CHEMISTRY

BOOKS - MODERN PUBLICATION

GROUP 17 ELEMNTS

Excercise

1. Dacron is prepared by

A. HF can be easily oxidised

B. HF cannot be easily oxidised

C. HF is highly poisonous

D. HF is a good conductor

Answer: A

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2. On boiling an aqueous solution of $KClO_3$ with iodine the product formed is:

A. KlO_3

B. $KClO_4$

C. KlO_4

D. KCl

Answer: A

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3. Bromine is obtained commercially from sea water by adding

A. Caliche

B. Carnalite

C. common salt

D. Cryolite

Answer: B

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4. Which of the following anions is linear:

A. Oxygen family

B. Nitrogen family

C. Halogens

D. Alkali metals

Answer: C

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5. Tincture of iodine is

A. Aqueous solution of Iodine

B. Solution of I_2 in aqueous KI

C. Alcoholic solution of I_2

D. Aqueous solution of KI

Answer: B

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6. Chlorine is mixed with drinking water so that:

A. bacteria are killed

B. dirt is removed

C. water is cleaned

D. suspension is removed

Answer: A

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7. When bleaching powder is treated with carbon dioxide

A. Chlorine is evolved

B. Calcium chloride is formed

C. No reaction occurs

D. It absorbs the gas

Answer: A

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8. Which is the strongest reducing agent?

A. HF

B. HCl

C. HBr

D. HI

Answer: D

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9. The standard oxidation potentials of the electrodes $Ag|Ag^+, Sn|Sn^{2+}, Ca|Ca^{2+}, Pb|Pb^{2+}$ are $-0.8, 0.136, 2.866 \text{and} 0.126V$ respectively. The most powerful oxidising agent among these metal ions is :

A. Fluorine

B. Chlorine

C. Bromine

D. Iodine

Answer: A

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10. When chlorine is passes through concentrated solution KOH, the compound formed is:

A. $KClO$

B. $KClO_4$

C. $KClO_3$

D. $KClO_2$

Answer: C

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11. Chlorine acts as a reducing agent only in the presence of :

A. dry air

B. sunlight

C. moisture

D. pure oxygen

Answer: C

12. In a given sample of bleaching power the percentage of available chlorine is 49 the volume of chlorine obtained if 10g of the sample is treated with HCl at NTP is

A. by heating $PtCl_4$

B. by heating MnO_2 with 'HCl'

C. by treating bleaching powder with HCl

D. by heating mixture of $NaCl$ and MnO_2 with conc.H_(2)SO_(4)

Answer: A

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13. Which of the following is a gas:

A. HCl acting on $KMnO_4$

B. HCl acting on Na_2O_2

C. Electrolysis of brine

D. All of this

Answer: D

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14. Bleaching powder is

A. dilute solution of $Ca(OH)_2$

B. concentrated solution of $Ca(OH)_2$

C. dry calcium oxide

D. dry slaked lime

Answer: D

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15. Among halogens, which one is the strongest oxidising agent.

A. $HClO$

B. $HClO_2$

C. $HClO_3$

D. $HClO_4$

Answer: A

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16. Among the following the pseudohalide is

A. CN^-

B. ICl

C. I_3

D. IF_5

Answer: A

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17. Fluorine can exist in the oxidation states :

A. -1 only

B. -1 and +1 only

C. -1, +1, +3 only

D. -1, +1, +3, +5 and +7

Answer: A

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18. Which halogen can not form +ve ion ?

A. I^-

B. I^+

C. I^3+

D. All

Answer: D

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19. Fill in the blanks : Chlorine reacts with dry SO_2 to form .....

A. thionyl chloride

B. sulphuryl chloride

C. sulphur dichloride

D. sulphur monochloride

Answer: B

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20. The catalyst used in Deacon's process is:

A. Cu

B. an alloy of copper

C. $CuCl_2$

D. CuS

Answer: C

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21. Bromine is prepared in the laboratory by heating a mixture of:

A. Zn and HCl

B. $CaCO_3$

C. $Ph(NO_3)_2$

D. MnO_2

Answer: D

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22. When Chlorine is passed over dried dry slaked lime at room temperature , the main reaction product is :

A. CaO

B. $NaOH$

C. H_2SO_4

D. HBr

Answer: C

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23. SO_2 reacts with chlorine to form

A. $Ca(OCl)_2$

B. Ca(OCl)Cl

C. Ca(OCl_(3))_(2)

D. CaCl_(2)

Answer: B

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24. Tert-butylamine cannot be prepared by the action of NH_3 on tert-butylbromide. Give reason.

A. MnO_2

B. KMnO_(4)

C. NaCl

D. K_(2)Cr_(2)O_(7)

Answer: C

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25. Which reacts with chlorine to form phosgene:

A. SO_2

B. CO_2

C. `NO'

D. CO

Answer: C

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26. Chlorine water on cooling deposits greenish-yellow crystals of:

A. $Cl_2.2H_2O$

B. $Cl_2.\ H_2O$

C. $Cl_2.3H_2O$

D. $Cl_2.8H_2O$

Answer: D

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27. Euchlorine is a mixture of

A. a mixture of Cl_(2) and ClO_(2)

B. a chloride of eurapium

C. a mixture of Cl_2 and Cl_2O_7

D. operate by heating perchlorate and conc.HCl

Answer: A

28. Calcium occurs in nature as:

A. PCl_5

B. $\mathbb{C}l_4$

C. PCl_3

D. $POCl_3$

Answer: A

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29. Which of the following are all disaccharides:

A. BF_3

B. AlF_3

C. NF_3

D. ClF_3

Answer: D

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30. Which of the following has not a lone pair ?

A. SO_2

B. NO_2^+

C. O_3

D. NO_2^-

Answer: B

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31. Most stable oxide of chlorine is:

A. Cl_2O

B. ClO_2

C. ClO_3

D. Cl_2O_7

Answer: D

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32. Largest size stands for:

A. Cl^-

B. Br^-

C. Br^+

D. Br

Answer: B

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33. Freons are:

A. $\mathbb{C}l_2F_2$

B. $CFCL_3$

C. $\mathbb{C}lF_3$

D. All

Answer: D

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34. The anhydride of hypochlorous acid is:

A. ClO_(3)

B. ClO_2

C. Cl_2O_5

D. Cl_2O

Answer: D

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35. Which one is least soluble in water:

A. AgI

B. $AgBr$

C. $AgCl$

D. AgF

Answer: A

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36. HI is most____in nature among halogen acids.

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37. ___halogen is solid at room temperature.

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38. $4NaOH(conc) + 2F_2 \rightarrow 4NaF + 2H_2O +$

_____

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39. In aquaregia___is responsible for dissolving gold and platinum.

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40. ___has highest oxidising power in halogen family.

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41. _____ has highest electronegativity in halogen family.

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42. $XeF_4 + H_2O \rightarrow$

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43.

$Cl_2 + 2NaOH(cold\&dil) \rightarrow \_\ \_\_ + NaOCl + H_2O$

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44. Complete the following chemical reactions:

(a) $P_4 + NaOH + H_2O \rightarrow$

(b) $PCl_5 + H_2O(\text{excess}) \rightarrow$

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45. The outer electronic configuration of 15 group

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46. Halogens are

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47. Almost all amides exist in

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48. Halogens are

Watch Video Solution

49. Halogens are

Watch Video Solution

50. Halogens are

Watch Video Solution

51. I_2 can exist in the oxidation states

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52. HI is most____in nature among halogen acids.

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53. Find $f(\sqrt{2})$ and $f(-\sqrt{3})$ for the function

$$f(x)=\begin{cases} x^2, \text{ if } x<0 \\ x, \text{ if } 0\le x\le 1 \\ \frac{1}{x}, \text{ if } x>1 \end{cases}$$

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54. H_3PO_3 is

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55. $4NaOH(conc) + 2F_2 \rightarrow 4NaF + 2H_2O +$

_____

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56. Acetone is used as a _____ and _____.

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57. Find $f(\sqrt{2})$ and $f(-\sqrt{3})$ for the function

$$f(x)=\begin{cases} x^2, \text{ if } x<0 \\ x, \text{ if } 0\le x\le 1 \\ \frac{1}{x}, \text{ if } x>1 \end{cases}$$

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58. H_3PO_3 is

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59. Which will give a white precipitate with $AgNO_3$ in

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60. The halide which does not give a precipitate with $AgNO_3$ is:

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61. Red muscle is red due to presence of_____.

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62. What is the rate of reaction and the order of reaction if the mechanism of the reaction is,

$2NO + H_2 \rightarrow H_2O_2$ (slow reaction),

$H_2O_2 + H_2 \rightarrow 2H_2O$ (fast reaction)

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63. Write the electronic configuration of Xenon.

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64. Halogens do not occur free in nature. Explain.

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65. How physical state of halogen changes with increase in atomic number ?

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66. Write colours of all the halogen gases.

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67. Write the bond length of HCl.

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68. HCl is weaker than HI. Explain.

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69. Which gas is librated when Zinc reacts with Conc. H_2SO_4 ?

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70. What happens when chlorine gas is passed through cold solution of NaOH?

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71. Which of the halogen forms the weakest hydracids ?

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72. Which halogen is solid at the room temperature ?

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73. HI is an oxidising or reducing agent ?

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74. Fluorine is a strong oxidising agent because :

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75. Arrange the halogen family in their decreasing order of electronegativity.

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76. Write the equation for `Cl_2 which is bubbled through a solution of ferrous bromide.

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77. What happens when Cl_2 gas is passed into aqueous solution of KOH ?

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78. In halogen family which element forms strongest hydrogen bonds ?

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79. How will you prepare Cl_2 from NaCl ?

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80. Arrange PH_3, H_2S and HCl in order of increasing acidic strength. Give reasons for your answer.

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81. Write two uses of potassium chlorate.

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82. Write two uses of xenon tetrafluoride.

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83. Why are halogen gases or volatile liquid or solid at room temp. ?

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84. Why do noble gases form compounds with flourine and oxygen only ?

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85. What is magnetic character of F_2 ?

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86. Give electronic configuration of chlorine atom.

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87. Which halogen shows only one oxidation number in its compounds ?

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88. Write two uses of flourine.

 Watch Video Solution

89. HF is less volatile than HCl.(True/False)

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90. Write some uses of chlorine.

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91. Melting point of NaCl is highest among NaF, NaCl, NaBr, NaI.(True/False)

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92. HBr is stronger acid than HI. .(True/False)

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93. Flourine is prepared by electrolysis. What is the liquid used and electrodes ?

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94. Electron affinity of flourine is less than that of chlorine Why ?

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95. How will you convert SO_2 into H_2S ?

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96. Glass apparatus is not used for isolation and storing of fluorine. (True/False)

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97. Electron affinity of flourine is less than that of chlorine Why ?

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98. Ketones can be prepared by :

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99. Why HF cannot be stored in glass bottle ?

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100. How bromine can be liberated from KBr Solution?

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101. How many atoms of fluorine are there in 1.9×10^{-6} gms of fluroine ? (F = 19 amu)

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102. Which is oxidised in air?

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103. The electronic configuration of halogen is

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104. What is most electropositive halogen?

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105. Explain what happens when HCl gas is passed through concentrated NaCl solution?

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106. HF is less volatile than HCl. Explain.

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107. Discuss about the order of electron affinity of halogen elements.

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108. How Buna-S is synthesized ?

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109. What happens when H_2O_2 reacts with `Cl2?

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110. What happens when ethanol is treatd with conc.

H_2SO_4 at 443 K

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111. Write the order of increase of oxidising power of halogens.

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112. Explain why current carrying loop behaves as a magnetic dipole.

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113. HF is a liquid whereas HCl is a gas. Explain.

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114. What happens when NH_3 is treated with chlorine in small quantity?

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115. Between HBr and HI which is more easily oxidised?

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116. molecules of:

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117. What happens when NaCl is treated with sulphuric acid in presence of MnO_2 ?

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118. Arrange the following in the order of property indicated set.

F_2, Cl_2, Br_2, I_2 in the increasing bond dissociation enthalpy.

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119. Give two examples to show the anomalous behaviour of fluorine.

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120. The halogen which has highest electron gain enthalpy is

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121. Explain. Why fluorine exhibits an oxidation state of -1 only, while other elements of the family exhibit oxidation state of -1 +1, +3, +5 and +7.

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122. How would you account for the following? The electron gain enthalpy with negative sign is less for oxygen than that of sulphur.

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123. Why is ICl more reactive than I_2?

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124. Halogens are

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125. Why is the bond dissociation energy of F_2 less than that of Cl_2 ?

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126. Fluorine does not show positive oxidation states because:

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127. What happens when $FeCl_3$ is added to NaOH solution?

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128. Which among the following has highest electrical conductivty ?

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