
- D. Cadmium sulphide

Answer: A



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216. ZnS containing minute traces of MnS becomes :

- A. Deliquescent
- B. Phosphorescent
- C. Hydroscopic
- D. None

Answer: B



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217. *Mercury* tree can be prepared :

A. By mixing up mercuric thicyanate and gum

B. By adding Nessler.s reagent to a ammonium salt solution

C. By pouring little mercury into $AgNO_3$ solution

D. By heating mercuric chloride

Answer: C



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218. The pair of metals which dissolves in NaOH(aq) is :

A. Al , Cu

B. Zn , Cd

C. Pb , Sn

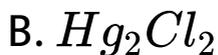
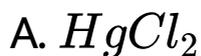
D. Zn , Al

Answer: D



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219. Which compound is used as a purgative in medicine?



Answer: B



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220. Thermal decomposition of zinc nitrate gives:

A. Zn

B. ZnO

C. $Zn(NO_2)_2$

D. NO

Answer: B



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221. Which of the following is poison?

A. NaCl

B. $BaSO_4$

C. $HgCl_2$

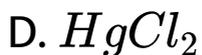
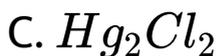
D. $NaHCO_3$

Answer: C



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222. The compound widely used in making reference electrode is:



Answer: C



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223. The formula of mercurous ion is:



D. None

Answer: C



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224. A scarlet red precipitate is obtained on treating mercuric chloride solution with:

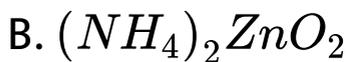


Answer: B



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225. The formula of zinc chloride with ammonia is:



Answer: C



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226. If NaOH is added to an aqueous solution of Zn^{2+} ions, a white precipitate appears and on adding excess NaOH, the precipitate dissolves. In this solution zinc exists in the:

- A. Cationic part
- B. Anionic part
- C. Both (a) and (b)
- D. None

Answer: B



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227. When Zn reacts with very dilute nitric acid it produces:

A. NO

B. NH_4NO_3

C. NO_2

D. H_2

Answer: B



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228. Which statement about Hg is correct?

A. Hg is the only liquid metal

B. Hg^{2+} salts are more stable than Hg_2^{+}

salts Hg forms no amalgam with iron and

platinum All

C.

D.

Answer: D



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229. The metal present in insulin is:

A. Cu

B. Fe

C. Zn

D. Mg

Answer: C



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230. $HgCl_2$ is reduced to Hg_2Cl_2 by:

A. CH_3COOH

B. CCl_4

C. $HCOOH$

D. NH_4

Answer: C



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231. The volatile metal is :

A. Cu, Ag, Au

B. Zn, Cd, Hg

C. C, Pb

D. Fe, Co, Ni

Answer: B



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232. Volatile metals are purified by:

A. Liquation

B. Distillation

C. Cupellation

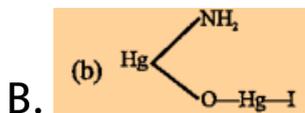
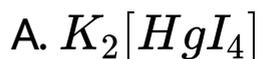
D. Electrolysis

Answer: B



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233. Iodide of Million's base is:





Answer: B



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234. Cosmetic powders contain:



D. $ZnSO_4$

Answer: B



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235. Substance used in glazing pottery is:

A. ZnO

B. $ZnCl_2$

C. Alum

D. Calomel

Answer: A



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236. Which of the following metals is used in dry cells?

A. Ni

B. Zn

C. Fe

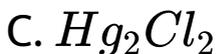
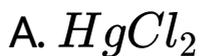
D. Co

Answer: B



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237. Which of the following is used for sterilization of surgical instruments?



Answer: A



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238. Which gives off oxygen on moderate heating:

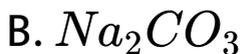
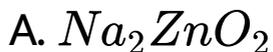
- A. Zinc Oxide
- B. Mercuric Oxide
- C. Aluminium Oxide
- D. Ferric oxide

Answer: B



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239. Acidic nature of $Zn(OH)_2$ is shown from the formation of the following compound with the formula:



D. None

Answer: A



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240. White vitriol is:



D. none

Answer: C



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241. Various methods have been employed for protecting iron from rusting. Which of the following is incorrect:

- A. Zinc plating is more permanent than chrome plating
- B. Zinc protects iron but gets corroded itself
- C. Tin plating is cheap but unreliable

D. None

Answer: B



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242. Which sulphide has a yellow colour?

A. CuS

B. PbS

C. ZnS

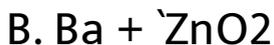
D. CdS

Answer: D



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243. Philosopher's wool when heated with BaO at $1100^{\circ}C$ gives the compound:



Answer: A



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244. Acidic nature of $Zn(OH_2)$ is shown during its reaction with:

A. NaOH

B. HCl

C. H_2SO_4

D. None

Answer: A



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245. Which metal sulphide is not black?

A. NiS

B. CoS

C. CuS

D. ZnS

Answer: D



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246. When iron or zinc is added to $CuSO_4$ solution, copper is precipitated. It is due to,

A. Hydrolysis of $CuSO_4$

B. Oxidation of $Cu^3 +$

C. Reduction of $Cu^{2+} +$

D. Ionisation of $CuSO_4$

Answer: C



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247. The metal that does not displace hydrogen from an acid is:

A. Hg is the only liquid metal

B. Zn

C. Al

D. Calomel

Answer: A



248. A yellow ppt, is formed when H_2S is passed through an acidified solution of:

A. Co^{2+} ions

B. Cd^{2+} ions

C. Cu^{2+} ions

D. Ni^{2+} ions

Answer: B



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249. Complete dissociation of $ZnCl_2$ gives:

A. 3 ions

B. 5 ions

C. 4 ions

D. 2 ions

Answer: A



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250. Galvanised iron is rust proof due to the electroplating of iron with:

A. Zn

B. Ni

C. Cr

D. Sn

Answer: A



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251. Which of the following is coated over iron articles to protect iron from corrosion?

A. Paint

B. Zinc metal

C. Tin metal

D. All of these

Answer: D



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252. Cadmipone is a mixture of:

A. CdS and $BaSO_4$

B. CaS and Bas

C. CaS and $ZnSO_4$

D. $CaSO_4$ and ZnS

Answer: A



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253. Zinc oxide is used in:

A. Paper bleaching

B. White paint

C. Black glasses

D. Soaps

Answer: B



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254. The valency of mercuric ion is:

A. One

B. Two

C. Four

D. All

Answer: B



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255. $Zn(OH)_2$ is:

A. Amphoteric

B. Monobasic

C. Dibasic

D. None

Answer: A



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256. Which reacts with both HCl and NaOH?

A. CaO

B. CO_2

C. N_2O_5

D. ZnO

Answer: D



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257. Silver, mercury and lead have been placed in same group of qualitative analysis, because they form:

A. Carbonates soluble in dilute HNO_3

B. Nitrates

C. Insoluble chlorides

D. Same type of coloured compounds

Answer: C



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258. Which metal is commonly used for galvanising iron?

A. Cr

B. Zn

C. Cd

D. Sn

Answer: B



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259. Zn and Cd do not show variable valency, because:

- A. They have only two electrons in outermost subshell
- B. Their d-subshells are complete
- C. They are relatively soft metals
- D. They are inert

Answer: B



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260. Which sulphide is not precipitated in acid solution?

A. CuS

B. SnS

C. PbS

D. ZnS

Answer: D



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261. To prevent corrosion, iron pipes carrying drinking water are coated with zinc. The process involved is:

A. Alloy formation

B. Electroplating

C. Galvanising

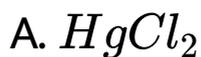
D. Soldering

Answer: C



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262. Which does not give a precipitate with excess of NaOH?

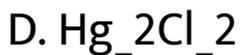
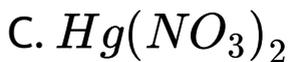
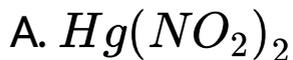


Answer: D



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263. The one which has lowest ox. No. of Hg?



Answer: D



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264. Which metal loses meniscus on exposure to ozone?

A. Mg

B. Zn

C. Hg

D. Cu

Answer: C



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265. Ozone can be detected using:

A. Ag

B. Hg

C. AgCl

D. NaCl

Answer: B



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266. A reagent that can separate Fe from Zn is,

A. NaOH

B. HCl

C. H_3S

D. $NaNO_2$

Answer: A



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267. Colourless transition metal ion is:

A. Zn^{2+}

B. Cu^+

C. Ti^{3+}

D. *All*

Answer: D



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268. Which of the following is correct?

A. Calomel is mercuric chloride

B. Calomel is widely used as an antiseptic

C. Calomel is used medically as purgative

D. Calomel is freely soluble in water

Answer: C



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269. Cast iron is manufactured by remelting:

A. Pig iron and pouring into moulds

B. Steel and pouring into moulds

C. Wrought iron and pouring into moulds

D. None of these

Answer: A



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270. Which metal is used for filament of electric bulb?

A. Pt

B. Fe

C. W

D. Cu

Answer: C



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271. Bessemer convergter is used in the manufacture of

A. Cast iron

B. Pig iron

C. Steel

D. Wrought iron

Answer: C



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272. Anhydrous ferric chloride is prepared by:

A. Dissolving ferric hydroxide in dil. HCl

B. Dissolving ferric hydroxide in conc. HCl

C. Passing dry chlorine gas over heated
scrap iron

D. Passing dry HCl gas over heated scrap iron

Answer: C



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273. One of the important uses of ferrous sulphate is in the:

A. Manufacture of blue-black ink

B. Manufacture of chalks

C. Preparation of hydrogen sulphide

D. Preparation of sulphur dioxide

Answer: A



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274. Blood red colour solution is produced when ferric chloride solution is treated with:

A. *KCN*

B. *KSCN*

C. $KCNO$

D. $K_3[Fe(CN)_6]$

Answer: B



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275. The group of metals which is known as ferrous metals is:

A. Fe,Co,Ni

B. Ru,Rh,Pd

C. Os,Ir,Pt

D. Cr,Mn,Cu

Answer: A



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276. Which group of metals is known as Pt-metals?

A. Fe,Co,Ni

B. Ag,Au,Cu

C. Zn,Cd,Hg

D. Ru,Rh,Pd

Answer: D



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277. Which is used for stopping bleeding?

A. Ferric chloride

B. Mohr.s salt

C. Green vitriol

D. Sodium nitroprusside

Answer: A



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278. Which is formed when iron reacts with carbon?



D. Fe_2C

Answer: B



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279. Which will reduce acidified potassium dichromate solution?

A. Potash alum

B. Mohr's salt

C. Chile saltpetre

D. White vitriol

Answer: B



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280. Which one of the following does not decolourise an acidified $KMnO_4$ solution?

A. SO_2

B. $FeCl_3$

C. H_2O_2

D. $FeSO_4$

Answer: B



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281. Ferrous sulphate forms Turnbulls blue with:



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282. The first man-made atom is:

A. Os

B. Na

C. Zr

D. Tc

Answer: D



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283. The variety of iron having highest melting point is:

A. Pig iron

B. Cast iron

C. Wrought iron

D. Steel

Answer: C



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284. Blueprint papers have a coating of:

- A. Mixture of potassium ferricyanide and ammonium ferric citrate
- B. Sodium nitroprusside
- C. Prussian blue
- D. None

Answer: A



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285. The impurity of sulphur makes the iron:

A. fibrous

B. Red short

C. Cold short

D. Malleable

Answer: B



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286. The axles are made by heating rods of iron embedded in charcoal powder. This process is known as:



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287. Red hot steel rod on suddenly immersing in water becomes.

A. Soft and malleable

B. Hard and brittle

C. Tough and ductile

D. Fibrous

Answer: B



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288. When steel is heated red hot and then slowly cooled, the process is known as:

- A. Annealing
- B. Hardening
- C. Tempering
- D. Nitriding

Answer: A



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289. The process of nitriding used in the treatment of steel is :

A. O

B. N_2

C. NH_3

D. CO_2

Answer: C



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290. The process of heating of steel to temperature much below redness and then slowly cooling is called:

- A. Reduction zone
- B. Slag zone
- C. Combustion zone
- D. Fusion zone

Answer: C



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291. The process of heating of steel to temperature much below redness and then slowly cooling is called:

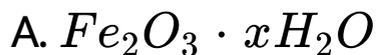
- A. Annealing
- B. Hardening
- C. Tempering
- D. Case hardening

Answer: C



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292. Rust is a mixture of :



Answer: A



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293. The common oxidation state of the elements of lanthanide series is:

A. +2

B. +3

C. +4

D. +1

Answer: B



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294. The tempering of steel makes it:

A. Hard

B. Soft

C. Heavy

D. Brittle

Answer: B



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295. The element which acts as a good catalyst for several reactions has atomic number:

A. 16

B. 20

C. 28

D. 37

Answer: C



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296. Which one of the elements is a d-block element?

A. As

B. Pt

C. Pb

D. Ra

Answer: B



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297. Mn^{2+} ion is:

A. Diamagnetic

B. Paramagnetic

C. Colourless

D. None

Answer: B



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298. The element which forms a coloured chloride is:

A. Sb

B. Na

C. Zn

D. Cr

Answer: D



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299. The elements which exhibit both vertical and horizontal similarities are:

- A. Inert gas elements
- B. Representative elements
- C. Rare Elements
- D. Transition elements

Answer: D



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300. Variable valency is a general feature of _____ elements:

A. s-block

B. p-block

C. d - block

D. All

Answer: C



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301. Which ion is not coloured:



Answer: A



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302. The smelting of iron in a blast furnace involves all the steps except:

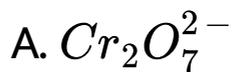
- A. Combustion
- B. Reduction
- C. Slag formation
- D. All

Answer: D



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303. Which ion in aqueous medium has orange colour?



Answer: A



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304. Acidified potassium permanganate solution is decolourised by

- A. White vitriol
- B. Bleaching powder
- C. Laughing gas
- D. Mohr's salt

Answer: D



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305. Mohr's salt is a:

A. Normal salt

B. Acid Salt

C. Basic Salt

D. Double salt

Answer: D



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306. The iron obtained from the blast furnace is called as

- A. Pig iron
- B. Cast iron
- C. Wrought iron
- D. Steel

Answer: A



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307. The brown ring complex compound is formulated as $[Fe(H_2O)_5(NO)]SO_4$. The oxidation state of iron is:

A. +1

B. +2

C. +3

D. +4

Answer: A



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308. The crystals of ferrous sulphate on heating give:



D. All

Answer: D



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309. Which of the following statements is not true for Mohr's salt?

A. It decolourises $KMnO_4$ solution

B. It is a double salt

C. Oxidation state of iron is +3

D. It is a primary standard

Answer: C



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310. Permanent magnet is made from:

- A. Cast iron
- B. Steel
- C. Wrought iron
- D. All of these

Answer: B



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311. Which of the following is the IUPAC name of $K_4[Fe(CN)_6]$?

- A. Potassium ferrocyanide
- B. Potassium ferrocyanide
- C. Potassium hexacyanoferrate(II)
- D. Potassium hexacyanoferrate(III)

Answer: C



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312. Ferric sulphate on heating gives:

A. SO_2 and SO_3

B. SO_3 only

C. SO_3 only

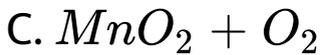
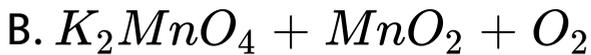
D. S only

Answer: C



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313. $KMnO_4$ on heating above $200\text{ }^\circ\text{C}$ gives:



D. None

Answer: A



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314. The rusting of iron is catalysed by:

A. Fe

B. O_2

C. Zn

D. H^+

Answer: D



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315. Spiegeleisen is an alloy of:

A. Fe, Mn and C

B. Fe and Mn

C. Fe, Mn and Cr

D. Fe and Cr

Answer: B



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316. As percentage of carbon increases in iron, its hardness,

A. Decreases

B. Increases

C. Remains same

D. None

Answer: B



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317. Pudding process is used in the manufacture of:

A. Steel

B. Cast-iron

C. Wrought iron

D. Pig iron

Answer: C



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318. Transition elements are:

A. All metals

B. All non-metals

C. Metals and non-metals

D. Gases

Answer: A



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319. Which is not a transition metal?

A. Sc

B. V

C. Sb

D. Co

Answer: C



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320. Chromium is used in making:

- A. Bronze
- B. Brass
- C. Stainless steel
- D. Electrodes

Answer: C



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321. The element present in gun metal is:

A. Cu

B. Co

C. Ti

D. Sc

Answer: A



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322. Which metal is ferromagnetic?

A. Cr

B. Fe

C. Zn

D. Al

Answer: B



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323. The transition element with least atomic number is:

A. Zr

B. Sc

C. Os

D. Pt

Answer: B



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324. Which is less reactive?

A. Fe

B. Ni

C. Pt

D. Co

Answer: C



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325. The transition metal present in vitamin

B_{12} is:

A. Fe

B. Co

C. Ni

D. Na

Answer: B



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326. Number of electrons present in the outermost orbit of Fe atom is:

A. 3

B. 1

C. 2

D. 4

Answer: C



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327. The most correct statement for transition metals is:

- A. They possess low b.pt
- B. They exhibit inert pair effect
- C. They exhibit variable oxidation states
- D. They do not possess catalytic property

Answer: C



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328. The tendency to show complex formation is maximum in:

- A. s-block elements
- B. p-block elements
- C. d-block elements
- D. f-block elements

Answer: C



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329. Maximum number of oxidation states of the transition metals is derived from the following configuration:

- A. ns electrons
- B. $(n-1)d$ electrons
- C. $(n+1)d$ electrons
- D. $ns + (n-1)d$ electrons

Answer: D



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330. Which is not correct for transition metals?

A. Variable oxidation states

B. Complex formation

C. Partially filled d-orbitals

D. All the ions are colourless

Answer: D



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331. Transition elements form complexes

because of:

- A. Small cation size
- B. Vacant d-orbitals
- C. Large ionic charge
- D. All are correct

Answer: D



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332. Fe^{2+} ion can be distinguished by

Fe^{3+} ion by:



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333. The elements present in human blood is:

A. Fe

B. Ra

C. Co

D. All

Answer: A



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334. d-block elements of periodic table consists of

A. Three series

B. Six series

C. Two series

D. Four series

Answer: D



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335. Which oxide of Mn is acidic in nature?

A. MnO

B. Mn_2O_7

C. Mn_2O_3

D. MnO_2

Answer: B



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336. The element showing oxidation states of +2,+3,+4,+6 and +7 is:

A. Cr

B. Mn

C. Co

D. V

Answer: B



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

A. FeO

B. Fe_2O_3

C. Fe_3O_4

D. $FeSO_4$

Answer: C



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338. Rusting of iron in moist air involves:

- A. Loss of electrons by Fe
- B. Gain of electrons by Fe
- C. Neither gain nor loss of electrons
- D. Hydration of Fe

Answer: A



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339. d-block elements generally form:

A. Covalent hydrides

B. Metallic hydrides

C. Salt-like hydrides

D. None

Answer: C



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340. Second series of transition elements starts with:

A. Yttrium

B. Chromium

C. Zinc

D. Scandium

Answer: A



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341. The number of incomplete orbitals in inner transition elements is:

A. 3

B. 4

C. 2

D. 1

Answer: A



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342. which catalyst used for the hydrogenation of vegetable oils for making margarine?



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343. $FeSO_4$, forms brown ring with

A. NO_3

B. NO

C. N_2O

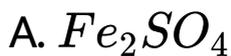
D. N_2O_3

Answer: B



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344. The brown ring obtained in the ring test for nitrate is due to the formation of:



Answer: C



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345. The metallic nature of transition elements is _____ than that of alkali metals.

A. Less

B. More

C. Same

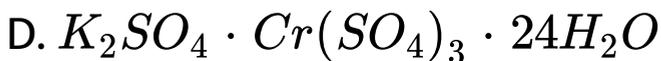
D. None

Answer: A



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346. Chromium compound used in tanning of leather is:



Answer: D



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347. The stability of ferric ion is due to:

- A. Completely filled d-orbitals
- B. Half filled d-orbitals
- C. Half filled f orbitals
- D. Completely filled f-orbitals

Answer: B



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348. Which transition element shows the highest oxidation state:

A. Fe

B. Mn

C. V

D. Cr

Answer: B



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349. Chromium has most stable oxidation state of:

A. +5

B. +3

C. +2

D. +4

Answer: B



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350. The Fe^{2+} ion is:

A. Blue

B. Light green

C. Very dark green

D. Yellow

Answer: B



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351. Which metal makes steel suitable for cutting purposes by maintaining the cutting edge of the blades?

A. MnO

B. Al

C. W

D. C

Answer: C



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352. Which does not possess allotropic forms?

A. C

B. Sn

C. Fe

D. P

Answer: C



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353. Heteropoly acids are formed by:

A. Be

B. Fe

C. Mo

D. Cr

Answer: C



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354. Densities of transition metals are:

A. Low

B. Very low

C. High

D. Very high

Answer: D



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355. Which of the following metals can deposit Cu from $CuSO_4$ solution?

A. Hg

B. Fe

C. Au

D. Pt

Answer: B



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356. Invar steel, which is very little affected by temperature changes, contains 36%:

A. Co

B. Ni

C. Cu

D. Al

Answer: B



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357. Blow holes of steel are removed by adding:

A. C

B. Ni

C. Sand

D. Spiegeleisen

Answer: D



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358. Which statement is not correct

A. $Fe(CO)_5$ reacts with Br_2Cl_4

B. Carbonyl complexes are usually formed with transition metals

C. All transition metals form mono metallic carbonyls

D. The decomposition of $Ni(CO)_4$ to give Ni used in the extraction of Ni by Mond's process.

Answer: C



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359. The density of transition metals _____ in a series:

- A. Gradually increases
- B. Gradually decreases
- C. Remains constant
- D. None

Answer: A



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360. Each transition series contains:

A. 12 elements

B. 10 elements

C. 14 elements

D. 8 elements

Answer: B



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361. The transition elements are paramagnetic due to the presence of

A. Completed d-orbitals

B. Completed f-orbitals

C. Unpaired electrons

D. None

Answer: C



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362. Transition metals in their compounds

show:

A. Ionic bonds

B. Covalent bonds

C. Ionic and covalent bonds

D. Ionic and co-ordinate bonds

Answer: C



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363. Transition metals and their oxides are used in industrial processes as:

A. Detergents

B. Insecticides

C. Catalysts

D. None

Answer: C



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364. Which statement is incorrect about transition elements?

A. All elements form complexes

B. All are paramagnetic

C. All show variable valency

D. All are not coloured ions

Answer: B



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365. The elements with differentiating electron entering into (d-orbital) of penultimate shell are known as:

- A. Alkali metal
- B. Alkaine earth metal
- C. Transition metal
- D. None

Answer: C



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366. In the first transition series, the differentiating electrons enters:

A. 5d-orbital

B. 4d-orbital

C. 3d-orbital

D. 2d-orbital

Answer: C



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367. The ionisation potential of transition metals is _____ than p-block elements:

A. Less

B. More

C. Equal

D. None

Answer: A



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368. The 3d-transition series contains elements from atomic number:

A. 22 to 30

B. 21 to 30

C. 21 to 31

D. 21 to 29

Answer: B



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369. Group 11 or IB elements are commonly known

A. Coinage metals

B. Transition metals

C. Typical elements

D. Representative elements

Answer: A



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370. All metal chlorides are soluble in water except those of :

A. Ag, Pb, Hg

B. Na, K, Ca

C. Zn, Cu, Cd u]

D. Ba, Sr, Li

Answer: A



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371. The correct formula for diamine silver (I) chloride is :



Answer: B



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372. The solubility of silver bromide in hypo solution is due to the formation of :



Answer: D



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373. Which one is more soluble in water ?

A. AgI

B. AgCl

C. AgBr

D. AgF

Answer: B



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374. An aqueous solution of $CuSO_4$ and NH_4OH gives a deep blue complex of :

- A. Cupperammonium Sulphate
- B. Cuprammonium hydroxide
- C. Sodium hexametaphosphate
- D. None

Answer: A



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375. The mineral from which is not manufactured by copper :

A. Galena

B. copper Pyrite

C. Malachite

D. Chalcopyrite

Answer: D



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376. In the extraction of copper , the metal formed in the Bessemer's converter is due to the reaction :



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377. Verdigris is :

- A. Basic copper acetate
- B. Basic lead acetate
- C. Ferrous ammonium sulphate

D. Potassium ferrocyanide

Answer: A



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378. The silver glance ore on leaching with of :



Answer: B



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379. Which one of the following properties would you not expect copper to exhibit ?

A. Malleability

B. High thermal conductivity

C. Low electrical conductivity

D. Ductility

Answer: C



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380. What effect is noticed on shaking dilute sulphuric acid with a small quantity of anhydrous copper sulphate ?

A. The white solid dissolves to form a colourless solution

B. The white solid dissolves to form a green solution

C. The white solid turns blue but does not
dissolves

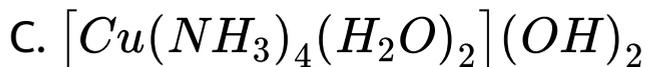
D. The white solid dissolves to form a blue
solution

Answer: D



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381. Schweitzer's reagent used for dissolving
cellulose in the manufacture of artificial silk is :

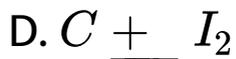
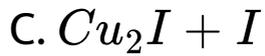
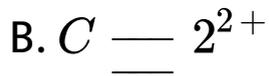


Answer: C



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382. What happens when Potassium iodide solution is added to an aqueous solution of copper sulphate. Give equation.



Answer: C



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383. Bronze is an alloy composed of :



B. Cu + Zn

C. Ph + Sn + Zn

D. Pb + Zn

Answer: A



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384. Write down the composition of German silver.

A. 1.5 %

B. 2.5 %

C. 10 %

D. Zero per cent

Answer: D



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385. A yellow precipitate will be obtained if $AgNO_3$ is added to a solution of :

A. KIO_3

B. KI

C. CHI_3

D. CH_3I

Answer: B



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386. In the electrorefining of copper, some gold is deposited as :

A. Cathode

B. Cathode mud

C. Anode mud

D. None

Answer: C



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387. Auric chloride on reaction with ferrous sulphate changes to :

A. Au

B. AuCl

C. Fe_2SO_4

D. $Fe_2(SO_4)_3$

Answer: A



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388. Gun metal is an alloy of

A. Cu and Al

B. Cu, Sn and Zn

C. Cu,Zn and Ni

D. Cu and Sn

Answer: B



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389. Bell metal is an alloy of :

A. Zinc and copper

B. Copper and nickel

C. Zinc and lead

D. Copper and tin

Answer: D



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390. An aqueous solution of $CuSO_4$ turns blue litmus to :

A. Blue

B. Green

C. Yellow

D. Red

Answer: D

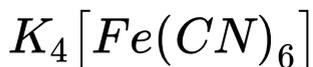


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391. A blue colouration is not obtained when :

A. Ammonium hydroxide dissolves in copper sulphate

B. Copper sulphate solution reacts with



C. Ferric chloride reacts with sodium ferrocyanide

D. Anhydrous white $CuSO_4$ is dissolved in water

Answer: B



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392. Silver is extracted from argentiferous lead by :

A. Mond process

B. Parkes process

C. Haber process

D. Bergius process

Answer: B



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393. Copper can be extracted from :

A. Kupfer - nickel

B. Dolomite

C. Malachite

D. Galena

Answer: C



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394. The blue complex ion formed on addition of conc. NH_4OH solution to a Cu^{2+} salt solution is :



Answer: C



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395. Blister copper is

A. Pure copper

B. Copper containing 2 % impurity

C. Alloy of copper

D. None

Answer: B



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396. Silver nitrate produces a black stain on skin due to :

A. Its corrosive action

B. Its reduction to metallic silver

C. Its strong reducing action

D. The formation of a complex compound

Answer: B



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397. Cuprous chloride is obtained from cupric chloride :

A. By heating cupric chloride with chlorine

B. By the electrolysis of cupric chloride containing HCl

C. By heating cupric chloride with conc. HCl and copper turnings

D. By passing H_2 OVER $CuCl_2$

Answer: C



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398. From sodium argentocyanide $Na[Ag(CN)_2]$, silver is precipitated by adding a powder of :

- A. Tin
- B. Zinc
- C. Mercury
- D. Calcium

Answer: B



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399. German silver is alloys of _____.

- A. Copper, zinc and nickel
- B. Copper and silver
- C. Copper and tin
- D. Copper , zine and silver

Answer: A



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400. Silver nitrate solution gives a red precipitate with :

- A. Sodium iodide
- B. Potassium chloride
- C. Calcium nitrate
- D. Sodium chromate

Answer: D



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401. Percentage of gold in 20 carat gold is :

A. 21.6

B. 90

C. 83.3

D. 70

Answer: B



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402. Lunar caustic is chemically:

A. Silver chloride

B. Silver nitrate

C. Sodium hydroxide

D. Potassium nitrate

Answer: B



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403. The action of HCl on silver nitrate produces:

A. A precipitate of AgCl

B. Chlorine gas

C. No visible change

D. A black stain of silver

Answer: C



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404. Which is least soluble in water:

A. AgCl

B. AgF

C. AgI

D. AgBr

Answer: C



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405. A reaction between copper and hot concentrated sulphuric acid produces :

A. SO_2

B. SO_3

C. H_2O

D. Cu^+ ions

Answer: A



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406. Copper sulphate is commercially made from copper scrap by :

- A. Dissolving in hot concentrated sulphuric acid
- B. Action of dilute sulphuric acid and air
- C. Heating with sodium sulphate
- D. Heating with sulphur

Answer: B



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407. On adding excess of ammonium hydroxide to a copper chloride solution :

- A. Blue precipitate of copper hydroxide hydroxide is obtained
- B. Black precipitate of copper oxide is obtained
- C. A deep blue solution is obtained
- D. No change is observed

Answer: C



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408. Which is alloyed with copper to form bronze ?

A. Iron

B. Manganese

C. Tin

D. Zinc

Answer: C



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409. On adding KI solution to a solution of $CuSO_4$, a white precipitate of Is formed .

A. Potassium sulphate

B. Cuprous sulphate

C. Cuprous iodide

D. Cupric iodide

Answer: C



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410. Argentite is an ore of :

A. Cu

B. Ft

C. Au

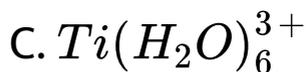
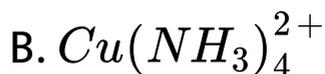
D. Ag

Answer: D



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411. For which one of the following ions, the colour is not due to a d-d transition :



Answer: A



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412. Silver chloride dissolves in a solution of ammonia but not in water because :

A. Ammonia is a better solvent than water

B. Silver ion forms a complex ion with ammonia

C. Ammonia is a stronger base than water

D. The dipole moment of water molecule is higher than that of ammonia molecule

Answer: B



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413. In the purification of copper by electrolysis, which is incorrect ?

A. Acidic solution of Cu (II) sulphate is used

B. H_3O^+ ion is discharged at cathode

C. Anode is made of impure copper

D. OH^- is discharged at anode

Answer: B



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414. In photography we use :

A. AgCl

B. AgBr

C. AgI

D. NH_3

Answer: B



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415. Which is known as purple of cassius ?

A. Colloidal silver solution

B. Colloidal gold solution

C. Aqueous solution of soap

D. As_2S_3 colloidal solution

Answer: B



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416. Brass is an alloy of :

A. Zn and Cu

B. Cu and Sn

C. Zn and Sn

D. Cu, Zn and Sn

Answer: A



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417. An ore of silver is :

A. Argentite

B. Stibnite

C. Haematite

D. Bauxide

Answer: A



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418. A developer used in photography is :

A. A weak acid

B. A weak base

C. A mild reducing agent

D. An oxidising agent

Answer: C



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419. Which of the following statements regarding copper salte is not true :

A. Copprer (I) disproportionates into Cu and Cu (II) in aqueous solution

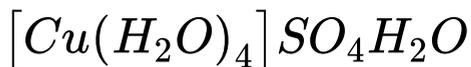
B. Copper (I) can be stabilised by the formation of insoluble complex compound such as $CuCl_2^-$ and $Cu(CN)_2^-$

C. Copper (II) oxide is red powder

D. Hydrate



is



Answer: C



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

A. Solder

B. Bronze

C. Brass

D. Bell metal

Answer: A



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421. In the extraction of copper we use :

A. $CuFeS_2$

B. Cu_2S

C. Pyrites

D. Silver argentocyanide

Answer: A



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422. The process used in obtaining metallic silver from argentite is :

A. Fused mixture of Ag_2S and KCl is electrolysed

B. Ag_2S is reduced with CO

C. Ag_2S is roasted to Ag_2O which is reduced with C

D. Treating with NaCN solution following by metal displacement with zinc

Answer: D



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423. The slag obtained during the extraction of copper pyrites is composed mainly of :



Answer: B



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424. $AgCl$ dissolved in ammonia solution giving



B. $Ag(NH_3)^+$ and Cl^-

C. $Ag_2(NH_3)_2^+$ and Cl

D. $Ag(NH_3)_2^+$ and Cl^-

Answer: D



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425. Cu_2O is :

A. Black oxide of copper

B. Copper (II) oxide

C. Red oxide of copper

D. Cupric oxide

Answer: C



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426. Cu^{2+} ions would be reduced to cuprous ion if their solution are mixed with an aqueous :

A. KI solution

B. KCl solution

C. KCO_3 solution

D. K_2SO_4 solution

Answer: A



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427. Which method is used to remove silver impurities from lead?

A. Leaching with dilute $NaCN$ solution

B. Parke's process

C. Leaching with dilute $NaCN$ in presence
of air

D. Electrolytic purification using $AgNO_3$

Answer: B



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428. Which is used in photography ?

A. $AgCl$



Answer: C



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429. Gold dissolves in aqua-regia forming :

A. Auric chloride

B. Aurous chloride

C. Chloroauric acid

D. Aurous nitrate

Answer: C



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430. An extremely hot copper wire reacts with steam to give :

A. CuO

B. Cu_2O



Answer: A



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431. Silver halides are used in photography because they are :

A. Photosensitive

B. Soluble in hypo solution

C. Soluble in NH_4OH

D. Insoluble in acids

Answer: A



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432. Which metal is not present in German silver ?

A. Cu

B. Ni

C. Zn

D. Sn

Answer: D



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433. Which statement is incorrect ?

A. Silver glance mainly contains silver sulphide

B. Gold is found in native state

C. Zinc blende mainly contains zinc chloride

D. Copper pyrites also contain Fe_2S_3

Answer: C



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434. After partial roasting, the sulphide of copper is reduced by:

A. Reduction by carbon

B. Electrolysis

C. Self- reduction

D. Cyanide process

Answer: C



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435. Powdered silver ore is treated with NaCN solution and air is bubbled through the mixture to give :

A. AgCN

B. Ag

C. $Ag(CN)_2$

D. $Na[Ag(CN)]_2$

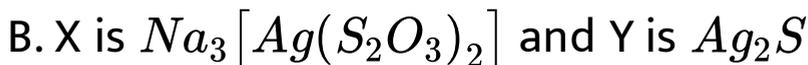
Answer: D



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436. When excess of sodium thiosulphate is added to dil $AgNO_3$ solution a soluble compound X is formed . However when dil . $Na_2S_2O_3$ solution is added to cone $AgNO_3$

solution a white ppt turning yellow and finally black ppt of Y is obtained . Which is correct pair :

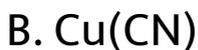
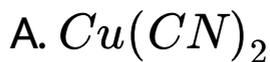


Answer: B



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437. $CuSO_4$ solution reacts with KCN to form a complex :

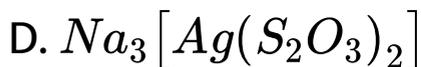
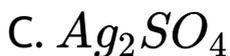


Answer: D



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438. Silver bromide reacts with hypo solution to give :



Answer: D



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439. Brass is :

A. A compound

B. An amalgam

C. An element

D. An alloy

Answer: D



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440. Which is not correct regarding copper sulphate ?

- A. It reacts with NaOH to give a blue precipitate of $Cu(OH)_2$
- B. It reacts with KCl to give Cu_2Cl_2
- C. It gives CuO on strong heating in air
- D. It reacts with KI to give iodine

Answer: B



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441. Molten Ag absorbs abouttimes of its volume of O_2 :

A. 10

B. 20

C. 40

D. 80

Answer: B



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442. Which ore is called malachite ?



Answer: B



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443. Copper metal of high purity is obtained by :

- A. Carbon reduction
- B. Hydrogen reduction
- C. Electrolytic method
- D. Thermite process

Answer: C



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444. Which is a coinage metal :

A. Zinc

B. Tin

C. Lead

D. Copper

Answer: D



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445. Silver obtained from argentiferous lead is purified by :

- A. Distillation
- B. Froth floatation
- C. Cupellation
- D. Reaction with KCN

Answer: C



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446. Anhydrous $CuCl_2$ and $CuBr_2$ exist as :

A. Monomer

B. Dimer

C. Trimer

D. Polymer

Answer: D



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447. Which is obtained when SO_2 is bubbled through a solution of $CuCl_2$?

A. Cu

B. Cu_2Cl_2

C. $CuSO_4$

D. CuS

Answer: B



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448. Aufbau principle is not valid for :

A. Cu and Ar

B. Cu and Cr

C. Cr and Ar

D. Fe and Ag

Answer: B



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449. The structure of $[Cu(H_2O)_4]^{2+}$ ions is:

A. Square planar

B. Tetrahedral

C. Octahedral

D. Distorted rectangle

Answer: A



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450. The central ion in $[Cu(H_2O)_4]^{2+}$ ion is :

A. Cu^{2+}

B. O^+

C. H^+

D. None

Answer: A



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451. Which may be consumed in the elemental form by human beings ?

A. Zn

B. Cu

C. Ag

D. Fe

Answer: C



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452. The standard electrode potentials of Zn, Ag and Cu are - 0.76 V, +0.80 V and +0.34 V respectively . Which is correct :

A. Ag can oxidise Zn and Cu

B. Ag can reduce Zn and Cu

C. Zn can reduce Ag and Cu

D. Cu can oxidise Zn and Ag

Answer: A



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453. A chocolate brown coloured compound with acetic acid and potassium ferrocyanide is obtained from a salt solution containing :

A. Cu

B. Cd

C. Sn

D. Hg

Answer: A



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454. Which oxide is least stable at room temperature ?

A. CuO

B. Ag_2O

C. ZnO

D. Sb_2O_3

Answer: B



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455. Density , malleability and ductility in coinage metals increase in the order :

A. Cu , Ag , Au

B. Au, Ag, Cu

C. Ag, Au ,Cu

D. Ag ,Cu , Au

Answer: A



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456. Duralumin is an alloy of :

A. Mg + Al

B. $Mg + Cu + Al + Mn$

C. $Mg + Cu$

D. $Cu + Al$

Answer: B

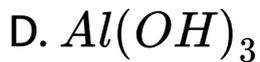


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457. Which is soluble in ammonia ?

A. $Cr(OH)_3$

B. $Cu(OH)_2$



Answer: B



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458. Which metal does not react with $CuSO_4$

solution ?

A. Fe

B. Zn

C. Mg

D. Ag

Answer: D



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459. The most important oxidation state of copper is :

A. + 2

B. + 1

C. + 3

D. + 4

Answer: A



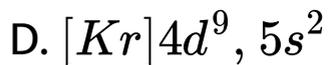
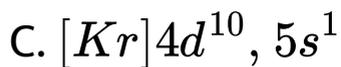
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460. The electronic configuration of Ag atom is

:

A. $[Ar]3d^{10}, 4s^3$

B. $[Xe]4f^{14}, 5d^{10}, 6s^1$



Answer: C



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461. The number of 3d-electrons in Cu^+ ion is

:

A. 8

B. 10

C. 6

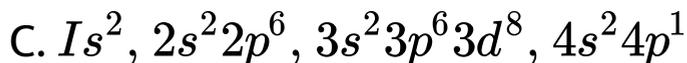
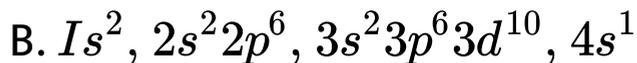
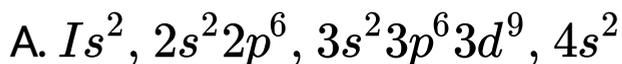
D. 12

Answer: B



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462. The electronic configuration of Copper is :



D. None

Answer: B



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463. Silver iodide is used to produce artificial rain because :

A. It is easily prepared

B. Its structure is ice- like

C. It can easily be sprayed at high altitude

D. It is insoluble in rain water

Answer: B



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464. Which shows a jump in second ionisation potential ?

A. Co

B. Ni

C. Zn

D. Cu

Answer: D



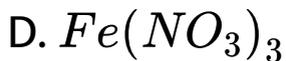
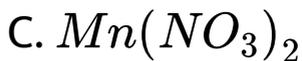
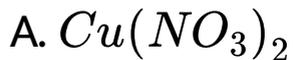
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465. In the electroplating of gold the electrolyte used is :



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466. The nitrate of which metal leaves metallic globule on heating strongly :



Answer: B



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467. On strongly heating $AgNO_3$ we get :

A. $AgNO_2$

B. Silver nitride

C. Ag

D. Ag_2O

Answer: B



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468. In deacon's process the catalyst used is :



Answer: A



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469. The number of d-electrons present in

Fe^{2+} ions is :

A. 6

B. 4

C. 8

D. 3

Answer: A



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470. Transition elements form alloys easily because they have :

- A. Same atomic number
- B. Same electronic configuration
- C. Nearly same atomic size
- D. None

Answer: C



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471. The characteristic property shown by transition elements is :

- A. They show variable valency
- B. They form complex compounds
- C. They usually form coloured compounds
- D. All

Answer: D



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472. The tendency of the transition metals to form complexes is explained in terms of :

- A. Small size of the metal ion
- B. Large ionic or nuclear charge
- C. Low basicity of metal ions
- D. All

Answer: D



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473. Which electronic configuration represents a transition element ?

A. $1s^2, 2s^2 2p^6, 3s^2 3p^6 3d^{10}, 4s^2 4p^6$

B. $1s^2, 2s^2 2p^6, 3s^2 3p^6 3d^{10}, 4s^2 4p^1$

C. $1s^2, 2s^2 2p^6, 3s^2 3p^6 3d^2, 4s^2$

D. $1s^2, 2s^2 2p^6, 3s^2 3p^6, 4s^2$

Answer: C



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474. Which is not true , in case of transition metals :

A. They are malleable and ductile

B. They have high melting and boiling points

C. They crystallise with body centred cubic and hexagonal close packed structure only

D. They shows variable oxidation state although not always

Answer: C



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475. In the dichromate dianion :

- A. 4 Cr-O bonds are equivalent
- B. 6 Cr-O bonds are equivalent
- C. All Cr-O bonds are equivalent
- D. All Cr-O bonds are non-equivalent

Answer: B



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476. Adam's catalyst is :

A. Pt and PtO

B. Pt

C. Pt and PtO_2

D. Pt_2O and PtO

Answer: A



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477. In the case of d-block elements :

- A. Outermost and penultimate shells are incomplete
- B. Both penultimate and prepenultimate shells are incomplete
- C. Outermost shell is incomplete
- D. Innermost shell is incomplete

Answer: A



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478. The oxidation state of metal in metal carbonyl is :

A. Zero

B. 1

C. 2

D. 3

Answer: A



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479. Which is the common oxidation state of the first transition series of elements ?

A. + 2

B. + 6

C. + 8

D. + 4

Answer: A



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480. Hardness of transition elements is due to

:

- A. Large atomic size
- B. Metallic bonding
- C. Covalent bonds
- D. high ionisation energy

Answer: C



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481. VIII group of the Mendeleev periodic table contains :

A. 6 elements

B. 12 elements

C. 3 elements

D. 9 elements

Answer: D



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482. Non stoichiometric compounds are formed by :

A. Alkali metals

B. Transition elements

C. Noble gases

D. More than one of the above said elements

Answer: B



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483. Transition metals are less reactive than s-block metals because of their :

A. High ionisation potential and low melting point

B. High ionisation potential and high melting point

C. Low ionisation potential and low melting point

D. Low ionisation potential and high melting point

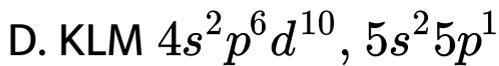
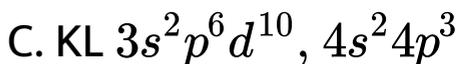
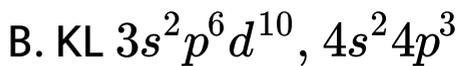
Answer: B



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484. Which of the following electronic configuration belongs to a transition element ?

A. $\text{KL } 3s^2 p^6 d^5, 4s^1$



Answer: A



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485. Transition metals are placed in the long from of periodic table between :

A. 3rd and 4th group

B. 1st and 3rd group

C. 2nd and 13th group

D. 1st and 2nd group

Answer: A



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486. The numbers of ions formed on dissolving one molecule of $FeSO_4(NH_4)_2SO_4 \cdot 6H_2O$ is :

A. 4

B. 5

C. 3

D. 6

Answer: B



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487. Standard reduction potential of most of the transition elements is generally :

A. Negative

B. Positive

C. Zero

D. None

Answer: A



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488. Which one of the following elements constitutes a major impurity in pig iron ?

A. Silicon

B. Oxggen

C. Sulphur

D. Graphite

Answer: D



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489. Which of the following has highest b.p.t ?

A. Cr

B. Ti

C. Fe

D. Co

Answer: B



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490. Most abundant transition element is :

A. Fe

B. Sc

C. Os

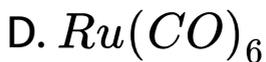
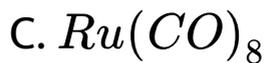
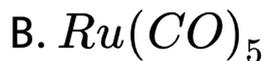
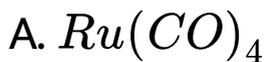
D. None

Answer: A



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491. Ruthenium carbonyl is :



Answer: B



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492. The lowest degree of paramagnetism is shown by :



Answer: C



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493. Which of the following is double salt ?

A. Carnallite

B. Mohr's salt

C. Alum

D. All are correct

Answer: D

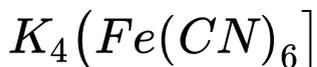


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494. Prussian blue is formed when :

A. Ferrous sulphate reacts with $FeCl_3$

B. Ferric sulphate reacts with



C. Ferrous ammonium sulphate reacts with



D. Ammonium sulphate reacts with $FeCl_3$

Answer: B



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495. In haemoglobin the iron shows oxidation state :

A. + 2

B. + 3

C. + 1

D. + 4

Answer: B



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496. An example of double salt is :

A. Bleaching powder

B. $K_4\{Fe[CN]_6\}$

C. Hypo

D. Potash alum

Answer: D



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497. Which one of the following pairs of substances on reaction will not evolve H_2 gas ?

- A. Iron and H_2SO_4 (aq)
- B. Iron and steam
- C. Copper and HCl
- D. Sodium and ethyl alcohol

Answer: C



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498. The most abundant ore of iron is :

A. Haematite

B. Limonite

C. Magnetite

D. Siderite

Answer: A



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499. Colourless transition metal ion is:

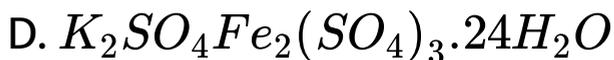
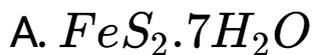


Answer: A



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500. Mohr's salt is :



Answer: B



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501. If a compound absorbs violet colour from the sunlight, then the observed colour is:

A. Yellow

B. Orange

C. Blue

D. Green

Answer: B



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502. If orange - red colour is absorbed from white light, the observed colour is :

A. Yellow

B. Orange

C. Blue

D. Violet

Answer: C



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503. Which transition elements exhibit +8 oxidation state ?

A. Cu, Zn

B. Ru, Os

C. Ag, Au

D. Cu, Cr

Answer: B



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504. Colour in transition metal compounds is attributed to :

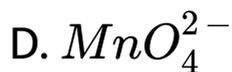
- A. Small size metal ions
- B. Absorption of light in the UV region
- C. Complete ns-subshell
- D. d-d transition

Answer: D



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505. An acidified solution of $KMnO_4$ oxidises :



Answer: A



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506. The outermost shell electronic configuration $3d^5, 4s^2$ represents :

A. Ca

B. Mn

C. Te

D. Zn

Answer: B



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507. Maximum paramagnetism in 3d -series

shown by :

A. Mn

B. Co

C. Ni

D. Fe

Answer: A



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508. The stable oxidation states of Mn are:

A. +2, +3

B. +2, +7

C. +3, +7

D. +3, +5

Answer: B



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509. The most stable ion is :



Answer: A



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510. Which is not an interstitial compounds ?

A. TiH

B. Fe_2O_3

C. Mn_2C_3

D. W_2C

Answer: B



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511. An atom has its K and L shells completely filled and five electrons in M shell. Find out the total number of p electrons in the atom ?

A. 3d, 4s

B. 4s, 3d

C. 4f, 3d

D. 3d, 4f

Answer: B



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512. Transition elements exhibit positive oxidation state only. This is because of :

A. Their large size of the atoms

B. Their electropositive nature

C. their electronegative nature

D. Their paramagnetic nature

Answer: B



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513. The outside energy levels of an atom have the configuration $s^2 p^6 d^5 S^2$ The atom belong to :

- A. Copper family
- B. Zinc family
- C. Iron family
- D. Manganese family

Answer: D



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514. 5f-level is successively filled up in :

- A. Lanthanides
- B. Actinides
- C. Rare gases
- D. Transition elements

Answer: B



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515. Which sets are the transition elements ?

A. Ti, Zr, Hf

B. V, Nb, Ta

C. Ru, Rh, Pd

D. All

Answer: D



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516. Lightest transition element is :

A. Fe

B. Sc

C. Os

D. Co

Answer: B



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517. which metal adsorbs hydrogen ?

A. Pd

B. K

C. Al

D. Zn

Answer: A



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518. An alloy of Al, Ni and Co used in permanent magnets is :

A. Invar

B. Nichrome

C. Alnico

D. None

Answer: C



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519. Which is not ferromagnetic ?

A. Fe

B. Co

C. Ni

D. V

Answer: D



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520. Which series of elements have nearly the same atomic radii ?

A. F, Cl, Br, I

B. Na, K, Rb, Cs

C. Li, Be, B, C

D. Fe, Co, Ni, Cu

Answer: D



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521. Which of the following metals has been used in making boats because it has resistance to corrosion by sea water ?

A. W

B. Cu

C. Ni

D. Ti

Answer: D



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522. Blue colour/ precipitate will be obtained

when $K_4[Fe(CN)_6]$ reacts with :

A. Fe(II) ions

B. Cu(II) ions

C. Fe(III) ions

D. Cu(I) ions

Answer: C



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523. Densest transition element is :

A. Fe

B. Sc

C. Os

D. Mn

Answer: C



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524. Metallic bond is stronger in transition metals than alkali and alkaline earth metals because of :

A. More number of electrons including d-electrons

B. Large size of the atoms

C. Paramagnetism

D. Diamagnetism

Answer: A



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525. $K_2Cr_2O_7$ on strong heating gives :

A. K_2CrO_4

B. Cr_2O_3

C. O_2

D. All

Answer: D



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526. The properties of Zr and Hf are similar

because :

A. Both belong to d-block

B. Both belong to same group of the periodic table

C. Both have similar radii

D. Both have same number of electrons

Answer: C



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527. In general, the transition elements exhibit their highest oxidation state in their compounds with elements like :

A. C

B. S

C. S and P

D. F and O

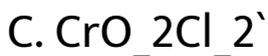
Answer: D



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528. When intimate mixture of potassium dichromate and potassium chloride is heated

with conc. H_2SO_4 which of the following is produced in the form of red vapours :

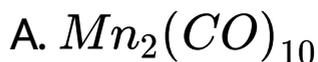


Answer: C



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529. Transition metals form complexes in their zero oxidation state. The example of the above fact is :



Answer: A



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530. Platinum black is :

- A. Platinum metal mixed with MnO_2
- B. Velvety black powder obtained by reduction of platinum tetrachloride with glucose or sodium formate
- C. Platinum metal coated with black colour
- D. None of these

Answer: B



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531. When manganese dioxide is fused with KOH in air, it gives :

A. Potassium permanganate

B. Potassium manganate

C. Manganese hydroxide

D. Mn_3O_4

Answer: B



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532. Which metal has the highest melting point ?

A. Pt

B. W

C. Pd

D. Au

Answer: B



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533. which has the lowest melting point ?

A. Cs

B. Na

C. Hg

D. Sn

Answer: C



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534.

The

equilibrium



- A. Exists in acidic medium
- B. Exists in basic medium
- C. Exists in neutral medium
- D. It does not exist

Answer: B



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535. Which of the following compounds is used as the starting material for the preparation of potassium dichromate ?

A. $K_2SO_4 \cdot Cr_2(SO_4)_3 \cdot 24H_2O$ (Chrome alum)

B. $PbCrO_4$ (Chrome yellow)

C. $FeCr_2O_4$ (Chromite)

D. $PbCrO_4$ (Chrome red)

Answer: C



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536. Which of the following belong to the actinide series of elements ?

A. Y

B. Ta

C. U

D. Lu

Answer: C



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537. The reaction $MnO_4^- + e^- \rightarrow MnO_4^{2-}$

takes place in :

A. Basic medium

B. Acidic medium

C. Neutral medium

D. Both acidic and basic medium

Answer: A



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538. The adsorption of hydrogen on palladium is called :

A. Hydrogenation

B. Occlusion

C. Reduction

D. Syneresis

Answer: B



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539. Which transition metal is synthetic ?

A. Mo

B. Pm

C. Re

D. Tc

Answer: D



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540. An acidified solution of $KMnO_4$ oxidises

:

A. Sulphates

B. Sulphites

C. Nitrates

D. Ferric salts

Answer: B



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541. Which of the following statement is wrong ?

A. An acidified solution $K_2Cr_2O_7$ liberates iodine from iodides

B. In acidic solution dichromate ions are converted to chromate ions

C. Ammonium dichromate on heating undergoes exothermic decomposition to give Cr_2O_3

D. Potassium dichromate is used as a titrant for Fe^{2+} ions

Answer: B



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542. The correct statement (s) from among the following is/are :

A. (i) only

B. (i) and (ii)

C. (ii) and (iii)

D. All

Answer: A



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543. Cerium can show the oxidation state of +4

because :

A. It resembles alkali metals

B. It has very low value of I.E.

C. Of its tendency to attain noble gas configuration of xenon

D. Of its tendency to attain f^0 configuration

Answer: D



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544. In aqueous solution Eu^{2+} acts as :

A. An oxidising agent

B. Reducing agent

C. Can act as either of these

D. Can act as redox agent

Answer: B



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545. Which of the two have almost similar size

:

A. ${}_{22}\text{Ti}$ and ${}_{40}\text{Zr}$

B. ${}_{41}\text{Nb}$ and ${}_{73}\text{Ta}$

C. ${}_{39}\text{Y}$ and ${}_{57}\text{La}$

D. ${}_{20}\text{Ca}$ and ${}_{31}\text{Ir}$

Answer: B



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546. The lanthanide contraction relates to :

A. Atomic radii

B. Atomic as well as M^{3+} radii

C. Valence electrons

D. Oxidation states

Answer: B



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547. The blue colour produced on adding H_2O_2 to acidified $K_2Cr_2O_7$ is due to the formation of :

A. CrO_5



Answer: A



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548. The electronic configuration of actinides can not be assigned with degree of certainty because of :

- A. Small energy difference between 5f and 6d levels
- B. Overlapping of finer orbitals
- C. Free movement of electrons over all the orbitals
- D. None of the above

Answer: A



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549. The inner transition elements are the elements in which the added electrons go to :

A. $(n-1)$ d-orbitals

B. $(n-2)$ f-orbitals

C. $(n-1)$ d- orbitals and $(n-1)$ f- orbitals

D. $(n-1)$ d- orbitals and ns-orbitals

Answer: B



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550. Zr and Hf almost equal atomic and ionic radii because:

- A. Of diagonal relationship
- B. Both are in same group
- C. Of lanthanide contraction
- D. They have similar chemical properties

Answer: C



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551. Which of the following is a lanthanide ?

A. Ta

B. Rh

C. Th

D. Lu

Answer: D



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552. Which of the following transition elements is not resistant to corrosion ?

A. Co

B. Fe

C. Ni

D. All

Answer: B



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



Answer: A



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554. Which forms interstitial compounds ?

A. Fe

B. Co

C. Ni

D. All

Answer: D



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555. Which transition metal is used for the reduction of steam to hydrogen ?

A. Mg

B. Fe

C. Se

D. pt

Answer: B



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556. Which of the following oxides of chromium is amphoteric in nature ?

A. CrO

B. Cr_2O_3

C. CrO_3

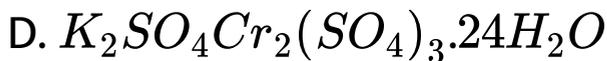
D. CrO_5

Answer: B



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557. Chromium compound used in training of leather is:



Answer: D



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558. Steel that is resistant to acids is :

A. Carbon steel

B. Molybdenum steel

C. Stainless steel

D. Nickel steel

Answer: B



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559. Permanent magnets are generally made of alloys of :

A. Co

B. Zn

C. Sb

D. Pb

Answer: A



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560. The highest magnetic moment is shown by the transition metal ion with the outer electronic configuration :

A. $3d^2$

B. $3d^5$

C. $3d^1$

D. $3d^9$

Answer: B



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561. Dilute alkaline solution of $KMnO_4$ is called :

A. Baeyer's reagent

B. Fenton's reagent

C. Mayer's reagent

D. Grignard's reagent

Answer: A



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562. From a solution of $CuSO_4$, the metal used to recover copper is :

A. Na

B. Ag

C. Hg

D. Fe

Answer: D



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563. When $KMnO_4$ reacts with acidified

$FeSO_4$:

A. Only $FeSO_4$ is oxidised

B. Only $KMnO_4$ is oxidised

C. $FeSO_4$ is oxidised and $KMnO_4$ is reduced

D. None of the above

Answer: C



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564. Acidified potassium dichromate is treated with hydrogen sulphide. In the reaction the oxidation number of chromium :

- A. Increase from +3 to +6
- B. Decreases from +6 to +3
- C. Remains unchanged
- D. Decreases from +6 to +2

Answer: B



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565. CrO_3 dissolves in aqueous NaOH to give :

A. CrO

B. $Cr(OH)_2$

C. CrO_4^{2-}

D. $Cr(OH)_3$

Answer: A



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566. An explosion takes place when conc . H_2SO_4 is added to $KMnO_4$. Which of the following is formed :



Answer: A



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567. Copper nitrate on strongly heating gives:

A. Cu

B. Cupric oxide

C. Cuprous oxide

D. Cupric nitrate

Answer: B



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568. The co-ordination number of Cu in



A. 4

B. 5

C. 3

D. 6

Answer: A



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569. Coinage alloy has the composition of:

A. Ag+Cu+Ni

B. Au+Ag+Cu

C. Au+Zn+Ag

D. Ag+Fe+Cu

Answer: A



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570. The oxidation state of copper is:

A. +1

B. +1 and +2

C. +2

D. +1, +2 and +3

Answer: B



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571. A metal is left exposed to air for some time. It becomes coated with basic green carbonate. The metal is:

A. K

B. Cu

C. Zn

D. Al

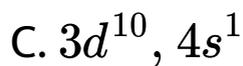
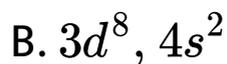
Answer: B



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572. The short hand configuration of

Cu($Z=29$) is:



D. None

Answer: C



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573. In solid $CuSO_{4.5}H_2O$, copper is coordinated to:

A. 4 water molecules

B. 5 water molecules

C. 1 sulphate molecule

D. 1 water molecule

Answer: A



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574. The fraction of chlorine precipitated by

$AgNO_3$ solution from $[Cu(NH_3)_5Cl]Cl_2$ is:

A. 44228

B. 44257

C. 44256

D. 44287

Answer: B



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575. Gold and silver are called noble metals, because:

- A. They do not normally react
- B. Even acids cannot dissolve them
- C. They are used in jewellery
- D. They are worn by noble men

Answer: A



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576. Which configuration represents a coinage metal?

A. 2,8,8,3

B. 2,8,8,2

C. 2,8,1

D. 2,8,18,1

Answer: D



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577. Photographic films or plates have as an essential ingredient:

A. Silver bromide

B. Silver oxide

C. Silver thiosulphate

D. Silver nitrate

Answer: A



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578. Which metal is not used for making coins

?

A. Gold

B. Silver

C. Nickel

D. Tungsten

Answer: D



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579. Transition electronic that show anomalous electronic configuration in first series are:

A. Cr and Ni

B. Cu and Co

C. Fe and Ni

D. Cr and Cu

Answer: D



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580. Which metal shows variable valency?

A. Na

B. Cd

C. Zn

D. Cu

Answer: D



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581. Blue vitriol is:





Answer: C



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582. Carat is a measure of:

- A. Impure gold
- B. Purity of gold
- C. Pure gold

D. None

Answer: B



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583. Magnetic moment of $[Ag(CN)_2]^-$ is zero. How many unpaired electrons are there:

A. Zero

B. 4

C. 3

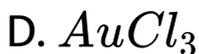
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Answer: A



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584. Fulminating gold is:



Answer: C



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585. H_2S is passed through acidified solution of $CuSO_4$ and black ppt is formed. This is due to:

- A. Oxidation of Cu^{2+}
- B. Reduction of Cu^{2+}
- C. Double decomposition
- D. Reduction and oxidation

Answer: C



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586. Copper metal is not used:

- A. In taps and water connections
- B. As an alloy in high speed drills
- C. In electric motor coils
- D. In brass utensils

Answer: B



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587. The common metal in brass, bronze and German silver is:

A. Cu

B. Mg

C. Al

D. Zn

Answer: A



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588. Copper reduces:

A. Na

B. Al

C. Mg

D. None

Answer: D



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589. Which of the following is diamagnetic?



Answer: B



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590. $AgCl$ on fusion with Na_2CO_3 the gas evolved is

A. O_2

B. CO_2

C. $O_2 + CO_2$

D. none

Answer: A



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591. Copper cannot replace From solution:

A. Ag

B. Hg

C. Au

D. Fe

Answer: D



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592. Gold exhibits the variable oxidation states of:

A. +2, +3

B. +1, +3

C. +2, +4

D. +1, +2

Answer: B



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593. Which metal does not react with water or steam ?

A. K

B. Na

C. Ca

D. Cu

Answer: D



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594. The metal that does not liberate H_2 from dilute H_2SO_4 is:

A. Al

B. Mg

C. Cu

D. Zn

Answer: C



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595. Articles made of copper and bronze slowly tarnish in air and turn green. The green colour is due to the formation of:

- A. Copper oxide
- B. Copper sulphide
- C. Copper oxalate
- D. Basic copper carbonate

Answer: D



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596. NH_3 does not form complex with:

A. AgI

B. AgBr

C. AgCl

D. None

Answer: A



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597. NH_3 forms complex with:

A. $CuSO_4$

B. $CdSO_4$

C. $AgCl$

D. All

Answer: D



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598. The precipitate of $AgCl$ is soluble in :

A. NH_4OH

B. HNO_3

C. H_2O

D. HCl

Answer: A



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599. When copper nitrate is strongly heated, the residue consists of:

A. Copper dioxide

B. Cuprous oxide

C. Cupric oxide

D. Copper nitrate

Answer: C



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600. Which of the following is paramagnetic ?

A. $CuCl_2$

B. $CaCl_2$

C. $CdCl_2$

D. None

Answer: A



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601. Each coinage metal has:

A. 18 electrons in their penultimate shell

B. 8 electrons in the outermost shell

C. 2 electrons in the outermost shell

D. 8 electrons in penultimate shell

Answer: A



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602. Which of the following metal nitride is a contact explosive:

A. Al

B. Mg

C. Ag

D. Ca

Answer: C



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603. is the best conductor of electricity among coinage metals:

A. Ag

B. Cu

C. Au

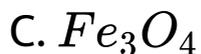
D. All

Answer: A



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604. In the extraction of copper from copper pyrites, iron is removed as:





Answer: B



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605. The flux used in the smelting of copper is:

A. Limestone

B. Magnesia

C. Silica

D. Coke

Answer: C



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606. Fool's gold is:



C. BOTH (A) AND (B)

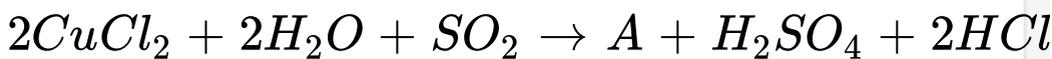
D. None

Answer: C



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607. In the reaction:



, A is:



Answer: A



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608. Hair dyes contain:

- A. Copper nitrate
- B. Gold chloride
- C. Silver nitrate
- D. Copper sulphate

Answer: C



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609. Silver nitrate is usually supplied in coloured bottles because it is:

- A. Oxidised in air
- B. Decomposed in sunlight
- C. Explodes in sunlight
- D. Reactive towards air in sunlight

Answer: B



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610. Preparation of looking mirrors involves the use of:

A. Red lead

B. Ammoniacal silver nitrate

C. Ammoniacal $AgNO_3$ + red lead

D. Ammoniacal $AgNO_3$ + red lead + HCHO

Answer: D



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611. Silver amalgam is used in:

A. Silvering of mirror

B. Filling of teeth

C. Both (a) and (b)

D. None

Answer: C



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612. Sterling silver:

A. Is an alloy

B. Contains $92.5\% \text{ Ag} + 7.5\% \text{ Cu}$

C. Is used in jewellery

D. All

Answer: D



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613. Which metal is used to add to gold to make it hard ?

A. Cu

B. Ag

C. Ni

D. Zn

Answer: A



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614. Which is not an ore of gold ?

A. Sylvanite

B. Calaverite

C. Covellite

D. Bismuth aurite

Answer: C



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615. Horn silver is:

A. $AgCl$

B. Ag_2S

C. SnS

D. $AgNO_3$

Answer: A



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616. Silver possesses metallic lusture because:

A. It is noble metal

B. It is coated with the oxide of silver

C. Valency electrons absorb white light completely

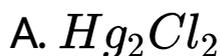
D. Valency electrons absorb and eject white light

Answer: D



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617. When excess of SnCl_2 is added to a solution of HgCl_2 , a white ppt. turning to grey is obtained. This grey colour is due to the formation of:



Answer: D



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618. Melting of Zn metal and then pouring it into cold water gives:

- A. Zn dust
- B. Granulated Zn
- C. Hard Zn metal
- D. Soft Zn metal

Answer: B



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619. Zinc reacts with conc. H_2SO_4 to produce:

A. $ZnSO_4$

B. $ZnCO_3$

C. Zn

D. None

Answer: A



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620. On heating $ZnCl_{2.2}H_2O$ the compound obtained is:

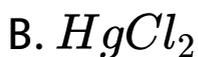
- A. $ZnCl_2$
- B. $Zn(OH)Cl$
- C. $Zn(OH)_2$
- D. ZnO

Answer: B



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621. The compound used in preservation of wood is:



Answer: C



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622. Granulated Zn is obtained by:

A. Suddenly cooling molten Zn

B. Adding molted Zn to water

C. Heating Zn to 100 to 150° C

D. Dropping molten Zn drop by drop

Answer: B



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623. Roasting of HgS in air produces:

A. HgO

B. $HgSO_3$

C. $HgSO_4$

D. Hg

Answer: D



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624. The flux used in soldering galvanised iron is:

A. ZnO

B. $ZnCl_2$

C. $ZnSO_4$

D. None

Answer: B



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625. Which metal is used in making cathode containers of dry cell?

A. Zn

B. Bi

C. Cr

D. Fe

Answer: C



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626. Which statement is correct ?

A. Cd rods are used in atomic reactors to slow down nuclear reaction

B. Cd is a good absorber of neutrons

C. CdS is used as pigment

D. All

Answer: D



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627. Usefull lanthanide member is:

A. Cerium

B. Lanthanum

C. Neodymium

D. Lutertium

Answer: A



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628. The lanthanide contraction is responsible for the fact that:

- A. Zr and Y have almost the same radius
- B. Zr and Nb have similar oxidation state
- C. Zr and Hf have almost the same radius
- D. Zr and Zn have same oxidation state

Answer: C



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629. Which of the following elements is responsible for oxidation for water to O_2 in the biological process?

A. Fe

B. Mn

C. Cu

D. mo

Answer: B



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630. The metal ion which does not form a coloured compound is:

A. Chromium

B. Iron

C. Zinc

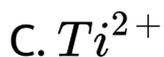
D. Manganese

Answer: C



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631. Which of the following ions is coloured?

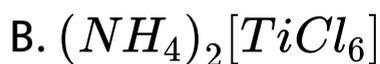


Answer: B



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632. Among the following the compound that is both paramagnetic and coloured is:



Answer: C



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633. Which of the following compounds is expected to be coloured ?



Answer: B



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634. Which of the following elements shows maximum number of different oxidation states in its compounds ?

A. Eu

B. La

C. Gd

D. Am

Answer: C



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635. Which one of the following ionic species will impart colour to an aqueous solution ?



Answer: D



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636. Which compound does not dissolve in hot, dilute HNO_3 ?

A. Hgs

B. PbS

C. CuS

D. Cds

Answer: A



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637. An aqueous solution of $FeSO_4 \cdot Al_2(SO_4)_3$ and chrome alum is heated with excess of Na_2O_2 and filtered. The materials obtained are:

- A. A colourless filtrate and a green residue
- B. A yellow filtrate and a green residue
- C. A yellow filtrate and brown residue
- D. A green filtrate and a brown residue

Answer: C



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638. Ammonium dichromate is used in some fireworks. The green coloured powder blown is:



Answer: B



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639. Muntz metal is an alloy of:

A. Cu and Sn

B. Cu and Zn

C. Ag and Zn

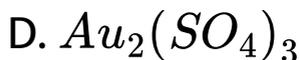
D. Zn and Mn

Answer: B



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640. A substance which turns blue when treated with water is:



Answer: A



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641. Which is used as substitute for platinum in jewellery?

- A. Rolled gold
- B. White gold
- C. Purple of cassius
- D. Faraday's gold

Answer: A



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642. Oxygen is absorbed by molten Ag, which is evolved on cooling and the silver particles are scattered, the phenomenon is known as:

A. Silvering of mirror

B. Spitting of silver

C. Frosting of silver

D. Hairing of silver

Answer: B



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643. Common oxidation state of element of atomic number 47 is:

A. +1

B. +2

C. +3

D. +4

Answer: A



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644. The material used for the lining of Bessemer's converter in the extraction of copper is:

A. Silica

B. Lime

C. Iron

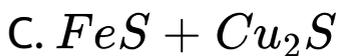
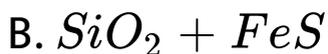
D. Cu

Answer: B



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645. The matte obtained in the extraction of copper contains:

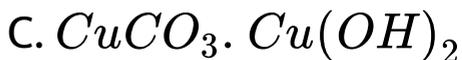
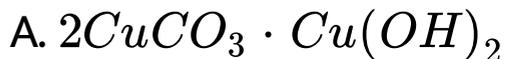


Answer: C



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646. The chemical formula of azurite is:



Answer: A



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647. Cuprous salts are generally colourless while cuprous oxide is:

A. Green

B. Blue

C. Red

D. Yellow

Answer: C



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648. A black sulphide is obtained by action of

H_2S on:

A. $CuCl_2$

B. $CdCl_2$

C. $ZnCl_2$

D. $NaCl$

Answer: A



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649. $AuCl_3$ when heated in air gives:

- A. Gold oxide
- B. Gold perchlorate
- C. Gold nitride
- D. $AuCl$

Answer: D



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650. From sodium aurocyanide

$\text{Na}[\text{Au}(\text{CN})_2]$, gold can be precipitated by

adding powder of:

A. Zn

B. Hg

C. Ag

D. None of these

Answer: A



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651. Which substance can be used in the preparation of marking ink?

A. Ag

B. $AgNO_3$

C. $AgBr$

D. $PbCO_3 \cdot Ph(OH)_2$

Answer: B



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652. Which is used for electrical purposes:

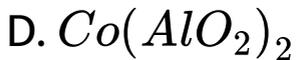
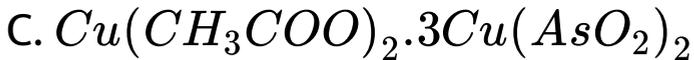
- A. German silver
- B. Beryllium bronze
- C. Constantan
- D. Fool's gold

Answer: C



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653. Paris green is:



Answer: C



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654. Rio Tinto process is used for extraction of:

A. Cu

B. Ag

C. Al

D. Au

Answer: A



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655. Silver nitrate solution is kept in brown bottles in laboratory because:

A. It reacts with ordinary white bottles

B. Brown bottles cut the passage of light through it

C. Brown bottles do not react with it

D. Ordinary bottles catalyse its decomposition

Answer: B



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656. Mac Arthur and Forest cyanide process is used in the extraction of:

A. Cu

B. Ag and Au

C. Fe

D. Cr

Answer: B



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657. The co-ordination number of copper in the complex formed by adding excess of NH_3 to $CuSO_4$ solution is:

A. 4

B. 2

C. 6

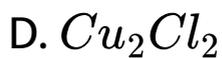
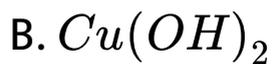
D. 5

Answer: A



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658. Ruby copper is:



Answer: A



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659. Which method is based on distribution law ?

- A. Mond's process
- B. Parke's process
- C. Cupellation process
- D. Poling process

Answer: B



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660. Which of the following compounds is expected to be coloured ?



Answer: B



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661. Brass contains which metals?



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662. Write the formula of copper amine complex cation.



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663. Write down the composition of German silver.



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664. Name any two alloys of steel.



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665. Write two important ores of iron.



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666. Name two alloys of copper.



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667. Which one is more paramagnetic: Fe^{3+}
or Fe^{2+} ?



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668. What is formula of green vitriol ?



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669. What is formula of Mohr's salt.



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670. What is % of carbon in cast iron and in steel ?



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671. What happens when potassium iodide is added to $CuSO_4$ solution ?



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672. Cast iron is harder than pure iron . Why ?



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673. Calculate the oxidation number of chromium in $K_2Cr_2O_7$.



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



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675. What is Bessemerisation ?



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676. Which is the lightest transition metal ?



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677. The highest oxidation state of transition metal is what ?



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678. Paramagnetic character of transition elements is due to _____ .



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679. The hardness of iron is mostly due to the presence of _____.



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680. Composition of copper metal is _____.



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681. The purity of blistered copper is _____.



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



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683. Blue vitriol is _____.



Watch Video Solution

684. Cast iron contains maximum percentage of _____ .



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685. Azurite is the ore of _____.



Watch Video Solution

686. Bell metal is an alloy of :



Watch Video Solution

687. German silver is alloys of _____.



Watch Video Solution

688. Mohr's salt is _____.



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689. Galvanised iron sheets have coating of :



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690. $FeSO_4 \cdot 7H_2O$ is known as



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691. Percentage of carbon in steel is _____.



Watch Video Solution

692. Brass contains _____.



Watch Video Solution

693. Important iron ore is _____ .



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694. Purest form of iron is _____ .



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695. Fe_3O_4 is known as _____ .



Watch Video Solution

696. $CuSO_4, 5H_2O$ is known as _____.



Watch Video Solution

697. Constantan is alloys of _____.



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698. Cu, Ag and Au are called white metals. Is it true or false?



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699. Lightest transition metal is titanium.



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700. Chromite has the formula



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701. d-block elements are called inner transition elements.,



Watch Video Solution

702. f-block elements are called transition elements.



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



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704. What happens when blue vitriol is heated?



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705. What is the oxidation number of nickel in $\text{Ni}(\text{CO})_4$?



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706. Why Zn, Cd and Hg are not regarded as transition elements?



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707. Define the term tempering and nitriding.



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708. What is the role of limestone in the extraction of iron from red haematite?



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709. Write one method for the preparation of $CuSO_4$. Also write its uses.



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710. Write the ground state electronic configuration of Fe^{3+} ion.



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711. Give the formula and the name of one ammine complex of copper.



[Watch Video Solution](#)

712. How can you get wrought iron from cast iron ?



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713. Why transition elements form a large number of complexes?



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714. Complete the chemical reaction.



Watch Video Solution

715. Complete the chemical reaction.



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716. Explain magnetic behavior of transition elements.



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717. Give uses of Ferric oxide (Fe_2O_3).





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718. What are alloy steels? Give three examples.



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719. Differentiate the processes annealing and hardening.



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720. What is blue vitriol? How it is prepared?



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721. What happens when NH_4OH solution is added drop by drop to $CuSO_4$ solution till excess?



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722. Write some characteristics of transition elements.



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723. Discuss general trends in properties of first row transition metals.



Watch Video Solution

724. Describe preparation and properties of $K_2Cr_2O_7$



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725. Discuss preparation and properties of $KMnO_4$



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726. Discuss chemistry of lanthanoids.



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727. What is lanthanoid contraction? Explain its causes and effects.





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728. Briefly describe the chemistry of actinoids.



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729. Ferric oxide in furnace is reduced by

A. C

B. H_2

C. CO

D. CO_2

Answer: C



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730. Potassium manganate (K_2MnO_4) is formed when :

A. Cl_2 is passed into an aqueous $KMnO_4$ solution

B. MnO_2 is fused with KOH in air

C. Formaldehyde reacts with $KMnO_4$ in presence of strong alkali

D. $KMnO_4$ reacts with concentrated H_2SO_4

Answer: B



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731. A solution of $Cr(NO_3)_3$ slowly turns green when concentrated HCl is added to it. It is due to the formation of:

A. $CrCl_3$

B. Cr_2O_3

C. CrO

D. Chloro complexes

Answer: D



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732. In the manufacture of iron from an iron oxide ore , limestone is added because it acts as :

- A. An oxidising agent
- B. A reducing agent
- C. Aflux
- D. A precipitating agent

Answer: C



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733. Steel contains :

- A. 2.5 – 4.5 % C

B. 0.5 – 1.5 % C

C. 0.12 – 0.25 % C

D. 1 – 2 % C

Answer: B



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734. Stainless steel contains:

A. 50 % Cr

B. 2.5 % Cr

C. 14 % Cr

D. 2 % Cr

Answer: C



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735. Carbon content in wrought iron is :

A. 0.1 – 0.5 %

B. 1.5 – 2 %

C. 0.2 %

D. 2 – 5 %

Answer: A



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736. The alloy which contains nickel is :

A. Brass

B. Bell metal

C. Bronze

D. German silver

Answer: D



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737. The metal used for making armoured steel for tanks and domestic safes is :

- A. Maganese
- B. Aluminium
- C. Lead
- D. Chromium

Answer: A



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738. The process of nitriding used in the treatment of steel is :

A. Heating steel in an atmosphere of

ammoni

B. Heating steel to a bright redness and

cooling

C. Heating steel to bright redness and then cooling by plunging in air

D. None

Answer: B



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739. Roasting is used during metallurgical operations for :

A. Galena

B. Iron pyrites

C. Copper glance

D. All

Answer: D



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740. Pig iron is converted into steel by decreasing the amount of carbon contained in it, in a:

A. Blast furnace

B. Pyrite burner

C. Bessemer's converter

D. None of these

Answer: C



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741. Mond process is used in the extraction of :

A. Co

B. Ni

C. Mo

D. Zn

Answer: B



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742. Manganese steel contains:

A. Fe + C + Mn

B. Fe + C + Al

C. Fe + Mn

D. Fe + Mn + Cr

Answer: A



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743. Iron is rendered passive in concentrated :

A. H_2SO_4

B. H_3PO_4

C. HCl

D. HNO_3

Answer: D



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744. Wrought iron is :

A. Pure iron with 0.1 to 0.2 % C

B. Pig iron

C. An alloy of steel

D. Impure sulphide ore of iron

Answer: A



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745. Platinum , palladium , iridium , etc are called noble metals because:

A. Alfred Nobel discovered them

B. They are inert towards many common reagents

C. They are shining , lustors and pleasing to
look

D. They are found in nagive state

Answer: B



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746. Which of the following is a ferrous alloy ?

A. Invar

B. Solder

C. Magnalium

D. Type metal

Answer: A



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747. The raw materials fed into the blast furnace for making iron are :

A. FeO , $CaCO_3$ and coke

B. Fe_2O_3 , CaO and coke

C. Fe_2O_3 , $CaCO_3$ and coke

D. Fe_3O_4 , $Ca(OH)_2$ and coke

Answer: C



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748. A clock spring is heated to a high temperature and then suddenly plugged into cold water. This treatment will cause the metal to become :

- A. Soft and ductile
- B. More springy than before
- C. Hard and brittle
- D. Strongly magnetic

Answer: C



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749. The process of covering iron sheet with a layer of zinc is called:

A. Galvanizing

B. Zinc plating

C. Tempering

D. Dressing

Answer: A



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750. Which form of iron has lowest percentage of carbon ?

A. Cast iron

B. Wrought iron

C. Steel III

D. All have same percentage

Answer: B



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751. A substance which is not paramagnetic is :

A. $Cr(ClO_4)_3$

B. $KMnO_4$

C. $TiCl_3$

D. $VOBr_2$

Answer: B



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752. Galvanization means:

A. Deposition of Zn on Fe

B. Deposition of Al on Fe

C. Deposition of Sn on Fe

D. Deposition of Cu on Fe

Answer: A



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753. Substances which do not react with cold water but react with steam are :

A. C , Ca , SO_2

B. Fe , Al , Cl_2

C. CO_2 , Na , Mg

D. C , Fe , Mg

Answer: B



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754. The following reaction describes the rusting of iron , $4Fe + 3O_2 \rightarrow 4Fe^{3+} + 6O^{2-}$. Which one of the following statements is incorrect:

A. This is an example of a redox reaction

B. Metallic iron is reduced to Fe^{2+}

C. Fe^{3+} is an oxidising agent

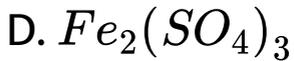
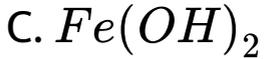
D. Metallic iron is a reducing agent

Answer: B



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755. Which is formed when $FeSO_4$ reacts with an oxidising agent ?



Answer: D



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756. Iron sheets are galvanized mainly to :

A. Harden the surface

B. Increase lustre

C. Prevent action of water

D. Prevent action of oxygen and water

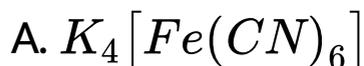
Answer: D

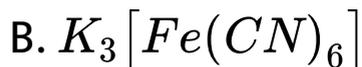


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757. Correct formula of potassium ferrocyanide

is :





D. Galena

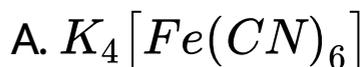
Answer: A

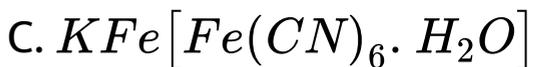
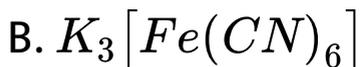


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758. Correct formula of potassium ferricyanide

is :





Answer: B



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759. Which metal corrodes readily in moist air

?

A. Gold

B. Silver

C. Nickel

D. Iron

Answer: D



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760. The colour of Mohr's salt,

$(NH_4)_2SO_4Fe(SO_4).6H_2O$ is :

A. White

B. Green

C. Violet

D. Blue

Answer: B



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761. Which is not an ore of iron ?

A. Haematite

B. Magnetite

C. Cassiterite

D. Limonite

Answer: C



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762. In india iron is obtained from the ore :

A. Cassiterite

B. Azurite

C. Haematite

D. Cryolite

Answer: C



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763. Platinum metal can be dissolved in :

A. Hot concentrated hydrochloric acid

B. Hot concentrated nitric acid

C. Hot dilute sulphuric nitric acid

D. A mixture of hydrochloric and nitric acids

Answer: D



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764. The stainless steel developed in india contains the following special components :

- A. Vanadium and cobalt
- B. Nickel and magnesium
- C. Maganese and chromium
- D. Aluminium and zinc

Answer: C



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765. In india steel plants are not located at :

A. Jamshedpur

B. Bhilai

C. Rourkela

D. Nangal

Answer: D



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766. one of the components of stainless steel

is :

A. Cr

B. Mg

C. Sn

D. W

Answer: A



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767. The alloy of steel that is used for making automobile parts and utensils is :

- A. Stainless steel
- B. Nickel steel
- C. Tungsten steel
- D. Chromium steel

Answer: A



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768. The purest form of commercial iron is :

A. Cast iron

B. Pig iron

C. Wrought iron

D. steel

Answer: C



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769. A metal forms a volatile carbonyl is:

A. Iron

B. Nickel

C. Cobalt

D. Titanium

Answer: B



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770. The extraction nickel involves:

A. The formation of $Ni(CO)_4$

B. The decomposition of $Ni(CO)_4$

C. The formation and thermal decomposition of $Ni(CO)_4$

D. The formation and catalytic decomposition of $Ni(CO)_4$

Answer: C



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771. In the metallurgy of iron , when limestone is added to the blast furnace , the calcium ion ends up as :

A. Slag

B. Gangue

C. Metallic calcium

D. Calcium carbonate

Answer: A



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772. Rusting of iron is a chemical reaction . The reaction is :

A. Analysis

B. Displacement

C. Oxidation of Fe

D. Double decomposition

Answer: C



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773. Haematite is an ore of :

A. Boron

B. Iron

C. Manganese

D. Copper

Answer: B



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774. The properties of cast iron , wrought iron and steel are different because they have :

- A. Different contents of sulphur
- B. Different contents of carbon
- C. Traces of different elements
- D. Traces of different iron oxides

Answer: B



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775. A hard and resistant alloy generally used in tip of nib of pen is :

A. Os , Ir

B. Pt , Cr

C. V , Fe

D. Fe , Cr

Answer: B



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776. Which occurs in nature in free state ?

A. Fe

B. Co

C. Ni

D. Pt

Answer: D



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777. The general electronic configuration of transition elements is

A. $(n - 1)d^{1-5}$

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

C. $(n - 1)d^{1-10}ns^{0-2}$

D. None

Answer: C



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778. Transition elements are good conductor of current because :

A. They are metals

B. They are all solids

C. They have free electrons in outer energy
orbits

D. All of these

Answer: D



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779. Iron is :

- A. Normal element
- B. Transition element
- C. Typing element
- D. Inert element

Answer: B



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780. Transition elements are coloured due to:

- A. Small size
- B. Metallic nature
- C. Unpaired d-electrons
- D. None

Answer: C



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781. A transition element X has the configuration $[Ar]d^4$ in its +3 oxidation state.

Its atomic number is

A. 25

B. 26

C. 22

D. 19

Answer: A



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782. Elements of group 11 and 12 are:

- A. Normal element
- B. Transition element
- C. Alkaline earth metals
- D. Alkali metals

Answer: B



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783. Formation of interstitial compounds make the transition metal :

- A. More soft
- B. More ductile
- C. More metallic
- D. More brittle

Answer: D



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784. $K_3 [Co(NO_2)_6]$ is :

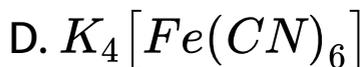
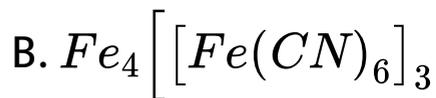
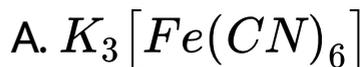
- A. Fischer's salt
- B. Thenrard's blue
- C. Rinman's green
- D. Blue vitriol

Answer: A



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785. Prussian blue is :



Answer: B



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786. Ferrous sulphate is called as:

A. Green vitriol

B. White vitriol

C. Jeweller's rouge

D. Glauber's salt

Answer: A



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787. Percentage of nickel in nickel steel is :

A. 1.5 %

B. 3.5 %

C. 6.5 %

D. 8.5 %

Answer: B



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788. Iron is obtained on large scale from haematite,

A. By reduction

B. By oxidation

C. By reduction followed by oxidation

D. By oxidation following ny radiation

Answer: B



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789. In comparison to ferrous salts , ferric salts

are :

A. More stable

B. Less stable

C. Equally stable

D. None of the above

Answer: A



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790. Which form contains the maximum percentage of carbon ?

A. Wrought iron

B. Cast iron

C. Malleable iron

D. steel

Answer: B



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791. Which statement is incorrect

A. Iron belongs to 3d-transition series of the periodic table

B. Iron belong to f-block of the periodic table

C. Iron belongs to first transition series

D. Iron belongs to group VIII of the periodic

Answer: D



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792. Addition of $FeCl_3$ solution to

$K_4[Fe(CN)_6]$ solution gives :

A. Ferro-ferricyanide

B. Ferri-ferrocyanide

C. Ferri-ferricyanide

D. None

Answer: B



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793. Fe ore is concentrated by :

A. Magnetic treatment

B. Froth floatation

C. Electrolysis

D. Roasting

Answer: A



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794. Finely divided iron combines with CO to give :





Answer: B



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795. The term fools gold is used for a mineral which shines like gold . It is :

A. Iron pyrite

B. Copper glance

C. Cinnabar

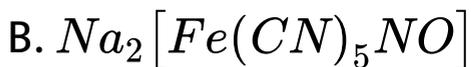
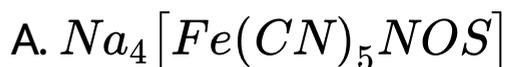
D. Cadmium sulphide

Answer: A



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796. The formula of sodium nitroprusside is:



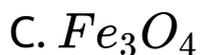


Answer: B



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797. Magnetite is :





Answer: C



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798. Automobile engine blocks are made up of

:

A. Stainless steel

B. Nickel - chromium steel

C. Cast iron

D. Wrought iron

Answer: C



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799. Invar is an alloy of :

- A. Steel and chromium
- B. Vanadium and manganese
- C. Tungstrn and chromium
- D. steel and nickel

Answer: D



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800. Pig iron :

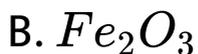
- A. Contains carbon and other impuriies
- B. Is pure from of iron
- C. Is same as wrought iron
- D. Is same as steel

Answer: A



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801. The formula of haematite is



Answer: B



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802. Iron rusts in the presence of :

A. O and N_2

B. O_2 and moisture

C. Moisture only

D. O_2 only

Answer: B



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803. Which match is incorrect ?

A. Ammonia soda process - manufacture of potassium carbonate

B. Bessemer's process - manufacture of steel

C. Mac arther and forrest process - extraction of silver

D. Dow's proceses -manufacture of phenol

Answer: A



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804. Iron, once dipped in concentrated H_2SO_4 , does not displace copper from copper sulphate solution, because :

- A. It is less reactive than copper
- B. A layer of sulphate is deposited on it
- C. A layer of oxide is deposited on it
- D. None

Answer: C



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805. Wood's metal is an alloy of :

A. Pb

B. Zn

C. Fe

D. Sn

Answer: A



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806. The grey cast iron contains :

- A. Iron carbide
- B. Silicon carbide
- C. Silicon dioxide
- D. Graphite

Answer: D



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807. Soft and pliable steel is obtained by :

A. Tempering

B. Nitriding

C. Annealing

D. None

Answer: C



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808. Pig iron is manufactured using :

- A. An electric furnace
- B. A blast furnace
- C. An open hearth furnace
- D. None of these

Answer: B



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809. Which of the following has the highest percentage of carbon ?

A. Stainless steel

B. Pig iron

C. Solder

D. German silver

Answer: B



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810. Clock pendulums are made from :

A. Brass

B. Invar

C. Solder

D. German silver

Answer: B



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811. Steel that is resistant to acids is :

- A. Carbon steel
- B. Molybdenum steel
- C. Stainless steel
- D. Nickel alloy steel

Answer: B



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812. Which one of the metals does not form amalgam ?

A. Fe

B. Cu

C. Ag

D. Zn

Answer: A



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813. Silver is a soft metal . It is hardened by alloying it with small amount of :

A. Fe and Al

B. Sn or Zn

C. Pt or Au

D. Cu or Ni

Answer: D



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814. Other forms of iron can be produced from

:

A. Cast iron

B. Wrought iron

C. Pig iron

D. steel

Answer: C



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815. Which form of iron is least ductile ?

A. Hard steel

B. Cast iron

C. Mild steel

D. Wrought iron

Answer: B



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816. The fusible alloy of cadmium is

A. Bell metal

B. Monel metal

C. Wood metal

D. Guinea gold

Answer: C



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817. Stainless steel does not rust because :

A. Nickel present in it does not rust

B. Iron forms a hard chemical compound
with chromium present in it

C. Chromium and nickel combine with iron

D. Chromium forms an oxide layer that protects iron from rusting

Answer: D



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818. Passivity of iron is due to the formation of thin film of its :

A. Oxide

B. Carbonate

C. Nitride

D. Hydroxide

Answer: A



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819. Iron gets rusted due to the action of :

A. Oxygen

B. water

C. Moistur

D. All of these

Answer: D



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820. Hard steel contains :

A. No carbon

B. 0.6 – 1.5 % carbon

C. 5 % carbon

D. 0.5 – 0.2 % carbon

Answer: B



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821. The sand stone in some iron ores is removed by:

- A. Carbon filters
- B. Compressed air
- C. Limestone

D. sulphide acid

Answer: C



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822. Most of the known elements are :

A. Metals

B. Non-metal

C. Transition element

D. Rare earths

Answer: A



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823. Mn belongs to :

A. s-block

B. p-block

C. d-block

D. f-block

Answer: C



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824. Orford process is used in extraction of :

A. Fe

B. Co

C. Pt

D. Ni

Answer: D



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825. The percentage of carbon is same in :

- A. Cast iron and pig iron
- B. Cast iron and steel
- C. Pig iron and steel
- D. Pig iron and wrought iron

Answer: A



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826. The highest magnetic moment for transition metals exist for :

A. $3d_9$

B. $3d_7$

C. $3d_5$

D. $3d_3$

Answer: C



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827. The carbo content of :

A. Cast iron is in between that of steel and wrought iron

B. Pig iron is in between that of steel and wrought iron

C. Steel is in between that of cast iron and wrought iron

D. Wrought iron is in between that of steel and cast iron

Answer: C



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828. Near the top of a blast furnace employed for the extraction of iron the metal oxides are reduced to spongy iron by :

A. Carbon

B. CO

C. CO_2

D. Limestone

Answer: B



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829. Zinc , cadmium and mercury are :

A. d-block elements

B. p-block elements

C. s-block elements

D. f-block elements

Answer: A



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830. Essential constituent of an amalgam is :

A. Fe

B. An alkali metal

C. Silver

D. Mercury

Answer: D



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831. The chloride that turns black on addition of NH_4OH is :

A. $AgCl$

B. $PbCl_2$

C. Hg_2Cl_2

D. Both (b) and (C)

Answer: C



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832. Clomel may be freed from traces of metallic mercury by washing with :

A. Dil. HNO_3

B. Dil. H_2SO_4

C. Water

D. Aqua - regia

Answer: A



View Text Solution

833. Spelter is:

A. Impure Cu

B. Impure zinc

C. ZnO

D. CuO

Answer: B



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834. Amalgams are:

A. Always solid

B. Highly coloured alloys

C. Alloys which contain mercury as one of
the contents

D. Compounds of mercury

Answer: C



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835. Chemical name of corrosive sublimate is :

A. Mercurous chloride

B. Zinc chloride

C. Mercuric chloride

D. Aluminium chloride

Answer: C



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836. A lady's 18 carat gold wedding ring has become discoloured with some minute drops of mercury from a broken thermometer. Which of the following treatments would restore it to its original condition :

A. Place it in hot strong nitric acid

B. Place it in cold dilute hydrochloric acid

C. Heat it gently in a sand - bath

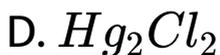
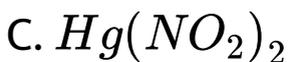
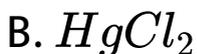
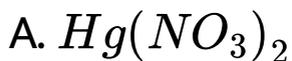
D. Heat it in chlorine

Answer: C



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837. Mercury on heating with aqua - regia yields :



Answer: B



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838. The meniscus of mercury in a glass tube is

:

A. Convex upwards

B. Concave

C. Plane

D. Convex inwards

Answer: A



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839. Which statement about corrosive sublimate is incorrect ?

A. It is prepared by heating mercury in chloride

B. It reduces stannic chloride

C. it oxidises stannous chloride

D. It sublimes readily

Answer: B



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840. Nessler's reagent is :



Answer: D



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841. Calomal is :

A. Hg_2Cl_2 and Hg

B. $HgCl_2$

C. Hg + $HgCl_2$

D. Hg_2Cl_2

Answer: D



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842. Cinnabar is an ore of :

A. Lead

B. Zinc

C. Silver

D. Mercury

Answer: D



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843. The colour of solution obtained by adding excess of KI in the solution of $HgCl_2$ is :

A. Orange

B. Brown

C. Red

D. Colourless

Answer: D



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844. From an aqueous solution of zinc sulphate, normal zinc carbonate may be precipitated by :

A. Passing CO_2

B. Warming with $NaHCO_3$

C. Adding Na_2CO_3

D. Boiling with $CaCO_3$

Answer: B



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845. The substance that sublimes on heating is

:

A. $MgCl_2$

B. AgCl

C. $HgCl_2$

D. NaCl

Answer: C



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846. Calamine is :

A. $ZnSO_4$

B. $ZnCO_3$

C. ZnO

D. $CaCO_3$

Answer: B



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847. Mercury is transported in metal containers made of :

A. Silver

B. Lead

C. Iron

D. `Alumium

Answer: C



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848. Sulphide ore of zinc is concentrated by :

A. Floatation process

B. Electromagnetic process

C. Gravity process

D. Distillation

Answer: A



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849. Which of the following ions is most stable in aqueous solution ?

A. Ag^+

B. Cu^{2+}

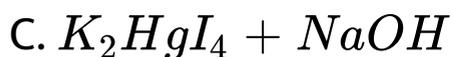


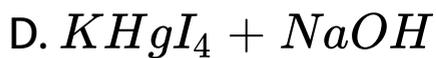
Answer: D



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850. Nessler's reagent is :





Answer: C



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851. Rinman's green is :

A. $ZnO \cdot CoO$

B. A green pigment

C. Both (a) and (b)

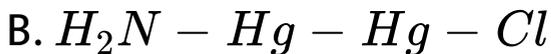
D. None

Answer: C



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852. Calomel reacts with ammonium hydroxide to form :



Answer: A



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853. Mercury forms amalgams with all except :

A. Al

B. Zn

C. Ni

D. Fe

Answer: D



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854. Which statement about group 12 elements is wrong ?

A. Zinc forms an alloy with copper

B. Zn_2^{2+} is stable

C. Mercury gives compounds with +1 and +2 Valencies

D. Hg is aliquid element

Answer: B



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855. Which metal cation forms stronger complex salt ?



D. All of same strength

Answer: C



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856. A metal gives two chlorides A and B . A gives black precipitate with NH_4OH and B gives white. With KI , B gives a red precipitate soluble in excess of KI . A and B are respectively:

A. $HgCl_2$ and Hg_2Cl_2

B. Hg_2Cl_2 and $HgCl_2$

C. $HgCl_2$ and $ZnCl_2$

D. $ZnCl_2$ and $HgCl_2$

Answer: B



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857. Mercury is purified by :

A. Solidifying

B. Distillation in vaccum

C. Treatment with dil. HNO_3

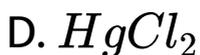
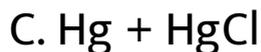
D. Electrolytic method

Answer: B



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858. The calomel present in an electrode is :



Answer: B



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859. An element which is highly toxic for plants and animals is ?

A. Au

B. Mn

C. Hg

D. Ca

Answer: C



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860. Zinc sulphate is known as :

- A. Zinc blende
- B. White vitriol
- C. Blue vitriol
- D. Calamine

Answer: B



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861. Lithopone , a white pigment , consists of :

A. Al_2O_3 and $CaCO_3$

B. BaS and $PbSO_4$

C. ZnS and $BaSO_4$

D. PbS and Mgo

Answer: C



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862. The lowest degree of paramagnetism per mol of the compound in the following will be shown by :



Answer: B



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863. Zinc oxide is :

- A. A basic oxide
- B. An acidic oxide
- C. A neutral oxide
- D. An amphoteric oxide

Answer: D



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864. A compound is yellow when hot and white when cold. The compound is :

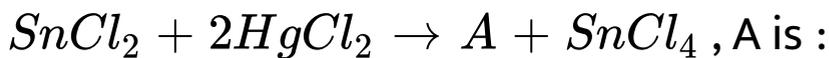


Answer: D



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865. In the reaction



A. HgCl_2

B. Hg

C. GHgCl

D. HgCl_3

Answer: A



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866. The colour of zinc sulphide is :

A. Yellow

B. White

C. Brown

D. Black

Answer: B



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867. The metal which liberates hydrogen from hot NaOH solution is :

A. Zn

B. Cu

C. Ag

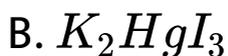
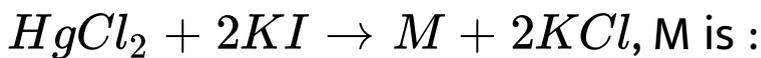
D. Fe

Answer: A



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868. In the reaction

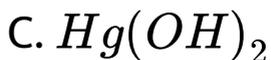
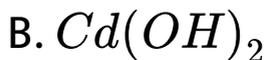
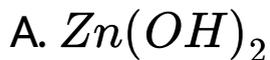


Answer: C



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869. Which compound cannot be prepared ?



Answer: C



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870. Black HgS:

A. Dissolves in cone . Hcl on boiling

B. Dissolves in boiling HCL + a crystal of



C. Dissolves in NaOH

D. None

Answer: B



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871. Which is known as Philosopher's wool ?

A. HgO

B. CdO

C. BaO

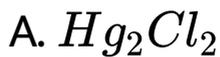
D. ZnO

Answer: D



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872. Which compound is deliquescent ?



Answer: C



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873. Zinc white is a better white pigment than lead because it :

- A. Has more covering power than lead white
- B. Is not blackened by the action of H_2S
- C. Is soluble in water
- D. Becomes yellow when heated

Answer: B



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874. An important Zn ore is :

A. Calamine

B. Pitch blende

C. Cryolite

D. None

Answer: A



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875. Chemical name of vermilion is :

A. Mercuric sulphide

B. Mercurous sulphide

C. Zinc sulphide

D. Cadmium sulphide

Answer: A



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876. ZnS containing minute traces of MnS

becomes :

A. Deliquescent

B. Phosphorescent

C. Hydroscopic

D. None

Answer: B



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877. *Mercury* tree can be prepared :

A. By mixing up mercuric thicyanate and
gum

B. By adding Nessler's reagent to a ammonium salt solution

C. By pouring little mercury into $AgNO_3$ solution

D. By heating mercuric chloride

Answer: C



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878. The pair of metals which dissolves in NaOH(aq) is :

A. Al , Cu

B. Zn , Cd

C. Pb , Sn

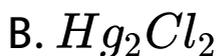
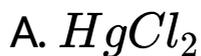
D. Zn , Al

Answer: D



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879. Which compound is used as a purgative in medicine?



Answer: B



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880. Thermal decomposition of zinc nitrate gives:

A. Zn

B. ZnO

C. $Zn(NO_2)_2$

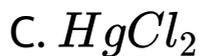
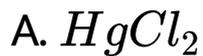
D. NO

Answer: B



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881. Which of the following is poison?

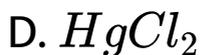
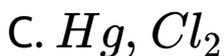


Answer: C



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882. The compound widely used in making reference electrode is:



Answer: C



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883. The formula of mercurous ion is:



D. None

Answer: C



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884. A scarlet red precipitate is obtained on treating mercuric chloride solution with:

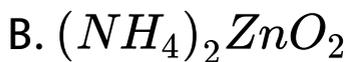


Answer: B



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885. The formula of zinc chloride with ammonia is:



Answer: C



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886. If NaOH is added to an aqueous solution of Zn^{2+} ions, a white precipitate appears and on adding excess NaOH, the precipitate dissolves. In this solution zinc exists in the:

- A. Cationic part
- B. Anionic part
- C. Both (a) and (b)
- D. None

Answer: B



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887. When Zn reacts with very dilute nitric acid it produces:

A. NO

B. NH_4NO_3

C. NO_2

D. H_2

Answer: B



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888. Which statement about Hg is correct?

A. Hg is the only liquid metal

B. Hg^{2+} salts are more stable than Hg_2^{+}

salts Hg forms no amalgam with iron and

platinum All

C.

D.

Answer: D



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889. The metal present in insulin is:

A. Cu

B. Fe

C. Zn

D. Mg

Answer: C



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890. $HgCl_2$ is reduced to Hg_2Cl_2 by:

A. CH_3COOH

B. Cl_4

C. $HCOOH$

D. NH_3

Answer: C



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891. Volatile metals are purified by:

A. Cu, Ag, Au

B. Zn, Cd, Hg

C. C, Pb

D. Fe, Co, Ni

Answer: B



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892. Volatile metals are purified by:

A. Liquation

B. Distillation

C. Cupellation

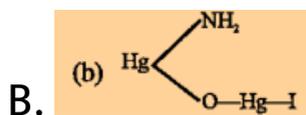
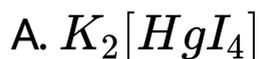
D. Electrolysis

Answer: B



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893. Iodide of Million's base is:





Answer: B



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894. Cosmetic powders contain:



D. $ZnSO_4$

Answer: B



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895. Substance used in glazing pottery is:

A. ZnO

B. $ZnCl_2$

C. Alum

D. Calomel

Answer: A



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896. Which of the following metals is used in dry cells?

A. Ni

B. Zn

C. Fe

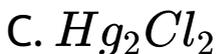
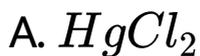
D. Co

Answer: B



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897. Which of the following is used for sterilization of surgical instruments?



Answer: A



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898. Which gives off oxygen on moderate heating:

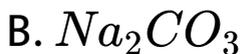
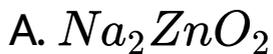
- A. Zinc Oxide
- B. Mercuric Oxide
- C. Aluminium Oxide
- D. Ferric oxide

Answer: B



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899. Acidic nature of $Zn(OH)_2$ is shown from the formation of the following compound with the formula:



D. None

Answer: A



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900. White vitriol is:



Answer: C



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901. Various methods have been employed for protecting iron from rusting. Which of the following is incorrect:

- A. Zinc plating is more permanent than chrome plating
- B. Zinc protects iron but gets corroded itself
- C. Tin plating is cheap but unreliable

D. None

Answer: B



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902. Which sulphide has a yellow colour?

A. CuS

B. PbS

C. ZnS

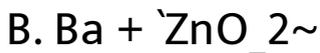
D. CdS

Answer: D



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903. Philosopher's wool when heated with BaO at $1100^{\circ}C$ gives the compound:



Answer: A



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904. Acidic nature of $Zn(OH_2)$ is shown during its reaction with:

A. NaOH

B. HCl

C. H_2SO_4

D. None

Answer: A



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905. Which metal sulphide is not black?

A. NiS

B. CoS

C. CuS

D. ZnS

Answer: D



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906. When iron or zinc is added to $CuSO_4$ solution, copper is precipitated. It is due to,

A. Hydrolysis of $CuSO_4$

B. Oxidation of Cu^{3+}

C. Reduction of Cu^{2+}

D. Ionisation of $CuSO_4$

Answer: C



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907. The metal that does not displace hydrogen from an acid is:

A. Hg is the only liquid metal

B. Zn

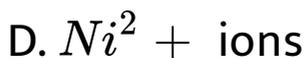
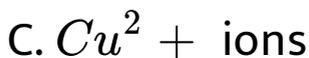
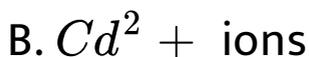
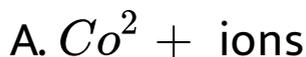
C. Al

D. Calomel

Answer: A



908. A yellow ppt, is formed when H_2S is passed through an acidified solution of:



Answer: B



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909. Complete dissociation of $ZnCl_2$ gives:

A. 3 ions

B. 5 ions

C. 4 ions

D. 2 ions

Answer: A



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910. Galvanised iron is rust proof due to the electroplating of iron with:

A. Zn

B. Ni

C. Cr

D. Sn

Answer: A



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911. Which of the following is coated over iron articles to protect iron from corrosion?

A. Paint

B. Zinc metal

C. Tin metal

D. All of these

Answer: D



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912. Cadmipone is a mixture of:

A. CdS and $BaSO_4$

B. and Bas

C. CaS and $ZnSO_4$

D. $CaSO_4$ and ZnS

Answer: A



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913. Zinc oxide is used in:

A. Paper bleaching

B. White paint

C. Black glasses

D. Soaps

Answer: B



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914. The valency of mercuric ion is:

A. One

B. Two

C. Four

D. All

Answer: B



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915. $Zn(OH)_2$ is:

A. Amphoteric Monobasic

B.

C. Dibasic

D. None

Answer: A



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916. Which reacts with both HCl and NaOH?

A. CaO

B. CO_2

C. N_2O_5

D. ZnO

Answer: D



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917. Silver, mercury and lead have been placed in same group of qualitative analysis, because they form:

A. Carbonates soluble in dilute HNO_3

B. Nitrates

C. Insoluble chlorides

D. Same type of coloured compounds

Answer: C



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918. Which metal is commonly used for galvanising iron?

A. Cr

B. Zn

C. Cd

D. Sn

Answer: B



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919. Zn and Cd do not show variable valency, because:

- A. They have only two electrons in outermost subshells
- B. Their d-subshells are complete
- C. They are relatively soft metals
- D.

Answer: B



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920. Which sulphide is not precipitated in acid solution?

A. CuS

B. SnS

C. PbS

D. ZnS

Answer: D



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921. To prevent corrosion, iron pipes carrying drinking water are coated with zinc. The process involved is:

A. Alloy formation

B. Electroplating

C. Galvanising

D. Soldering

Answer: C



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922. Which does not give a precipitate with excess of NaOH?

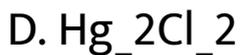
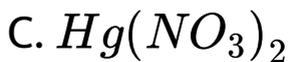
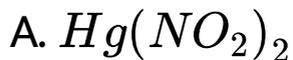


Answer: D



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923. The one which has lowest ox. No. of Hg?



Answer: D



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924. Which metal loses meniscus on exposure to ozone?

A. Mg

B. Zn

C. Hg

D. Cu

Answer: C



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925. Ozone can be detected using:

A. Ag

B. Hg

C. AgCl

D. NaCl

Answer: B



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926. A reagent that can separate Fe from Zn is,

A. NaOH

B. HCl

C. H_3S

D. $NaNO_2$

Answer: A



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927. Colourless transition metal ion is:

A. Zn^{2+}

B. $Cu +$

C. Ti^{3+}

D. All

Answer: D



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928. Which of the following is correct?

A. Calomel is mercuric chloride

B. Calomel is widely used as an antiseptic

C. Calomel is used medically as purgative

D. Calomel is freely soluble in water

Answer: C



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929. Cast iron is manufactured by remelting:

A. Pig iron and pouring into moulds

B. Steel and pouring into moulds

C. Wrought iron and pouring into moulds

D.

Answer: A



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930. Which metal is used for filament of electric bulb?

A. Pt

B. Fe

C. W

D. Cu

Answer: C



Watch Video Solution

931. Bessemer convergter is used in the manufacture of

A. Cast iron

B. Pig iron

C. Steel

D. Wrought iron

Answer: C



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932. Anhydrous ferric chloride is prepared by:

A. Dissolving ferric hydroxide in dil. HCL

B. Dissolving ferric hydroxide in conc. HCL

C. Passing dry chlorine gas over heated
scrap iron

D. Passing dry HCl gas over heated scrap iron

Answer: C



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933. One of the important uses of ferrous sulphate is in the:

A. Manufacture of blue-black ink

B. Manufacture of chalks

C. Preparation of hydrogen sulphide

D. Preparation of sulphur dioxide

Answer: A



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934. Blood red colour solution is produced when ferric chloride solution is treated with:

A. KCN

B. KSCN

C. KCNO

D. $K_3(Fe(CN)_6)$

Answer: B



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935. The group of metals which is known as ferrous metals is:

A. Fe,Co,Ni

B. Ru,Rh,Pd

C. Os,Ir,Pt

D. Cr,Mn,Cu

Answer: A



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936. Which group of metals is known as Pt-metals?

A. Fe,Co,Ni

B. Ag,Au,Cu

C. Zn,Cd,Hg

D. Ru,Rh,Pd

Answer: D



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937. Which is used for stopping bleeding?

A. Ferric chloride

B. Mohr's salt

C. Green vitriol

D. Sodium nitroprusside

Answer: A



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938. Which is formed when iron reacts with carbon?



D. Fe_2C

Answer: B



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939. Which will reduce acidified potassium dichromate solution?

A. Potash alum

B. Mohr's salt

C. Chile saltpetre

D. White vitriol

Answer: B



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940. Which one of the following does not decolourise an acidified $KMnO_4$ solution?

A. SO_2

B. $FeCl_3$

C. H_2O_2

D. $FeSO_4$

Answer: B



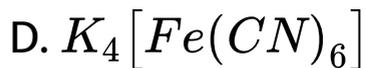
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941. Ferrous sulphate forms Turnbulls blue with:

A. KCN

B. NH_4SCN

C. $K_3[Fe(CN)_6]$



Answer: C



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942. The first man-made atom is:

A. Os

B. Na

C. Zr

D. Tc

Answer: D



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943. The variety of iron having highest melting point is:

- A. Pig iron
- B. Cast iron
- C. Wrought iron
- D. Steel

Answer: C



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944. Blueprint papers have a coating of:

- A. Mixture of potassium ferricyanide and ammonium ferric citrate or ferric oxaitate
- B. Sodium nitroprusside
- C. Prussian blue

D. None

Answer: A



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945. The impurity of sulphur makes the iron:

A. fibrous

B. Red short

C. Cold short

D. Malleable

Answer: B



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946. The axles are made by heating rods of iron embedded in charcoal powder. This process is known as:

- A. Tempring
- B. Annealing
- C. Nitriding
- D. Case hardening

Answer: D



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947. Red hot steel rod on suddenly immersing in water becomes.

A. Soft and malleable

B. Hard and brittle

C. Tough and ductile

D. Fibrous

Answer: B



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948. When steel is heated red hot and then slowly cooled, the process is known as:

- A. Annealing
- B. Hardening
- C. Tempering
- D. Nitriding

Answer: A



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949. The process of nitriding used in the treatment of steel is :

A. O

B. N_2

C. NH_3

D. CO_2

Answer: C



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950. The process of heating of steel to temperature much below redness and then slowly cooling is called:

- A. Reduction zone
- B. Slag zone
- C. Combustion zone
- D. Fusion zone

Answer: C



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951. The process of heating of steel to temperature much below redness and then slowly cooling is called:

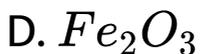
- A. Annealing
- B. Hardening
- C. Tempring
- D. Case hardening

Answer: C



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952. Rust is a mixture of :



Answer: A



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953. The common oxidation state of the elements of lanthanide series is:

A. + 2

B. + 3

C. + 4

D. + 1

Answer: B



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954. The tempering of steel makes it:

A. Hard

B. Soft

C. Heavy

D. Brittle

Answer: B



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955. The element which acts as a good catalyst for several reactions has atomic number:

A. 16

B. 20

C. 28

D. 37

Answer: C



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956. Which one of the elements is a d-block element?

A. As

B. Pt

C. Pb

D. Ra

Answer: B



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957. How many unpaired electrons are there in

Ni^{2+} ion ?

A. Diamagnetic

B. Paramagnetic Colourless

C. Colourless

D. None

Answer: B



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958. The element which forms a coloured chloride is:

A. Sb

B. Na

C. Zn

D. Cr

Answer: D



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959. The elements which exhibit both vertical and horizontal similarities are:

- A. Inert gas elements
- B. Representative elements
- C. Rare Elements
- D. Transition elements

Answer: D



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960. Variable valency is a general feature of _____ elements:

- A. s-block
- B. p-block
- C. Slag formation
- D. All

Answer: C



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961. Which ion is not coloured:



Answer: A



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962. The smelting of iron in a blast furnace involves all the steps except:

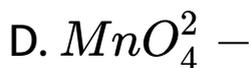
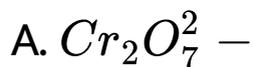
- A. Combustion
- B. Reduction
- C. Slag formation
- D. All

Answer: D



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963. Which ion in aqueous medium has orange colour?



Answer: A



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964. Acidified potassium permanganate solution is decolourised by

- A. White vitriol
- B. Bleaching powder
- C. Laughing gas
- D. Mohr's salt

Answer: D



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965. Mohr's salt is a:

A. Normal salt

B. Acid Salt

C. Basic Salt

D. Double salt

Answer: D



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966. The iron obtained from the blast furnace is called as

- A. Pig iron
- B. Cast iron
- C. Wrought iron
- D. Steel

Answer: A



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967. The brown ring complex compound is formulated as $[Fe(H_2O)_5(NO)]SO_4$. The oxidation state of iron is:

A. +1

B. +2

C. +3

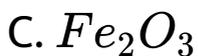
D. +4

Answer: A



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968. The crystals of ferrous sulphate on heating give:



D. All

Answer: D



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969. Which of the following statements is not true for Mohr's salt?

A. It decolourises $KMnO_4$ solution

B. It is a double salt

C. Oxidation state of iron is +3

D. It is a primary standard

Answer: C



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970. Permanent magnet is made from:

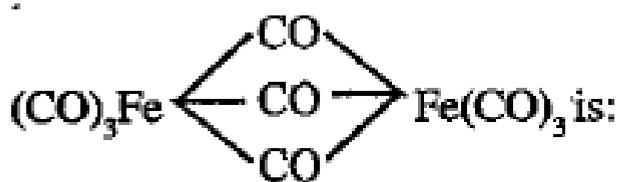
- A. Cast iron
- B. Steel
- C. Wrought iron
- D. All of these

Answer: B



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971. The correct IUPAC name of



- A. Potassium ferrocyanide
- B. Potassium ferrocyanide
- C. Potassium hexacyanoferrate(II)
- D. Potassium hexacyanoferrate(III)

Answer: C



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972. Ferric sulphate on heating gives:

A. SO_2 and SO_3

B. SO_3 only

C. SO_3 only

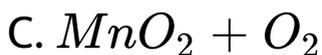
D. S only

Answer: C



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973. $KMnO_4$ on heating above $200\text{ }^\circ\text{C}$ gives:



D. None

Answer: A



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974. The rusting of iron is catalysed by:

A. Fe

B. O_2

C. Zn

D. H^+

Answer: D



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975. Spiegeleisen is an alloy of:

A. Fe and Mn Fe,Mn and C

B.

C. Fe,Mn and Cr

D. Fe and Cr

Answer: B



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976. As percentage of carbon increases in iron, its hardness,

- A. Decreases
- B. Increases
- C. Remains same
- D. None

Answer: B



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977. Pudding process is used in the manufacture of:

- A. Steel
- B. Cast-iron
- C. Wrought iron
- D. Pig iron

Answer: C



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978. Transition elements are:

A. All metals

B. All non-metals

C. Metals and non-metals

D. Gases

Answer: A



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979. Which is not a transition metal?

A. Sc

B. V

C. Sb

D. Co

Answer: C



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980. Chromium is used in making:

A. Bronze

B. Brass

C. Stainless steel

D. Electrodes

Answer: C



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981. The element present in gun metal is:

A. Cu

B. CoS

C. Ti

D. Sc

Answer: A



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982. Which metal is ferromagnetic?

A. Cr

B. Fe

C. Zn

D. Al

Answer: B



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983. The transition element with least atomic number is:

A. Zr

B. Sc

C. Os

D. Pt

Answer: B



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984. Which is less reactive?

A. Fe

B. Ni

C. Ft

D. Co

Answer: C



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985. The transition metal present in vitamin

B_{12} is:

A. Fe

B. CoS

C. Ni

D. Na

Answer: B



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986. Number of electrons present in the outermost orbit of Fe atom is:

A. 3

B. 1

C. 2

D. 4

Answer: C



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987. The most correct statement for transition metals is:

- A. They possess low b.pt
- B. They exhibit inner pair effect
- C. They exhibit variable oxidation states
- D. They do not possess catalytic property

Answer: C



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988. The tendency to show complex formation is maximum in:

- A. s-block elements
- B. p-block elements
- C. d-block elements
- D. f-block elements

Answer: C



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989. Maximum number of oxidation states of the transition metals is derived from the following configuration:

A. ns electrons

B. $(n-1)d$ electrons

C. $(n+1)d$ electrons $ns + (n-1)d$ electrons

D.

Answer: D



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990. Which is not correct for transition metals?

A. Variable oxidation states

B. Complex formation

C. Partially filled d-orbitals

D. All the ions are colourless

Answer: D



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991. Transition elements form complexes

because of:

- A. Small cation size
- B. Vacant d-orbitals
- C. Large ionic charge
- D. All are correct

Answer: D



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992. Fe^{2+} ion can be distinguished by

Fe^{3+} ion by:

A. $BaCl_2$

B. $AgNO_3$

C. NH_4SCN

D. None

Answer: C



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993. The elements present in human blood is:

A. Fe

B. Ra

C. Co

D. All

Answer: A



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994. d-block elements of periodic table consists of

A. Three series

B. Six series

C. Two series

D. Four series

Answer: D



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995. Which oxide of Mn is acidic in nature?

A. MnO

B. Mn_2O_7

C. Mn_2O_3

D. MnO_2

Answer: B



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996. The element showing oxidation states of +2,+3,+4,+6 and +7 is:

A. Cr

B. Mn

C. Co

D. V

Answer: B



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

A. FeO

B. Fe_2O_3

C. Fe_3O_4

D. $FeSO_4$

Answer: C



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998. Rusting of iron in moist air involves:

- A. Loss of electrons by Fe
- B. Gain of electrons by Fe
- C. Neither gain nor loss of electrons
- D. Hydration of Fe

Answer: A



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999. d-block elements generally form:

- A. Covalent hydrides
- B. Metallic hydrides
- C. Interstitial hydrides
- D. Salt-like hydrides

Answer: C



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1000. Second series of transition elements starts with:

A. Yttrium

B. Chromium

C. Zinc

D. Scandium

Answer: A



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1001. The number of incomplete orbitals in inner transition elements is:

A. 3

B. 4

C. 2

D. 1

Answer: A



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1002. which catalyst used for the hydrogenation of vegetable oils for making margarine?

A. Cu

B. Na

C. Ni

D. Zn

Answer: C



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1003. $FeSO_4$, forms brown ring with

A. NO_3

B. NO

C. N_2O

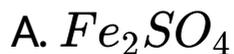
D. N_2O_3

Answer: B



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1004. The brown ring obtained in the ring test for nitrate is due to the formation of:



Answer: C



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1005. The metallic nature of transition elements is _____ than that of alkali metals.

A. Less

B. More

C. Same

D. None

Answer: A



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1006. Chromium compound used in tanning of leather is:



Answer: D



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1007. The stability of ferric ion is due to:

A. Completely filled d-orbitals

B. Half filled d-orbitals

C. Half filled f orbitals

D. Completely filled f-orbitals

Answer: B



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1008. Which transition element shows the highest oxidation state:

A. Fe

B. Mn

C. V

D. Cr

Answer: B



Watch Video Solution

1009. Chromium has most stable oxidation state of:

A. +5

B. +3

C. +2

D. +4

Answer: B



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1010. The Fe^{2+} ion is:

A. Blue

B. Light green

C. Very dark green

D. Yellow

Answer: B



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1011. Which metal makes steel suitable for cutting purposes by maintaining the cutting edge of the blades?

A. MnO

B. Al

C. W

D. C

Answer: C



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1012. Which does not possess allotropic forms?

A. C

B. Sn

C. Fe

D. P

Answer: C



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1013. Heteropoly acids are formed by:

A. Be

B. Fe

C. Mo

D. Cr

Answer: C



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1014. Densities of transition metals are:

A. Low

B. Very low

C. High

D. Very high

Answer: D



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1015. Which of the following metals can deposit Cu from $CuSO_4$ solution?

A. Hg

B. Fe

C. Au

D. Ft

Answer: B



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1016. Invar steel, which is very little affected by temperature changes, contains 36%:

A. Co

B. Ni

C. Cu

D. Al

Answer: B



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1017. Blow holes of steel are removed by adding:

A. C

B. Ni

C. Sand

D. Spiegeleisen

Answer: D



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1018. Which statement is not correct

A. $Fe(Co)_5$ reacts with Br_2Cl_4

B. Carbonyl complexes are usually formed with transition metals

C. All transition metals form mono metallic carbonyls

D. The decomposition of $Ni(CO)_4$ to give Ni used in the extraction of Ni by Mond's process.

Answer: C



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1019. The density of transition metals _____ in a series:

- A. Gradually increases
- B. Gradually decreases
- C. Remains constant
- D. None

Answer: A



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1020. Each transition series contains:

A. 12 elements

B. 10 elements

C. 14 elements

D. 8 elements

Answer: B



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1021. The transition elements are paramagnetic due to the presence of

A. Completed d-orbitals

B. Completed f-orbitals

C. Unpaired electrons

D. None

Answer: C



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1022. Transition metals in their compounds

show:

A. Ionic bonds

B. Covalent bonds

C. Ionic and covalent bonds

D. Ionic and co-ordinate bonds

Answer: C



1023. Transition metals and their oxides are used in industrial processes as:

A. Detergents

B. Insecticides

C. Catalysts

D. None

Answer: C



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1024. Which statement is incorrect about transition elements?

A. All elements form complexes

B. All are paramagnetic

C. All show variable valency

D. All are not coloured ions

Answer: B



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1025. The elements with differentiating electron entering into (d-orbital) of penultimate shell are known as:

- A. Alkali metal
- B. Alkaine earth metal
- C. Transition metal
- D. None

Answer: C



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1026. In the first transition series, the differentiating electrons enters:

A. 5d-orbital

B. 4d-orbital

C. 3d-orbital

D. 2d-orbital

Answer: C



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1027. The ionisation potential of transition metals is _____ than p-block elements:

A. Less

B. More

C. Equal

D. None

Answer: A



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1028. The 3d-transition series contains elements from atomic number:

A. 22 to 30

B. 21 to 30

C. 21 to 31

D. 21 to 29

Answer: B



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1029. Group 11 or IB elements are commonly known

A. Coinage metals

B. Transition metals

C. Typical elements

D. Representative elements

Answer: A



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1030. All metal chlorides are soluble in water except those of :

A. Ag, Pb, Hg

B. Na, K, Ca

C. Zn, Cu, Cd u]

D. Ba, Sr, Li

Answer: A



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1031. The correct formula for diamine silver (I) chloride is :

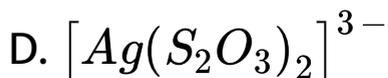


Answer: B



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1032. The solubility of silver bromide in hypo solution is due to the formation of :



Answer: D



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1033. Which one is more soluble in water ?

A. AgI

B. AgCl

C. AgBr

D. Ag_2S

Answer: B



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1034. An aqueous solution of $CuSO_4$ and NH_4OH gives a deep blue complex of :

- A. Cuprammonium Sulphate
- B. Cuprammonium hydroxide
- C. Sodium hexametaphosphate
- D. None

Answer: A



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1035. The mineral from which is not manufactured by copper :

A. Galena

B. Pyrite

C. Malachite

D. Chalcopyrite

Answer: D



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1036. In the extraction of copper , the metal formed in the Bessemer's converter is due to the reaction :



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1037. Verdigris is :

- A. Basic copper acetate
- B. Basic lead acetate
- C. Ferrous ammonium sulphate

D. Potassium ferrocyanide

Answer: A



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1038. The silver glance ore on leaching with of :



Answer: B



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1039. Which one of the following properties would you not expect copper to exhibit ?

A. Malleability

B. High thermal conductivity

C. Low electrical conductivity

D. Ductility

Answer: C



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1040. What effect is noticed on shaking dilute sulphuric acid with a small quantity of anhydrous copper sulphate ?

A. The white solid dissolves to form a colourless solution

B. The white solid dissolves to form a green solution

C. The white solid turns blue but does not
dissolves

D. The white solid dissolves to form a blue
solution

Answer: D



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1041. Schweitzer's reagent used for dissolving
cellulose in the manufacture of artificial silk is :

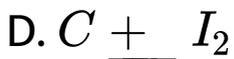
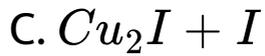


Answer: C



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1042. Addition of KI to a solution of copper sulphate gives :



Answer: C



Watch Video Solution

1043. Bronze is an alloy composed of :



B. Cu + Zn

C. Ph + Sn + Zn

D. Pb + Zn

Answer: A



Watch Video Solution

1044. Percentage of silver in German silver is :

A. 1.5 %

B. 2.5 %

C. 10 %

D. Zero percent

Answer: D



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1045. A yellow precipitate will be obtained if

$AgNO_3$ is added to a solution of :

A. KIO_3

B. KI

C. CHI_3

D. CH_2I

Answer: B



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1046. In the electrorefining of copper, some gold is deposited as :

A. Cathode

B. Cathode mud

C. Anode mud

D. None

Answer: C

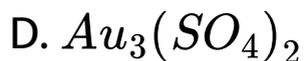
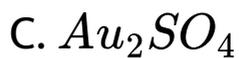


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1047. Auric chloride on reaction with ferrous sulphate changes to :

A. Au

B. AuCl



Answer: A



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1048. Gun metal is an alloy of

A. Cu and Al

B. Cu, Sn and Zn

C. Cu, Zn and Ni

D. Cu and Sn

Answer: B



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1049. Bell metal is an alloy of :

- A. Zinc and copper
- B. Copper and nickel
- C. Zinc and lead
- D. Copper and tin

Answer: D



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1050. An aqueous solution of $CuSO_4$ turns blue litmus to :

A. Blue

B. Green

C. Yellow

D. Red

Answer: D

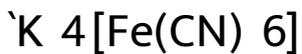


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1051. A blue colouration is not obtained when :

A. Ammonium hydroxide dissolves in copper sulphate

B. Copper sulphate solution reacts with



C. Ferric chloride reacts with sodium ferrocyanide

D. Anhydrous white $CuSO_4$ is dissolved in water

Answer: B



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1052. Silver is extracted from argentiferous lead by :

A. Mond process

B. Parkes process

C. Haber process

D. Bergius process

Answer: B



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1053. Copper can be extracted from :

A. Kupfer - nickel

B. Dolomite

C. Malachite

D. Galena

Answer: C



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1054. The blue complex ion formed on addition of conc. NH_4OH solution to a Cu^{2+} salt solution is :



Answer: C



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1055. Blister copper is

A. Pure copper

B. Copper containing 2% impurity

C. Alloy of copper

D. None

Answer: B



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1056. Silver nitrate produces a black stain on skin due to :

A. Its corrosive action

B. Its reduction to metallic silver

C. Its strong reducing action

D. The formation of a complex compound

Answer: B



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1057. Cuprous chloride is obtained from cupric chloride :

A. By heating cupric chloride with chlorine

B. By the electrolysis of cupric chloride containing HCl

C. By heating cupric chloride with conc. HCl and copper turnings

D. By passing H_2 OVER $CuCl_2$

Answer: C



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1058. From sodium argentocyanide $Na[Ag(CN)_2]$, silver is precipitated by adding a powder of :

- A. Tin
- B. Zine
- C. Mercury
- D. Calcium

Answer: B



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1059. German Silver is an alloy of Copper and:

- A. Copper, zinc and nickel
- B. Copper and silver
- C. Copper and tin
- D. Copper , zine and silver

Answer: A



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1060. Silver nitrate solution gives a red precipitate with :

- A. Sodium iodide
- B. Potassium chloride
- C. Calcium nitrate
- D. Sodium chromate

Answer: D



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1061. Percentage of gold in 20 carat gold is :

A. 21.6

B. 90

C. 10

D. 70

Answer: B



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1062. Lunar caustic is chemically:

A. Silver chloride

B. Silver nitrate

C. Sodium hydroxide

D. Potassium nitrate

Answer: B



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1063. The action of HCl on silver nitrate produces:

A. A precipitate of AgCl

B. Chlorine gas

C. No visible change

D. A black stain of silver

Answer: C



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1064. Which one is least soluble in water:

A. AgCl

B. AgF

C. AgI

D. AgBr

Answer: C



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1065. A reaction between copper and hot concentrated sulphuric acid produces :

A. SO_2

B. SO_3

C. H_2O

D. Cu^+ ions

Answer: A



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1066. Copper sulphate is commercially made from copper scrap by :

- A. Dissolving in hot concentrated sulphuric acid
- B. Action of dilute sulphuric acid and air
- C. Heating with sodium sulphate
- D. Heating with sulphur

Answer: B



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1067. On adding excess of ammonium hydroxide to a copper chloride solution :

A. Blue precipitate of copper hydroxide

hydroxide is obtained

B. Black precipitate of copper oxide is

obtained

C. A deep blue solution is obtained

D. No change is observed

Answer: C



Watch Video Solution

1068. Which is alloyed with copper to form bronze ?

A. Iron

B. Manganese

C. Tin

D. Zinc

Answer: C



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1069. On adding KI solution to a solution of $CuSO_4$, a white precipitate of Is formed .

A. Potassium sulphate

B. Cuprous sulphate

C. Cuprous iodide

D. Cupric iodide

Answer: C



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1070. Argentite is an ore of :

A. Cu

B. Ft

C. Au

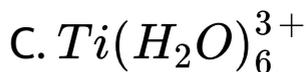
D. Ag

Answer: D



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1071. For which one of the following ions, the colour is not due to a d-d transition :



Answer: A



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1072. Silver chloride dissolves in a solution of ammonia but not in water because :

- A. Ammonia is a better solvent than water
- B. Silver ion forms a complex ion with ammonia
- C. Ammonia is a stronger base than water
- D. The dipole moment of water molecule is higher than that of ammonia molecule

Answer: B



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1073. In the purification of copper by electrolysis, which is incorrect ?

A. Acidic solution of Cu (II) sulphate is used

B. H_3O^+ ion is discharged at cathode

C. Anode is made of impure copper

D. OH is discharged at anode

Answer: B



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1074. In photography we use :

A. AgCl

B. AgBr

C. AgI

D. NH_3

Answer: B



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1075. Which is known as purple of cassius ?

A. Colloidal silver solution

B. Colloidal gold solution

C. Aqueous solution of soap

D. As_2S_3 colloidal solution

Answer: B



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1076. Brass is an alloy of :

A. Zn and Cu

B. Cu and Sn

C. Zn and Sn

D. Cu, Zn and Sn

Answer: A



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1077. An ore of silver is :

A. Argentite

B. Stibnite

C. Haematite

D. Bauxide

Answer: A



Watch Video Solution

1078. A developer used in photography is :

- A. A weak acid
- B. A weak base
- C. A mild reducing agent
- D. An oxidising agent

Answer: C



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1079. Which of the following statements regarding copper salte is not true :

A. Copprer (I) disproportionates into Cu and Cu (II) in aqueous solution

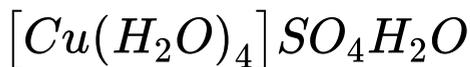
B. Copper (I) can be stabilised by the formation of insoluble complex compound such as $CuCl_2^-$ and $Cu(CN)_2^-$

C. Copper (II) oxide is red powder

D. Hydratd



is



Answer: C



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1080. Which of the following alloys does not contain copper?

A. Solder

B. Bronze

C. Brass

D. Bell metal

Answer: A



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1081. In the extraction of copper we use :

A. $CuFeS_2$

B. Cu_2S

C. Pyrites

D. Silver argentocyanide

Answer: A



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1082. The process used in obtaining metallic silver from argentite is :

A. Fused mixture of Ag_2S and KCl is electrolysed

B. Ag_2S is reduced with CO

C. Ag_2S is roasted to Ag_2O which is reduced with C

D. Treating with NaCN solution following by metal displacement with zinc

Answer: D



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1083. The slag obtained during the extraction of copper pyrites is composed mainly of :



Answer: B



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1084. $AgCl$ dissolved in ammonia solution giving

A. Ag^+ , NH_4^+ and Cl

B. $Ag(NH_3)^+$ and Cl^-

C. $Ag_2(NH_3)_2^+$ and Cl

D. $Ag(NH_3)_2^+$ and Cl^-

Answer: D



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1085. Cu_2O is :

A. Black oxide of copper

B. Copper (II) oxide

C. Red oxide of copper

D. Cupric oxide

Answer: C



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1086. Cu^{2+} ions would be reduced to cuprous ion if their solution are mixed with an aqueous

:

A. KI solution

B. KCl solution

C. KCO_3 solution

D. K_2SO_4 solution

Answer: A



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1087. Which method is used to remove silver impurities from lead?

A. Leaching with dilute NaCN solution

B. Parkes process

C. Leaching with dilute NaCN in presence of
air

D. Electrolytic purification using $AgNO_3$

Answer: B



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1088. Which is used in photography ?

A. AgCl

B. Ag_2S

C. AgNO_3

D. Ag_2CrO_4

Answer: C



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1089. Gold dissolves in aqua-regia forming :

A. Auric chloride

B. Aurous chloride

C. Chloroauric acid

D. Aurous nitrate

Answer: C



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1090. An extremely hot copper wire reacts with steam to give :

A. CuO

B. Cu_2O

C. Cu_2O_2

D. CuO_2

Answer: A



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1091. Silver halides are used in photography because they are :

A. Photosensitive

B. Soluble in hypo solution

C. Soluble in NH_4OH

D. Insoluble in acids

Answer: A



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1092. Which metal is not present in German silver ?

A. Cu

B. Ni

C. Zn

D. Sn

Answer: D



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1093. Which statement is incorrect

A. Silver glance mainly contains silver sulphide

B. Gold is found in native state

C. Zine blende mainly contains zine chloride

D. Copper pyrites also contain Fe_2S_3

Answer: C



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1094. After partial roasting, the sulphide of copper is reduced by:

A. Reduction by carbon

B. Electrolysis

C. Self- reduction

D. Cyanide process

Answer: C



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1095. Powdered silver ore is treated with NaCN solution and air is bubbled through the mixture to give :

A. AgCN

B. Ag

C. $\text{Ag}(\text{CN})_2$

D. $\text{Na}[\text{Ag}(\text{CN})_2]$

Answer: D



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1096. When excess of sodium thiosulphate is added to dil AgNO_3 solution a soluble compound X is formed . However when dil .

$Na_2S_2O_3$ solution is added to cone $AgNO_3$ solution a white ppt turning yellow and finally black ppt of Y is obtained . Which is correct pair :

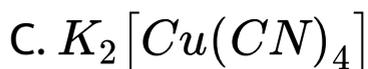
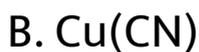
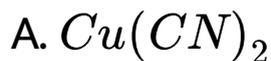
- A. X is Ag_2S and Y is $Na_3[Ag(S_2O_3)_2]$
- B. X is $Na_3[Ag(S_2O_3)_2]$ and Y is Ag_2S
- C. X is $Ag_2S_2O_3$ and Y is Ag_2S
- D. X is $Ag_2S_2O_3$ and Y is $Na_3[(S_2O_3)_2]$

Answer: B



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1097. $CuSO_4$ solution reacts with KCN to form a complex :



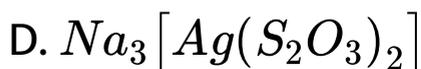
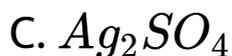
Answer: D



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1098. Silver bromide reacts with hypo solution

to give :



Answer: D



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1099. Brass is :

A. A compound

B. An amalgam

C. An element

D. An alloy

Answer: D



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1100. Which is not correct regarding copper sulphate ?

A. It reacts with NaOH and glucose to give

B. It reacts with KCl to give Cu_2Cl_2

C. It gives CuO on strong heating in air

D. It reacts with KI to give iodine

Answer: B



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1101. Molten Ag absorbs abouttimes of its volume of O_2 :

A. 10

B. 20

C. 40

D. 80

Answer: B



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1102. Which ore is called malachite ?



Answer: B



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1103. Copper metal of high purity is obtained by :

- A. Carbon reduction
- B. Hydrogen reduction
- C. Electrolytic method
- D. Thermite process

Answer: C



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1104. Which is a coinage metal :

A. Zinc

B. Tin

C. Lead

D. Copper

Answer: D



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1105. Silver obtained from argentiferous lead is purified by :

- A. Distillation
- B. Froth floatation
- C. Cupellation
- D. Reaction with KCN

Answer: C



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1106. Anhydrous $CuCl_2$ and $CuBr_2$ exist as :

A. Monomer

B. Dimer

C. Trimer

D. Polymer

Answer: D



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1107. Which is obtained when SO_2 is bubbled through a solution of $CuCl_2$?

A. Cu

B. Cu_2Cl_2

C. $CuSO_4$

D. CuS

Answer: B



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1108. Aufbau principle is not valid for :

A. Cu and Ar

B. Cu and Cr

C. Cr and Ar

D. Fe and Ag

Answer: B



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1109. The structure of $[Cu(H_2O)_4]^{2+}$ ions is:

A. Square planar

B. Tetrahedral

C. Octahedral

D. Distorted rectangle

Answer: A



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1110. The central ion in $[Cu(H_2O)_4]^{2+}$ ion is :

A. Cu^{2+}

B. O^+

C. H^+

D. None

Answer: A



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1111. Which may be consumed in the elemental form by human beings ?

A. Zn

B. Cu

C. Ag and Cu

D. Fe

Answer: C



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1112. The standard electrode potentials of Zn, Ag and Cu are - 0.76 V, +0.80 V and +0.34 V respectively . Which is correct :

A. Ag^+ can oxidise Zn and Cu

B. Ag can reduce Zn and Cu

C. Zn can reduce Ag and Cu

D. Cu can oxidise Zn and Ag

Answer: A



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1113. A chocolate brown coloured compound with acetic acid and potassium ferrocyanide is obtained from a salt solution containing :

A. Cu

B. Cd

C. Sn

D. Hg

Answer: A



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1114. Which oxide is least stable at room temperature ?

A. CuO

B. Ag_2O

C. ZnO

D. Sb_2O_3

Answer: B



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1115. Density , malleability and ductility in coinage metals increase in the order :

A. Cu , Ag , Au

B. Au, Ag, Cu

C. Ag, Au ,Cu

D. Ag ,Cu , Au

Answer: A



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1116. Duralumin is an alloy of :

A. Mg + Al

B. $\text{Mg} + \text{Cu} + \text{Al} + \text{Mn}$

C. $\text{Mg} + \text{Cu}$

D. $\text{Cu} + \text{Al}$

Answer: B

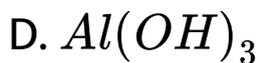
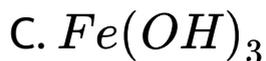


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1117. Which is soluble in ammonia ?

A. $\text{Cr}(\text{OH})_3$

B. $\text{Cu}(\text{OH})_2$



Answer: B



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1118. Which metal does not react with $CuSO_4$ solution ?

A. Fe

B. Zn

C. Mg

D. Ag

Answer: D



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1119. The most important oxidation state of copper is :

A. + 2

B. + 1

C. + 3

D. + 4

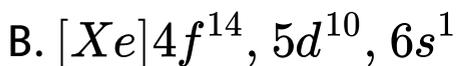
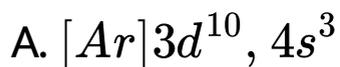
Answer: A

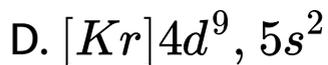
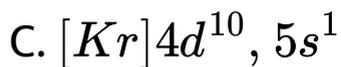


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1120. The electronic configuration of Ag atom

is :





Answer: C



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1121. The number of 3d-electrons in Cu^+ ion is

:

A. 8

B. 10

C. 6

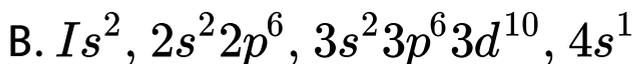
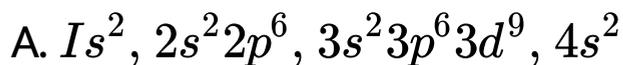
D. 12

Answer: B



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1122. Fill in the blanks :The electronic configuration of Cu^+ is



C. $1s^2, 2s^2 2p^6, 3s^2 3p^6 3d^8, 4s^2 4p^1$

D. None

Answer: B



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1123. Silver iodide is used to produce artificial rain because :

A. It is easily prepared

B. Its structure is ice- like

C. It can easily be sprayed at high altitude

D. It is insoluble in rain water

Answer: B



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1124. Which shows a jump in second ionisation potential ?

A. Co

B. Ni

C. Zn

D. Cu

Answer: D



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1125. In the electroplating of gold the electrolyte used is :

A. Gold chloride

B. Gold nitrate

C. Glod sulphate

D. Potassium aurocyanide

Answer: D

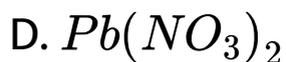


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1126. The nitrate of which metal leaves metallic globule on heating strongly :

A. $Cu(NO_3)_2$

B. $AgNO_3$



Answer: B



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1127. On strongly heating $AgNO_3$ we get :



B. Silver nitride



D. Ag_2O

Answer: B



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1128. In deacon's process the catalyst used is :

A. $CoCl_2$

B. $CuCl_2$

C. Cu_2Cl_2

D. MnO_2

Answer: A



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1129. The number of d-electrons present in Fe^{2+} ions is :

A. 6

B. 4

C. 8

D. 3

Answer: A



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1130. Transition elements form alloys easily because they have :

- A. Same atomic number
- B. Same electronic configuration
- C. Nearly same atomic size
- D. None

Answer: C



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1131. The characteristic property shown by transition elements is :

- A. They show variable valency
- B. They form complex compounds
- C. They usually form coloured compounds
- D. All

Answer: D



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1132. The tendency of the transition metals to form complexes is explained in terms of :

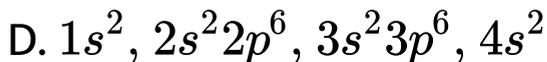
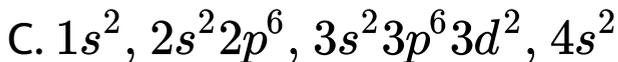
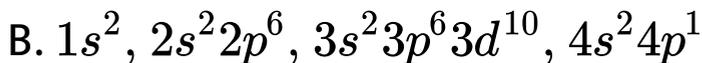
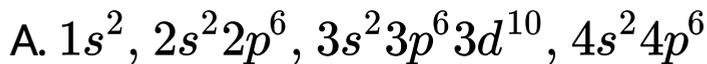
- A. Small size of the metal ion
- B. Large ionic or nuclear charge
- C. Low basicity of metal ions
- D. All

Answer: D



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1133. Which electronic configuration represents a transition element ?



Answer: C



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1134. Which is not true , in case of transition metals :

A. They are malleable and ductile

B. They have high melting and boiling points

C. They crystallise with body centred cubic and hexagonal close packed structure only

D. They shows variable oxidation state although not always

Answer: C



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1135. In the dichromate dianion :

- A. 4 Cr-O bonds are equivalent
- B. 6 Cr-O bonds are equivalent
- C. All Cr-O bonds are equivalent
- D. All Cr-O bonds are non-equivalent

Answer: B



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1136. Adam's catalyst is :

- A. Pt and PtO

B. Pt

C. Pt and PtO_2

D. Pt_2O and PtO

Answer: A



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1137. In the case of d-block elements :

A. Outermost and penultimate shells are incomplete

- B. Both penultimate and prepenultimate shells are incomplete
- C. Outermost shell is incomplete
- D. Innermost shell is incomplete

Answer: A



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1138. The oxidation state of metal in metal carbonyl is :

A. Zero

B. 1

C. 2

D. 3

Answer: A



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1139. Which is the common oxidation state of the first transition series of elements ?

A. + 2

B. + 6

C. + 8

D. + 4

Answer: A



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1140. Hardness of transition elements is due to

:

- A. Large atomic size
- B. Metallic bonding
- C. Covalent bonds
- D. high ionisation energy

Answer: C



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1141. VIII group of the Mendeleev periodic table contains :

A. 6 elements

B. 12 elements

C. 3 elements

D. 9 elements

Answer: D



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1142. Non stoichiometric compounds are formed by :

A. Alkali metals

B. Transition elements

C. Noble gases

D. More than one of the above said
elements

Answer: B



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1143. Transition metals are less reactive than s-block metals because of their :

A. High ionisation potential and low melting point

B. High ionisation potential and high melting point

C. Low ionisation potential and low melting point

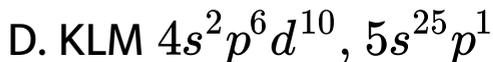
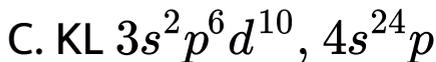
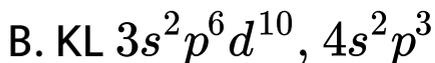
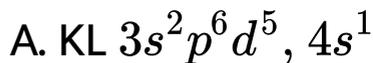
D. Low ionisation potential and high melting point

Answer: B



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1144. Which of the following electronic configuration belong to transition elements ?



Answer: A



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1145. Transition metals are placed in the long
form of periodic table between :

- A. 3rd and 4th group
- B. 1st and 3rd group
- C. 2nd and 13th group
- D. 1st and 2nd group

Answer: A



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1146. The numbers of ions formed on dissolving one molecule of

$FeSO_4(NH_4)_2SO_4 \cdot 6H_2O$ is :

A. 4

B. 5

C. 3

D. 6

Answer: B



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1147. Standard reduction potential of most of the transition elements is generally :

A. Negative

B. Positive

C. Zero

D. None

Answer: A



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1148. Which one of the following elements constitutes a major impurity in pig iron ?

A. Silicon

B. Oxggen

C. Sulphur

D. Graphite

Answer: D



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1149. Which of the following has highest b.p.t ?

A. Cr

B. Ti

C. Fe

D. Co

Answer: B



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1150. Most abundant transition element is :

A. Fe

B. Sc

C. Os

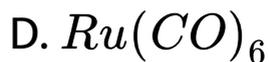
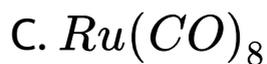
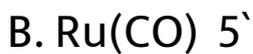
D. None

Answer: A



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1151. Ruthenium carbonyl is :



Answer: B



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1152. The lowest degree of paramagnetism is shown by :



Answer: C



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1153. Which of the following is double salt ?

A. Carnallite

B. Mohr's salt

C. Alum

D. All are correct

Answer: D

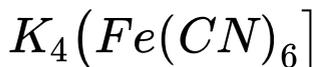


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1154. Prussian blue is formed when :

A. Ferrous sulphate reacts with $FeCl_3$

B. Ferrous sulphate reacts with



C. Ferrous ammonium sulphate reacts with



D. Ammonium sulphate reacts with $FeCl_3$

Answer: B



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1155. In haemoglobin the iron shows oxidation state :

A. + 2

B. + 3

C. + 1

D. + 4

Answer: B



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1156. An example of double salt is :

A. Bleaching powder

B. $K_4\{Fe[CN]_6\}$

C. Hypo

D. Potash alum

Answer: D



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1157. Which one of the following pairs of substances on reaction will not evolve H_2 gas ?

A. Iron and H_2SO_4 (aq)

B. Iron and steam

C. Copper and HCl

D. Sodium and ethyl alcohol

Answer: C



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1158. The most abundant ore of iron is :

A. Haematite

B. Limonite

C. Magnetite

D. Siderite

Answer: A



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1159. Colourless transition metal ion is:

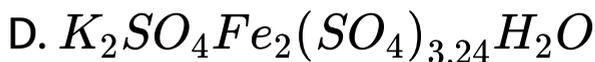
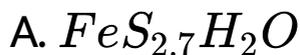


Answer: A



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1160. Mohr's salt is :



Answer: B



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1161. If a compound absorbs violet colour from the sunlight, then the observed colour is:

A. Yellow

B. Orange

C. Blue

D. Green

Answer: B



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1162. If orange - red colour is absorbed from white light, the observed colour is :

A. Yellow

B. Orange

C. Blue

D. Violet

Answer: C



Watch Video Solution

1163. Which transition elements exhibit +8 oxidation state ?

A. Cu,Zn

B. Ru,Os

C. Ag, Au

D. Cu, Cr

Answer: B



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1164. Colour in transition metal compounds is attributed to :

- A. Small size metal ions
- B. Absorption of light in the UV region
- C. Complete ns-subshell
- D. d-d transition

Answer: D



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1165. An acidified solution of $KMnO_4$ oxidises

:



Answer: A



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1166. The outermost shell electronic configuration $3d^5, 4s^2$ represents :

A. Ca

B. Mn

C. Te

D. Zn

Answer: B



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1167. Maximum paramagnetism in 3d -series

shown by :

A. Mn

B. Co

C. Ni

D. Fe

Answer: A



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1168. The stable oxidation states of Mn are:

A. +2, +3

B. +2, +7

C. +3, +7

D. +3, +5

Answer: B



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1169. The most stable ion is :



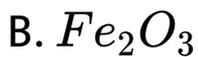
Answer: A



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1170. Which is not an interstitial compounds ?

A. Tin



Answer: B



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1171. The two electrons in helium atom:

A. 3d, 4s

B. 4s, 3d

C. 4f, 3d

D. 3d, 4f

Answer: B



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1172. Transition elements exhibit positive oxidation state only. This is because of :

A. Their large size of the atoms

B. Their electropositive nature

C. their electronegative nature

D. Their paramagnetic nature

Answer: B



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1173. The outside energy levels of an atom have the configuration $s^2p^6d^5S^2$. The atom belongs to :

A. Copper family

B. Zinc family

C. Iron family

D. Manganese family

Answer: D



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1174. 5f-level is successively filled up in :

A. Lanthanides

B. Actinides

C. Rare gases

D. Transition elements

Answer: B



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1175. Which sets are the transition elements ?

A. Ti, Zr, Hf

B. V, Nb, Ta

C. Rh, Rb, Pd

D. All

Answer: D



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1176. Lightest transition element is :

A. Fe

B. Sc

C. Os

D. Co

Answer: B



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1177. which metal adsorbs hydrogen ?

A. Pd

B. K

C. Al

D. Zn

Answer: A



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1178. An alloy of Al, Ni and Co used in permanent magnets is :

A. Invar

B. Nichrome

C. Alnico

D. None

Answer: C



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1179. Which is not ferromagnetic ?

A. Fe

B. Co

C. Ni

D. V

Answer: D



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1180. Which series of elements have nearly the same atomic radii ?

A. F, Cl, Br, I

B. Na, K, Rb, Cs

C. Li, Be, B, C

D. Fe, Co, Ni, Cu

Answer: D



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1181. Which of the following metals has been used in making boats because it has resistance to corrosion by sea water ?

A. W

B. Cu

C. Ni

D. Ti

Answer: D



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1182. Blue colour/ precipitate will be obtained when $K_4[Fe(CN)_6]$ reacts with :

A. Fe(II) ions

B. Cu(II) ions

C. Fe(III) ions

D. Cu(I) ions

Answer: C



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1183. Densest transition element is :

A. Fe

B. Sc

C. Os

D. Mn

Answer: C



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1184. Metallic bond is stronger in transition metals than alkali and alkaline earth metals because of :

- A. More number of electrons including d-electrons
- B. Large size of the atoms
- C. Paramagnetism
- D. Diamagnetism

Answer: A





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1185. $K_2Cr_2O_7$ on strong heating gives :

A. K_2CrO_4

B. Cr_2O_3

C. O_2

D. All

Answer: D



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1186. The properties of Zr and Hf are similar because :

- A. Both belong to d-block
- B. Both belong to same group of the periodic table
- C. Both have similar radii
- D. Both have same number of electrons

Answer: C



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1187. In general, the transition elements exhibit their highest oxidation state in their compounds with elements like :

A. C

B. S

C. S and P

D. F and O

Answer: D



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1188. When intimate mixture of potassium dichromate and potassium chloride is heated with cone . H_2SO_4 which of the following is produced in the form of red vapours :

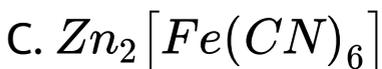
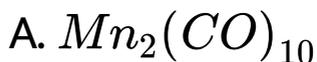


Answer: C



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1189. Transition metals form complexes in their zero oxidation state. The example of the above fact is :



Answer: A



1190. Platinum black is :

- A. Platinum metal mixed with MnO_2
- B. Velvety black powder obtained by reduction of platinum tetrachloride with glucose or sodium formate
- C. Platinum metal coated with black colour
- D. None of these

Answer: B



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1191. When manganese dioxide is fused with KOH in air, it gives

A. Potassium permanganate

B. Potassium manganate

C. Manganese hydroxide

D. Mn_3O_4

Answer: B



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1192. Which metal has the highest melting point ?

A. Pt

B. W

C. Pd

D. Au

Answer: B



1193. which has the lowest melting point ?

A. Cs

B. Na

C. Hg

D. Sn

Answer: C



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1194.

The

equilibrium



- A. Exists in acidic medium
- B. Exists in basic medium
- C. Exists in neutral medium
- D. It does not exist

Answer: B



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1195. Which of the following compounds is used as the starting material for the preparation of potassium dichromate ?

A. $K_2SO_4 \cdot Cr_2(SO_4)_3 \cdot 24H_2O$ (Chrome alum)

B. $PbCrO_4$ (Chrome yellow)

C. $FeCr_2O_4$ (Chromite)

D. $PbCrO_4$ (Chrome red)

Answer: C



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1196. Which of the following belong to the actinide series of elements ?

A. Y

B. Ta

C. U

D. Lu

Answer: C



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1197. C_4 cycle takes place in:

A. Basic medium

B. Acidic medium

C. Neutral medium

D. Both acidic and basic medium

Answer: A



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1198. The adsorption of hydrogen on palladium is called :

A. Hydrogenation

B. Occlusion

C. Reduction

D. Syneresis

Answer: B



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1199. Which transition metal is synthetic ?

A. Mo

B. Pm

C. Re

D. Tc

Answer: D



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1200. An acidified solution of $KMnO_4$ oxidises

:

A. Sulphates

B. Sulphites

C. Nitrates

D. Ferric salts

Answer: B



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1201. Which of the following statement is wrong ?

A. An acidified solution $K_2Cr_2O_7$ liberates iodine from iodides

B. In acidic solution dichromate ions are converted to chromate ions

C. Ammonium dichromate on heating undergoes exothermic decomposition to give Cr_2O_3

D. Potassium dichromate is used as a titrant for Fe^{2+} ions

Answer: B



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1202. The correct statement is:

A. (i) only

B. (i) and (ii)

C. (ii) and (iii)

D. All

Answer: A



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1203. Cerium can show the oxidation state of +4 because :

A. It resembles alkali metals

B. It has very low value of I.E.

C. Of its tendency to attain noble gas configuration of xenon

D. Of its tendency to attain f^0 configuration

Answer: D



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1204. In aqueous solution Eu^{2+} acts as :

A. An oxidising agent

B. Reducing agent

C. Can act as either of these

D. Can act as redox agent

Answer: B



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1205. Which of the two have almost similar size

:

A. ${}_{22}\text{Ti}$ and ${}_{40}\text{Zr}$

B. ${}_{41}\text{Nb}$ and ${}_{73}\text{Ta}$

C. ${}_{39}\text{Y}$ and ${}_{57}\text{La}$

D. ${}_{20}\text{Ca}$ and ${}_{31}\text{Ir}$

Answer: B



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1206. The lanthanide contraction relates to :

A. Atomic radii

B. Atomic as well as M^{3+} radii

C. Valence electrons

D. Oxidation states

Answer: B



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1207. The blue colour produced on adding H_2O_2 to acidified $K_2Cr_2O_7$ is due to the formation of :

A. CrO_5



Answer: A



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1208. The electronic configuration of actinides can not be assigned with degree of certainty because of :

- A. Small energy difference between 5f and 6d levels
- B. Overlapping of finer orbitals
- C. Free movement of electrons over all the orbitals
- D. None of the above

Answer: A



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1209. The inner transition elements are the elements in which the added electrons go to :

A. $(n-1)$ d-orbitals

B. $(n-2)$ f-orbitals

C. $(n-1)$ d- orbitals and $(n-1)$ f- orbitals

D. $(n-1)$ d- orbitals and ns-orbitals

Answer: B



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1210. Zr and Hf almost equal atomic and ionic radii because:

- A. Of diagonal relationship
- B. Both are in same group
- C. Of lanthanide contraction
- D. They have similar chemical properties

Answer: C



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1211. Which of the following is a lanthanide ?

A. Ta

B. Rh

C. Th

D. Lu

Answer: D



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1212. Which of the following transition elements is not resistant to corrosion ?

A. Co

B. Fe

C. Ni

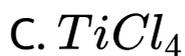
D. All

Answer: B



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1213. A xerophytic plant among the following is



Answer: A



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1214. Which forms interstitial compounds ?

A. Fe

B. Co

C. Ni

D. All

Answer: D



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1215. Which transition metal is used for the reduction of steam to hydrogen ?

A. Mg

B. Fe

C. Se

D. pt

Answer: B



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1216. Which of the following oxides of chromium is amphoteric in nature ?

A. CrO

B. Cr_2O_3

C. CrO_3

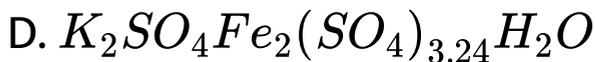
D. CrO_5

Answer: B



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1217. Chromium compound used in tanning of leather is:



Answer: D



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1218. Steel that is resistant to acids is :

A. Carbon steel

B. Molybdenum steel

C. Stainless steel

D. Nickel steel

Answer: B



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1219. Permanent magnets are generally made of alloys of :

A. Co

B. Zn

C. Sb

D. Pb

Answer: A



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1220. The highest magnetic moment is shown by the transition metal ion with the outer electronic configuration :

A. $3d^2$

B. $3d^5$

C. $3d^1$

D. $3d^9$

Answer: B



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1221. Dilute alkaline solution of $KMnO_4$ is called :

A. Baeyer's reagent

B. Fenton's reagent

C. Mayer's reagent

D. Grignard's reagent

Answer: A



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1222. From a solution of $CuSO_4$, the metal used to recover copper is :

A. Na

B. Ag

C. Hg

D. Fe

Answer: D



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1223. When $KMnO_4$ reacts with acidified

$FeSO_4$:

A. Only $FeSO_4$ is oxidised

B. Only $KMnO_4$ is oxidised

C. $FeSO_4$ is oxidised and $KMnO_4$ is
reduced

D. None of the above

Answer: C



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1224. Acidified potassium dichromate is treated with hydrogen sulphide. In the reaction the oxidation number of chromium :

- A. Increase from +3 to +6
- B. Decreases from +6 to +3
- C. Remains unchanged
- D. Decreases from +6 to +2

Answer: B



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1225. CrO_3 dissolves in aqueous NaOH to give

:

A. CrO

B. $Cr(OH)_2$

C. Cr_2O_5

D. $Cr(OH)_3$

Answer: A



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1226. An explosion takes place when conc. H_2SO_4 is added to $KMnO_4$. Which of the following is formed :



Answer: A



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1227. Copper nitrate on strongly heating gives:

A. Cu

B. Cupric oxide

C. Cuprous oxide

D. Cupric nitrate

Answer: B



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1228. The co-ordination number of Cu in

$Cu(NH_3)_4^{2+}$ is:

A. 4

B. 5

C. 3

D. 6

Answer: A



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1229. Coinage alloy has the composition of:

A. Ag+Cu+Ni

B. Au+Ag+Cu

C. Au+Zn+Ag

D. Ag+Fe+Cu

Answer: A



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1230. The oxidation state of copper is:

A. + 1

B. + 1 and + 2

C. + 2

D. + 1, + 2 and + 3

Answer: B



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1231. A metal is left exposed to air for some time. It becomes coated with basic green carbonate. The metal is:

A. K

B. Cu

C. Zn

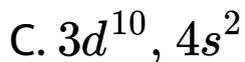
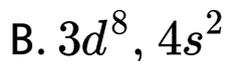
D. Al

Answer: B



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1232. The short hand configuration of Cu(Z=29) is:



D. None

Answer: C



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1233. In solid $CuSO_{4.5}H_2O$, copper is coordinated to:

- A. 4 water molecules
- B. 5 water molecules
- C. 1 sulphate molecule
- D. 1 water molecule

Answer: A



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1234. The fraction of chlorine precipitated by $AgNO_3$ solution from $[Cu(NH_3)_5Cl]Cl_2$ is:

A. 44228

B. 44257

C. 44256

D. 44287

Answer: B



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1235. Gold and silver are called noble metals, because:

- A. They do not normally react
- B. Even acids cannot dissolve them
- C. They are used in jewellery
- D. They are worn by noble men

Answer: A



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1236. Which configuration represents a coinage metal?

A. 2,8,8,3

B. 2,8,8,2

C. 2,8,1

D. 2,8,18,1

Answer: D



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1237. Photographic films or plates have as an essential ingredient:

A. Silver bromide

B. Silver oxide

C. Silver thiosulphate

D. Silver nitrate

Answer: A



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1238. Which metal is not used for making coins

?

A. Gold

B. Silver

C. Nickel

D. Tungsten

Answer: D



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1239. Transition electronic that show anomalous electronic configuration in first series are:

A. Cr and Ni

B. Cu and Co

C. Fe and Ni

D. Cr and Cu

Answer: D



Watch Video Solution

1240. Which metal shows variable valency?

A. Na

B. Cd

C. Zn

D. Cu

Answer: D



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1241. Blue vitriol is:





Answer: C



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1242. Carat is a measure of:

- A. Impure gold
- B. Purity of gold
- C. Pure gold

D. None

Answer: B



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1243. Magnetic moment of $[Ag(CN)_2]^-$ is zero. How many unpaired electrons are there:

A. Zero

B. 4

C. 3

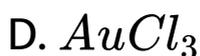
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Answer: A



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1244. Fulminating gold is:



Answer: C



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1245. H_2S is passed through acidified solution of $CuSO_4$ and black ppt is formed. This is due to:

- A. Oxidation of Cu^{2+}
- B. Reduction of Cu^{2+}
- C. Double decomposition
- D. Reduction and oxidation

Answer: C



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1246. Copper metal is not used:

- A. In taps and water connections
- B. As an alloy in high speed drills
- C. In electric motor coils
- D. In brass utensils

Answer: B



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1247. The common metal in brass, bronze and German silver is:

A. Cu

B. Mg

C. Al

D. Zn

Answer: A



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1248. Copper reduces:

A. Na

B. Al

C. Mg

D. None

Answer: D



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1249. Which of the following is diamagnetic?



Answer: B



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1250. $AgCl$ on fusion with Na_2CO_3 gives:

A. Ag

B. $AgCO_3$

C. Ag_2O

D. Ag carbide

Answer: A



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1251. Copper cannot replace From solution:

A. Ag

B. Hg

C. Au

D. Fe

Answer: D



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1252. Gold exhibits the variable oxidation states of:

A. + 2, + 3

B. + 1, + 3

C. + 2, + 4

D. + 1, + 2

Answer: B



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1253. Which metal does not react with water or steam ?

A. K

B. Na

C. Ca

D. Cu

Answer: D



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1254. The metal that does not liberate H_2 from dilute H_2SO_4 is:

A. Al

B. Mg

C. Cu

D. Zn

Answer: C



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1255. Articles made of copper and bronze slowly tarnish in air and turn green. The green colour is due to the formation of:

A. Copper oxide

B. Copper sulphide

C. Copper oxalate

D. Basic copper carbonate

Answer: D



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1256. NH_3 does not form complex with:

A. AgI

B. AgBr

C. AgCl

D. None

Answer: A



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1257. NH_3 forms complex with:

A. $CuSO_4$

B. $CdSO_4$

C. AgCl

D. All

Answer: D



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1258. The precipitate of AgCl is soluble in :

A. NH_4OH

B. HNO_3

C. H_2O

D. HCl

Answer: A



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1259. When copper nitrate is strongly heated, the residue consists of:

A. Copper dioxide

B. Cuprous oxide

C. Cupric oxide

D. Copper nitrate

Answer: C



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1260. Which of the following is paramagnetic ?

A. $CuCl_2$

B. $CaCl_2$

C. $CdCl_2$

D. None

Answer: A



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1261. Each coinage metal has:

- A. 18 electrons in their penultimate shell
- B. 8 electrons in the outermost shell
- C. 2 electrons in the outermost shell
- D. 8 electrons in penultimate shell

Answer: A



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1262. The element that does not form a nitride is:

A. Al

B. Mg

C. Ag

D. Ca

Answer: C



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1263. is the best conductor of electricity among coinage metals:

A. Ag

B. Cu

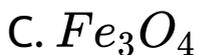
C. Au

D. All

Answer: A



1264. In the extraction of copper from copper pyrites, iron is removed as:



Answer: B



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1265. The flux used in the smelting of copper is:

A. Limestone

B. Magnesia

C. Silica

D. Coke

Answer: C



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1266. Fool's gold is:



C. BOTH (A) AND (B)

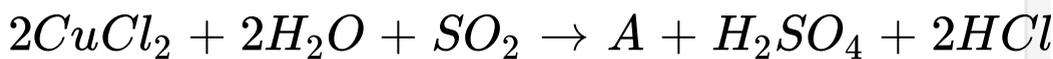
D. None

Answer: C



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1267. In the reaction:



, A is:



Answer: A



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1268. Hair dyes contain:

- A. Copper nitrate
- B. Gold chloride
- C. Silver nitrate
- D. Copper sulphate

Answer: C



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1269. Silver nitrate is usually supplied in coloured bottles because it is:

- A. Oxidised in air
- B. Decomposed in sunlight
- C. Explodes in sunlight
- D. Reactive towards air in sunlight

Answer: B



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1270. Preparation of looking mirrors involves the use of:

A. Red lead

B. Ammonical silver nitrate

C. Ammonical $AgNO_3$ + red lead

D. Ammonical $AgNO_3$ + red lead + HCHO

Answer: D



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1271. Silver amalgam is used in:

A. Silvering of mirror

B. Filling of teeth

C. Both (a) and (b)

D. None

Answer: C



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1272. Sterling silver:

A. Is an alloy of Ag + Cu

B. Contains 80 % Ag + 20 % Cu

C. Is used in jewellery

D. All

Answer: D



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1273. Which metal is used to add to gold to make it hard ?

A. Cu

B. Ag

C. Ni

D. Zn

Answer: A



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1274. Which is not an ore of gold ?

A. Svanite

B. Calaverite

C. Covellite

D. Bismuth aurite

Answer: C



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1275. Horn silver is:

A. AgCl

B. Ag_2S

C. SnS

D. AgNO_3

Answer: A



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1276. Silver possesses metallic lusture because:

A. It is noble metal

B. It is coated with the oxide of silver

C. Valency electrons absorb white light completely

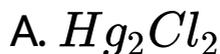
D. Valency electrons absorb and eject white light

Answer: D



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1277. When excess of SnCl_2 is added to a solution of HgCl_2 , a white ppt. turning to grey is obtained. This grey colour is due to the formation of:



Answer: D



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1278. Melting of Zn metal and then pouring it into cold water gives:

- A. Zn dust
- B. Granulated Zn
- C. Hard Zn metal
- D. Soft Zn metal

Answer: B



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1279. Zinc reacts with conc. H_2SO_4 to produce:

A. $ZnSO_4$

B. $ZnCO_3$

C. Zn

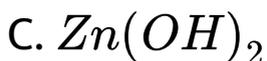
D. None

Answer: A



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1280. On heating $ZnCl_{2.2}H_2O$ the compound obtained is:

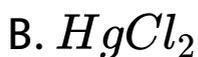


Answer: B



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1281. The compound used in preservation of wood is:



Answer: C



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1282. Granulated Zn is obtained by:

A. Suddenly colling molten Zn

B. Adding molted Zn to water

C. Haeating Zn to 100 to $150^{\circ}C$

D. Dropping molten Zn drop by drop

Answer: B



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1283. Roasting of HgS in air produces:

A. HgO

B. $HgSO_3$

C. $HgSO_4$

D. Hg

Answer: D



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1284. The flux used in soldering galvanised iron is:

A. HgO

B. ZnO

C. CdO

D. None

Answer: B



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1285. Which metal is used in making cathode containers of dry cell?

A. Zn

B. Bi

C. Cr

D. Fe

Answer: C



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1286. Which statement is correct ?

A. Cd rods are used in atomic reactors to slow down nuclear reaction

B. Cd is a good absorber of neutrons

C. CdS is used as pigment

D. All

Answer: D



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1287. Usefull lanthanide member is:

A. Cerium

B. Lanthanum

C. Neodymium

D. Lutertium

Answer: A



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1288. The lanthanide contraction is responsible for the fact that:

- A. Zr and Y have almost the same radius
- B. Zr and Nb have similar oxidation state
- C. Zr and Hf have almost the same radius
- D. r and Zn have same oxidation state

Answer: C



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1289. Which of the following elements is responsible for oxidation for water to O_2 in the biological process?

A. Fe

B. Mn

C. Cu

D. mo

Answer: B



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1290. The metal ion which does not form a coloured compound is:

A. Chromium

B. Iron

C. Zinc

D. Manganese

Answer: C



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1291. Which of the following ions is coloured?

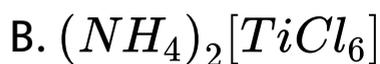


Answer: B



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1292. Among the following the compound that is both paramagnetic and coloured is:



Answer: C



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1293. Which of the following compounds is expected to be coloured ?



Answer: B



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1294. Which of the following elements shows maximum number of different oxidation states in its compounds ?

A. Eu

B. La

C. Gd

D. Am

Answer: C



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1295. Which one of the following ionic species will impart colour to an aqueous solution ?



Answer: D



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1296. Which compound does not dissolve in hot, dilute HNO_3 ?

A. Hgs

B. PbS

C. CuS

D. Cds

Answer: A



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1297. An aqueous solution of $FeSO_4 \cdot Al_2(SO_4)_3$ and chrome alum is heated with excess of Na_2O_2 and filtered. The materials obtained are:

- A. A colourless filtrate and a green residue
- B. A yellow filtrate and a green residue
- C. A yellow filtrate and brown residue
- D. A green filtrate and a brown residue

Answer: C



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1298. Ammonium dichromate is used in some fireworks. The green coloured powder blown is:



Answer: B



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1299. Muntz metal is an alloy of:

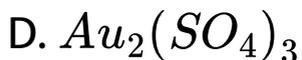
- A. Cu and Sn
- B. Cu and Zn
- C. Ag and Zn
- D. Zn and Mn

Answer: B



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1300. A substance which turns blue when treated with water is:



Answer: A



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1301. Which is used as substitute for platinum in jewellery?

- A. Rolled gold
- B. White gold
- C. Purple of cassius
- D. Faraday's gold

Answer: A



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1302. Oxygen is absorbed by molten Ag, which is evolved on cooling and the silver particles are scattered, the phenomenon is known as:

- A. Silvering of mirror
- B. Spitting of silver
- C. Frosting of silver
- D. Hairing of silver

Answer: B



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1303. Common oxidation state of element of atomic number 47 is:

A. +1

B. +2

C. +3

D. +4

Answer: A



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1304. The material used for the lining of Bessemer' s converter in the extraction of copper is:

A. Silica

B. Lime

C. Iron

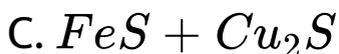
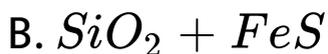
D. Cu

Answer: B



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1305. The matte obtained in the extraction of copper contains:

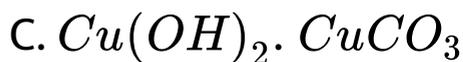
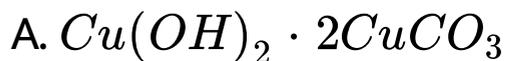


Answer: C



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1306. The chemical formula of azurite is:



Answer: A



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1307. Cuprous salts are generally colourless while cuprous oxide is:

A. Green

B. Blue

C. Red

D. Yellow

Answer: C



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1308. A black sulphide is obtained by action of

H_2S on:

A. $CuCl_2$

B. $CdCl_2$

C. $ZnCl_2$

D. $NaCl$

Answer: A



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1309. $AuCl_3$ when heated in air gives:

- A. Gold oxide
- B. Gold perchlorate
- C. Gold nitride
- D. AuCl

Answer: D



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1310. From sodium aurocyanide

$Na[Au(CN)_2]$, gold can be precipitated by

adding powder of:

A. Zn

B. Hg

C. Ag

D. None of these

Answer: A



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1311. Which substance can be used in the preparation of marking ink?

A. Ag

B. $AgNO_3$

C. AgBr

D. $PbCO_3 \cdot Ph(OH)_2$

Answer: B



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1312. Which is used for electrical purposes:

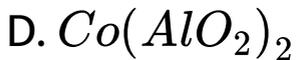
- A. German silver
- B. Beryllium bronze
- C. Constantan
- D. Fool's gold

Answer: C



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1313. Paris green is:



Answer: C



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1314. Rio Tinto process is used for extraction of:

A. Cu

B. Ag

C. Al

D. Au

Answer: A



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1315. Silver nitrate solution is kept in brown bottles in laboratory because:

A. It reacts with ordinary white bottles

B. Brown bottles cut the passage of light through it

C. Brown bottles do not react with it

D. Ordinary bottles catalyse its decomposition

Answer: B



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1316. Mac Arthur and Forest cyanide process is used in the extraction of:

A. Cu

B. Ag and Au

C. Fe

D. Cr

Answer: B



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1317. The co-ordination number of copper in the complex formed by adding excess of NH_3 to $CuSO_4$ solution is:

A. 4

B. 2

C. 6

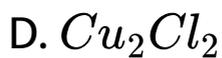
D. 5

Answer: A



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1318. Ruby copper is:



Answer: A



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1319. Which method is based on distribution law ?

- A. Mond's process
- B. Parkes process
- C. Cupellation process
- D. Poling process

Answer: B



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1320. Which of the following compounds is expected to be coloured ?



Answer: B



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