CHEMISTRY

BOOKS - MODERN PUBLICATION

D-AND F-BLOCK ELEMENTS

Exercise

1. Which compound cannot be prepared ?

A. $Zn(OH)_2$

B. $Cd(OH)_2$

C. $Hg(OH)_2$

D. $HgCl_2$

Answer: C

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2. Black HgS:

A. Dissolves in cone. HCl on boiling

B. Dissolves in boiling HCl + a crystal of $KClO_3$

C. Dissolves in $NaOH$

D. None

Answer: B

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3. Which is known as Philospher.s wool ?

A. HgO

B. CdO

C. BaO

D. ZnO

Answer: D

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4. Which compound is deliquescent ?

A. Hg_2Cl_2

B. $HgCl_2$

C. $Zncl_2$

D. $CdCl_2$

Answer: C

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5. 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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6. An important Zn ore is :

A. Calamine

B. Pitch blende

C. Cryolite

D. None

Answer: A

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7. Chemical name of vermilion is :

A. Mercuric sulphide

B. Mercurous sulphide

C. Zinc sulphide

D. Cadmium sulphide

Answer: A

8. ZnS containing minute traces of MnS becomes :

A. Deliquescent

B. Phosphorescent

C. Hygroscopic

D. None

Answer: B

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9. $Mercury$ tree can be prepared :

A. By mixing up mercuric thiocyanate and gum

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

C. By pouring little mercury into $AgNO_3$

D. By heating mercuric chloride

Answer: C

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10. 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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11. Which compound is used as a purgative in medicine?

A. $HgCl_2$

B. Hg_2Cl_2

C. $CuCl$

D. $CuCl_2$

Answer: B

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12. Which of the following is poison?

A. Zn

B. ZnO

C. $Zn(NO_2)_2$

D. NO

Answer: B

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

A. Hg,Cl_2

B. $BaSO_4$

C. $HgCl_2$

D. $NaHCO_3$

Answer: C

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14. The formula of mercurous ion is:

A. $ZnCl_2$

B. $CuSO_4$

C. Hg,Cl_2

D. $HgCl_2$

Answer: C

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15. The formula of mercurous ion is:

A. Hg^{+}

B. Hg_2

C. $Hg^{+2}\_(2)$

D. $Hg^{+2}\_(2)$

Answer: C

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

A. H_2S

B. KI

C. $NaOH$

D. NH_4OH

Answer: B

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17. The formula of zinc chloride with ammonia is:

A. $\left[Zn(NH_3)_2\right]Cl$

B. $(NH_4)_2ZnO_2$

C. $\left[Zn(NH,)_4\right]Cl_2$

D. $\left[Zn(NH_3)_6\right]Cl_2$

Answer: C

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

A. Cationic part

B. Amionic acid

C. Both (a) and (b)

D. None

Answer: B

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19. 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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20. Which statement about Hg is correct?

A. Hg is the only liquid metal.

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

C. Hg forms no amalgamq with iron and platinum

D. All

Answer: D

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

A. Mn^{+3}

B. Cr^{+3}

C. V^{3+}

D. Ti^{+3}

Answer: B

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22. In which of the following pairs, both the ions are coloured in aqueous solution?

A. SC^{3+}, Ti

B. Sc^{+3}, Co^{+2}

C. $Ni^{2+}. Cu^{+}$

D. Ni^{+2}, Ti^{+3}

Answer: D

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23. Lanthanide contraction is due to ___

A. the same effective nuclear charge

B. the imperfect shielding on outer electrons

C. the appreciable shielding on outer electrons

D. none of these

Answer: B

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24. Among the following out electronic configuration of atoms the highest oxidation state is achieved by which of the following :

A. (n-1)d^(8)ns^(2)

B. (n-1)d^(5)ns^(2)

C. (n-1)d^3ns^2

D. (n-1)d^(5)ns^(1)

Answer: B

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25. A reduction in atomic size with increase in atomic number is a characterstic of elements of

A. d-block

B. f-block

C. radioactive series

D. none of these

Answer: B

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26. Manganese exhibits highest oxidation state of +7. Give reason.

A. K_2MnO_4

B. $KMnO_4$

C. MnO_2

D. Mn_3O_4

Answer: B

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27. The colour of $\left[Ti(H_2O)_6\right]^{3+}$ + is due to:

A. excitation of electron from t_{2g} to lg orbital

B. presence of water molecules

C. interatomic transfer of electrons

D. none of the above

Answer: A

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28. Pig iron :

A. cast iron

B. wrought iron

C. steel

D. stainles steel

Answer: A

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

A. blue vitriol

B. green vitriol

C. violet vitriol

D. white vitriol

Answer: B

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30. Inblastfurnace, iron oxide is reduced to iron by

A. carbon

B. limestone

C. CO

D. CO_2

Answer: C

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31. Red P on heating with HNO_3 gives :

A. $CuSO_4$, H_2O

B. $CuSO_4$

C. $CuO + SO_2$

D. $CuSO_4$,$2H_2O$

Answer: B

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32. German Silver is an alloy of Copper and:

A. Zn and Ni

B. Al

C. Zn

D. Fe

Answer: A

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33. The carbo content of :

A. cast iron

B. wrought iron

C. stainless steel

D. mild steel

Answer: A

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34. Galvanised iron sheets have coating of :

A. Cu plating

B. Zn plating

C. Ag plating

D. tin plating

Answer: B

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35. KI and $CuSO_4$ solution when mixed give

A. $CuI_2 + K_2SO_4$

B. $Cu_2I_2 + K_2SO_4$

C. $K_2SO_4 = Cu_2I_2 = I_2$

D. $K_2SO_4 + CuI_2 + I_2$

Answer: C

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36. 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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37. The fusible alloy of cadmium is

A. Bell metal

B. Monel metal

C. Wood metal

D. Guinea gold

Answer: C

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38. Stainless steel does not rust because :

A. Nickel prtesent 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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39. 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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40. Iron gets rusted due to the action of :

A. Oxygen

B. Water

C. Moisture

D. All of these

Answer: D

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41. 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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42. Essential constituent of an amalgam is :

A. Fe

B. An alkali metal

C. Silver

D. Mercury

Answer: D

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43. 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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44. In Gold Schmidt reaction , certain metallic oxides are reduced to the metallic state by heating with :

A. $Dil.\ HNO_3$

B. $Dil.\ H_2SO_4$

C. Water

D. Aqua-regia

Answer: A

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45. Spelter is:

A. Impurer Cu

B. Impure zinc

C. ZnO

D. CuO

Answer: B

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46. 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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47. Chemical name of corrosive sublimate is :

A. Mercurous chloride

B. Zinc chloride

C. Mercuric chloride

D. Aluminium chloride

Answer: C

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48. A lady's 18 carat gold wedding ring has become discoloured with some minutr 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 hydrocloric acid

C. Heat it gently in a sand -bath

D. Heat it in chlorine

Answer: C

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49. Mercury on heating with aqua - regia yields

:

A. $Hg(NO_3)_2$

B. $HgCl_2$

C. $Hg(NO_2)_2$

D. Hg_2Cl_2

Answer: B

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50. 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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51. Which statement about corrosive sublimate is incorrect ?

A. it is prepared by heating mercury in chlorine

B. It reduces styannic chloride

C. It oxidises stannuous chloride

D. It sublimes readily

Answer: B

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52. Nessler's reagent is :

A. Hg^{+}

B. Hg^{+2}

C. $HgI^{-2}\_(2)$

D. $HgI^{-2}\_(4)$

Answer: D

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53. Calamine is :

A. Hg_2Cl_2 and Hg

B. $HgCl_2$

C. $HgCl_2$

D. Hg_2Cl_2

Answer: D

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54. Cinnabar is an ore of :

A. Lead

B. Zinc chloride

C. Silver

D. Mercurus

Answer: D

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55. 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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56. 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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57. The substance that sublimes on heating is :

A. $MgCl_2$

B. $AgCl$

C. $HgCl_2$

D. $NaCl$

Answer: C

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58. Calamine is :

A. $ZnSO_4$

B. $ZnCO_3$

C. ZnO

D. $CaCO_3$

Answer: B

59. Mercury is transpored in metal containers made of :

A. Silver

B. Lead

C. Iron

D. Aluminium

Answer: C

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60. Sulphide ore of zinc is concentrated by :

A. Flotation process

B. Electromagnetic process

C. Gravity process

D. Distillation

Answer: A

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

A. Ag^(+)

B. Cu^{+2}

C. Fe^{+2}

D. Na^{+}

Answer: D

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62. Nessler's reagent is :

A. $KHgI_4$

B. K_2Hgl_4

C. $K_2Hgl_4 + NaOH$

D. $KHgl_4 + NaOH$

Answer: C

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63. Rinman.s green is :

A. $ZnO.CoO$

B. A green pigment

C. Both (a) and (b)

D. None

Answer: C

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64. Ozone reacts with

A. $Hg_{NH_2}Cl$

B. $H_2N - Hg - Hg - Cl$

C. Hg_2O

D. HgO

Answer: A

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65. Mercury forms amalgams with all except :

A. Al

B. Zn

C. Ni

D. Fe

Answer: D

66. Which statement about group 12 elements is wrong ?

A. Zinc forms an alloy with copper

B. Zn^{2+} is stable

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

D. Hg is a liquid element

Answer: B

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67. Which metal cation forms stronger complex salt ?

A. Zn^{+2}

B. Cd^{2+}

C. $Hg_2 +$

D. All of same strength

Answer: C

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68. 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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69. Mercury is purified by :

A. Solidifying

B. Distillation in vacuum

C. Treatment with $Dil.\ HNO_3$

D. Electrolytic method

Answer: B

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70. The calomel present in an electrode is :

A. $Hg_2Cl_2 + Hg$

B. Hg_2Cl

C. $Hg + HgCl$

D. $HgCl_2$

Answer: B

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71. 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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72. Zinc sulphate is known as :

A. Zinc blende

B. White vitriol

C. Blue vitriol

D. Calamine

Answer: B

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

A. $MnSO_4.4H_2O$

B. $ZnSO_4.7H_2O$

C. $FeSO_4.7H_2O$

D. $NiSO_4.6H_2O$

Answer: B

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75. 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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76. 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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77. In the reaction $SnCl_2 + 2HgCl_2 \rightarrow A + SnCl_4$, A is :

A. $HgCl_2$

B. Hg

C. $HgCl$

D. $HgCl_3$

Answer: A

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78. The colour of Zinc sulphide is:

A. Yellow

B. White

C. Brown

D. Black

Answer: B

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

A. Zn

B. Cu

C. Ag

D. Fe

Answer: A

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80. In the reaction

$HgCl_2 + 4KI \rightarrow M + 2KCl,$

A. Hgl_2

B. K_2Hgl_3

C. K_2Hgl_4

D. $KHgl_3$

Answer: C

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81. 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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82. In which types of endosperm are the first division cellular?

A. iron , nickel , cobalt

B. nickel , cobalt , iron

C. iron , cobalt , nickel

D. cobalt , nickel , iron

Answer: C

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

A. Carbon filters

B. Compressed air

C. Limestone

D. Sulphuric acid

Answer: C

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84. The d-block elements form alloys among themselve, because

A. they absorb some engry for d-s transition

B. they absorb some energy for p-d transition

C. they absorb some energy for d-d transition

D. they do not absorb any energy

Answer: C

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85. Write some characteristics of transition elements.

A. having unpaired electrons in d - subshell

B. having paired electrons in d- subshell

C. providing empty d - orbitals

D. having small charge / size ratio

Answer: C

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86. Most of the known elements are :

A. Metals

B. Non - metals

C. Transition elements

D. Rare earths

Answer: A

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87. Mn belongs to :

A. s-block

B. p-block

C. d-block

D. f-block

Answer: C

88. An aqueous solution of ferric chloride is acidic. Explain.

A. Covalent

B. Ionic

C. coordinate

D. none of the above

Answer: A

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89. Orford process is used in extraction of:

A. Fe

B. Co

C. Pt

D. Ni

Answer: D

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90. Red P on heating with HNO_3 gives :

A. $CuSO_4 . H_2O$

B. $CuSO_4$

C. $CuO + SO_2$

D. $CuSO_4 . 2H_2O$

Answer: B

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91. Densest transition element is :

A. it forms well - known double salts

B. it forms stable complex salts

C. it rusts when exposed to moist air

D. it decomposes steam at a high temperature

Answer: B

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92. Permanent magnets are generaly made of alloys of :

A. Fe

B. Co

C. Ni

D. Any one of these

Answer: D

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93. Which forms interstitial compounds ?

A. Fe

B. Co

C. Ni

D. All

Answer: D

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94. 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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95. 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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96. The carbo content of :

A. Cast iron is in betweeu•ghat of steel and wrought iron

B. Pig iron is 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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97. Near the top of a blast furnace employed for the extrction 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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98. Which of the following oxides of chromium is amphoteric in nature ?

A. CrO

B. Cr_2O_3

C. CrO_3

D. Cr_2O

Answer: C

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

A. $Zn + Pb$

B. $Fe + HG$

C. $Pt + Hg$

D. $Fe + C$

Answer: D

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100. In the netallurgy 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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101. Which of the following transition metals show the maximum oxidation state ?

A. Fe

B. Mn

C. Cr

D. Cu

Answer: B

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102. the colour of the transition metal or its ion is due to

A. p-p trasition

B. d-d transition

C. paired electrons

D. none of these

Answer: B

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103. Zinc oxide is :

A. red in colour

B. black in colour

C. green in colour

D. colourless

Answer: B

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104. What happens when NH_4OH solution is added dropwise to copper sulphate solution till excess ?

A. $\underline{\underline{C}}\ (2)$ is formed

B. Cu_2l_2 is formed

C. I_2 is evolued

D. $Cu_2l_2 + l_2$ is formed

Answer: D

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105. Blue vitriol is:

A. FeO is formed

B. Fe_2O_3 is formed

C. $FeO + Fe_2O_3$ are formed

D. None of these

Answer: B

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106. 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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107. 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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108. Which occurs in nature in free state ?

A. Fe

B. Co

C. Ni

D. Pt

Answer: D

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109. 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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110. Transition elements are good conductor of current because :

A. They are metals

B. They are metals

C. They have free elements in outer energy orbits

D. All of these

Answer: D

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111. Iron is :

A. Normal elements

B. Transition element

C. Typical element

D. Inert element

Answer: D

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112. Transition elements are coloured due to:

A. Small size

B. Metallic nature

C. Unpaired d-electrons

D. None

Answer: C

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113. 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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114. 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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115. Formation of intertitial compounds make the transition metal :

A. More soft

B. More ductile

C. More metallic

D. More brittle

Answer: D

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116. Give IUPAC names of the following compounds

$[Ag(NH_3)_2]^+$, $[Cu(NH_3)_4]^+$, $[Cr(H_2O)_4Cl_2]$, $K_2[PtCl_6]$, $[Fe(CN)_6]^{4-}$, $[Co(\text{en})_2Cl_2]SO_4$,

$[Cr(NH_3)_3Cl_3](H_2O)_2, Na_3[Co(NO_2)_6],$

$[Co(\text{en})_2Cl(NO_2)]^+, [Pt(NH_3)Cl_5]^-$

A. Fischer's salt

B. Thenard's blue

C. Rinman's green

D. Blue vitriol

Answer: A

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117. Prussian blue is :

A. $K_3\left[Fe(CN)_6\right]$

B. $Fe_4\left[Fe(CN)_6\right]_3$

C. $K_2Fe\left[Fe(CN)_6\right]$

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

Answer: B

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118. Ferrous sulphate is called as:

A. Green vitriol

B. White vitriol

C. Jewellers rouge

D. Glauber's salt

Answer: A

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119. Percentage of nickel in nickel steel is :

A. 0.015

B. 0.035

C. 0.065

D. 8.5 %

Answer: B

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120. Iron is obtained on large scale from haematite,

A. By reduction

B. By oxidation

C. By reduction followed by oxidation

D. By oxidation followed by reductionn

Answer: B

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121. 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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122. 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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123. Which statement is incorrect

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

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

C. Iron belongs to first transition series

D. Iron belongs to group VIII of the periodic

Answer: B

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124. Addition of $FeCl_3$ solution to $K_4\left[Fe(CN)_6\right]$ solution gives :

A. Ferro-ferricyanide

B. Ferri-ferrocyanide

C. Ferri-ferricyanide

D. None

Answer: B

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125. Fe ore is concentrated by :

A. Magnetic treatment

B. Froth floatation

C. Electolysis

D. Roasting

Answer: A

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126. Finely divided iron combines with CO to give :

A. $Fe(CO)_4$

B. $Fe(CO)_5$

C. $Fe_{CO\ -}(6)$

D. $Fe(CO)_7$

Answer: B

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127. The term fools gold is used for a mineral which shines likes gold . It is :

A. Iron pyrite

B. Copper glance

C. Cinnabar

D. Cadmium sulphide

Answer: A

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128. The formula of sodium nitroprusside is:

A. $Na_4\left[Fe(CN)_5NOS\right]$

B. $Na_2\left[Fe(CN)_NO\right]$

C. $NaFe\left[Fe(CN)_6\right]$

D. $Na_2\left[Fe(CN)_6NO_2\right]$

Answer: B

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129. Magnetite is :

A. $2Fe_2O_3.3H_2O$

B. FeS_2

C. Fe_3O_4

D. Fe_2O_3

Answer: C

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130. Automobile engine blocks are made up of :

A. stainless and chromium

B. Nickel-chromium steel

C. Cast iron

D. Wrought iron

Answer: C

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131. Invar is an alloy of :

A. steel and chromium

B. Vanadium and manganese

C. Tungsten

D. steel and nickel

Answer: D

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132. Pig iron :

A. contains carbon and other impurities

B. Is pure form of iron

C. Is same as wrought iron

D. Is same as steel

Answer: A

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133. The formula of haematite is :

A. Fe_3O_4

B. $Fe_2O(3)$

C. $FeCO_3$

D. FeS_2

Answer: B

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134. Iron rusts in the persence of :

A. O and N_2

B. O_2 and moisture

C. Moisture only

D. O_2 only

Answer: B

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135. Which match is inccorect ?

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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136. Iron, once dipped in concentratred 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. Mac Arther and Forrest process _____extraction of sliver

D. Dow's process ------manufacture of phenol

Answer: C

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137. Wood's metal is an alloy of :

A. pb

B. Zn

C. A layer of oxide is deposited on it

D. None

Answer: A

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138. The grey cast iron contains:

A. Iron carbide

B. Silicon carbide

C. Fe

D. Sn

Answer: D

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139. Soft and pliable steel is obtained by :

A. Tempering

B. Nitriding

C. Silicon dioxide

D. Graphite

Answer: C

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140. Pig iron is manufactured by:

A. An electric furnace

B. A blast furnace

C. Annealing

D. None

Answer: B

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

A. stainless steel

B. pig iron

C. An open hearth furnace

D. None of these

Answer: B

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142. Clock pendulums are made from :

A. Brass

B. Invar

C. Solder

D. German silver

Answer: B

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143. Steel that is resistant to acids is :

A. carbon steel

B. Molybdenum steel

C. Solder

D. German silver

Answer: B

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

A. Fe

B. Cu

C. Stainless level

D. Nickel alloy steel

Answer: A

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

A. $Fe$and Al

B. Sn and Zn

C. Ag

D. Zn

Answer: D

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146. Other forms of iron can be produced from

:

A. cast iron

B. wrought iron

C. Pt or Au

D. Cu or Ni

Answer: C

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147. Usefull lanthanide member is:

A. cerium

B. Lanthanum

C. Pig iron

D. Steel

Answer: A

148. Eu. and .Yb. show + 2 oxidation state, whereas + 4 oxidation state is shown by Ce and Tb. Why?

A. Eu

B. La

C. Neohymium

D. Lutetium

Answer: C

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149. Which of the two have almost similar size :

A. Ti_{22} and Zn_{40}

B. Nb_{41} and Te_{73}

C. Y_{39} and La_{57}

D. Co_{20} and Ir_{77}

Answer: B

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150. Mn belongs to :

A. Y

B. Ta

C. U

D. Lu

Answer: C

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151. Transition elements are:

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152. Copper metal is not used:

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153. Zinc oxide is used in:

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

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155. Heat of combustion is also known as _____.

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156. Fe_3O_4 is known as _____ .

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157. CH_2Cl_2 is the formula of

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158. Nitrous oxide is

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159. The pollination by bats is known as _____.

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

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161. Labeo and catla are ____ .

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

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163. Write the formula of copper amine complex cation.

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164. Isoprene is used for making :

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165. Green vitriol occurs in the nature as_____.

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166. Blue vitriol is commonly known as _____.

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167. Holandric genes are located in_____.

Watch Video Solution

168. Guttation is mainly due to:

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169. What is stainless steel ?

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170. Composition of copper matel is _____.

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171. Azurite is the ore of _____.

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172. Brass is an alloy of ____ and Zinc.

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173. Calcium silicate is a ____ .

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174. Constantan is an alloy of _____ .

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175. German silver is alloys of _____.

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176. A nucleotide consists of a _____ a _____ and a nitrogen base.

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177.

$\left[Co(H_2O)_4\right]^{2+}, \left[CoCl_4\right]^{2-}$ and $\left[Co(\mathrm{dmg})_2\right]$

are complexes or Co(II) but magnetic moments of $\left[Co(H_2O)_4\right]^{2+}$ and $\left[CoCl_4\right]^{2-}$ is higher ($\mu = 3.87$ Bm for each) than $\left[Co(\text{dmg})_2\right][\mu = 1.73\text{BM}]$, explain.

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178. Fe_2O_3 is known as

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179. Purest from of iron is _____ .

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180. Oxidation number of P in $P_2O_7^{4-}$:

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181. Fe_3O_4 is known as _____ .

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182. $2NO + O_2 \rightarrow NO_2$ is _____ order reaction.

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183. Zinc sulphate is known as :

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184. Specific gravity of slag is :

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185. Classical smog consists of dust particles, _____and _____.

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186. The substance used to impart green colour to glass is :

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187. Name two characteristic features of transition elements.

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188. Name two ferrous alloys.

Watch Video Solution

189. Write down the composition of German silver.

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190. Azurite is the ore of _____.

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191. Mention two uses of potassium dichromate.

Watch Video Solution

192. Give a method of preparation of XeF_4.

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193. Write the formula of Borax.

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

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195. Give an example of sol.

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196. What is ligand ? Give examples.

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197. Zinc , cadmium and mercury are :

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198. Define transition element.

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199. Colourless transition metal ion is:

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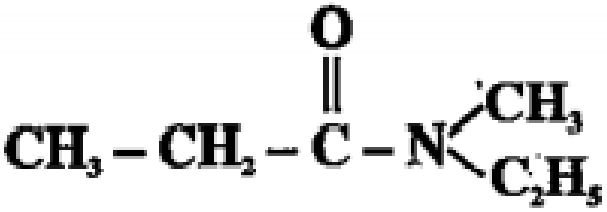
200. Write the IUPAC name of:



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201. The general outer electronic configuration of transition elements is

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202. Which ion is paramagnetic

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

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204. What are Sanctuaries ?

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205. What are pesticides ?

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206. Name any two alloys of steel.

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207. The molecular formula of ether is

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208. Which law explains the chemical combination of elements in H_2O ?

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209. What is the highest oxidation state of manganese ?

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210. Write two uses of ClO_3.

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211. Give two uses of cuprous oxide .

Watch Video Solution

212. Write the reactions of F_2 and Cl_2 with water.

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213. Brass is an alloy of :

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

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215. what is the name of purest form of iron

Watch Video Solution

216. Write the formula of limonite .

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

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218. Write the IUPAC name of $K_2[CrCO(CN)_5]$

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

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

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221. What is the action of concentrated nitric acid on copper? Give equation.

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222. What is difference between calcination and roasting ?

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223. Chemical name of corrosive sublimate is :

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

Watch Video Solution

225. Aqueous solution of $FeCl_3$ is :

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

Watch Video Solution

227. What is magnalium ?

Watch Video Solution

228. Transition elements are:

Watch Video Solution

229. Write the structure and formula of Caro's acid.

Watch Video Solution

230. Write the formula of copper amine complex cation.

Watch Video Solution

231. What is the composition of carnallite ?

Watch Video Solution

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

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233. Reducing agent is :

Watch Video Solution

234. What is Bessemerisation ?

Watch Video Solution

235. Which is the lightest transition metal ?

Watch Video Solution

236. what is the name of purest form of iron

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237. Write the formula of Borax.

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

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

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

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241. What are the different oxidation states, exhibited by lanthanoids?

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242. Gold exhibits the variable oxidation states of:

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243. Which is a strong reducing agent ?

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244. Actinoid contraction is greater from element to element than lanthanoid

contraction. Why?

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245. $La(OH)_3$ is more basic than $Lu(OH)_3$, why?

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246. What is meant by unit ?

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247. which transition metal of the 3d-series exhibits the largest number of oxidation states and why ?

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248. What happens when formic acid reacts with acidified $KMnO_4$ solution?

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249. Transition elements are:

250. Explain magnetic behavior of transistion elements.

251. Define transition element.

252. A transition metal exhibits highest oxidation state in oxides and fluorides explain why ?

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253. Write the chemical reaction of aniline with acetyl chloride.

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

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255. Why Zn, Cd and Hg are not regarded as transtition elements?

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256. Why are Zn salts colourless ?

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257. Write some characteristics of transition elements.

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258. How many electrons are there in one coulomb:

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259. The magnetic character of transition elements of its ion is due to

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260. Describe the preparation of potassium permanganate. How does the acidified permanganate solution react with

(i) iron (II) ions

(ii) SO_2 and

(iii) oxalic acid?

Write the ionic equations for the reactions.

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261. In the series Sc $(Z = 21)$ to Zn $(Z = 30)$, the enthalpy of atomisation of zinc is lowest, i.e. 126kJ mol^{-1}. Why ?

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262. The lowest oxidation state of transition metal is basic why is it Explain.

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263. Explain briefly how $+2$ state becomes more and more stable in the first half of the first row transition elements with increasing atomic number ?

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

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265. The chemistry of the actinoid elements is not so smooth as that of the lanthanoids. Justify this statement by giving some examples from the oxidation state of these elements.

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266. Assign reasons for the following:

Phosphorus doped silicon is a semiconductor.

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267. Transition elements are:

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268. Which of the d - block elements are not regarded as transition element ?

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269. Name the members of the lanthanoid series which exhibit + 4 oxidation states and

those which exhibit +2 oxidation states. Try to correlate this type of behaviour with the electronic configuration of these elements.

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270. Why $Fe^{3}+$ is more stable than $Fe^{2}+$?

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

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272. Write steps involved in the preparation of $KMnO_4$.

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273. $BiCl_3$, is more stable than $BiCl_5$ Why?

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274. The transition element with least atomic number is:

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275. Transition metals in their compounds show:

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276. Pb shows oxidation state of

Watch Video Solution

277. Which of the two have almost similar size :

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278. Why Zn^2+ salts are white while N_i^2+ and Cu^2+ salts are coloured ?

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279. Complete the following chemical equations :

$XeF_2 + PF_5 \rightarrow$

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280. The electronic configuration of Ag atom is :

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

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282. Which of the following ion is colourless in aqueous solution ?

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283. Describe the preparation of potassium dichromate from iron chromite ore.

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

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285. What are the transition elements?

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286. Discuss the general characteristics properties of transition elements.

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287. Physical properties of :

Watch Video Solution

288. Densities of transition metals are:

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289. Transition metals in their compounds show:

Watch Video Solution

290. Transition elements are:

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291. The enthalpies of atomization of the transition elements are high.

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