



CHEMISTRY

BOOKS - MBD CHEMISTRY (ODIA ENGLISH)

SOME P-BLOCK ELEMENTS

Question Bank

1. Write the formula of Borax.

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2. What happens when orthoboric acid is heated ?

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3. What is the composition of Borax ?

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4. Write the formula of orthoboric acid.

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5. Which allotropic modification of carbon conducts electricity ?

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6. Name any two elements of Group-4 of the periodic table.

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7. Diamond and graphite are_____.

(a) isomer

(b) allotropes (c) isotopes

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8. Name any two elements of group VIA of periodic table.

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9. Indicate the type of hybridisation that takes place for the formation of graphite?

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10. Why is carbon tetrachloride immiscible in water ?

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11. Which allotropic modification of carbon conducts electricity ?

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12. What is the arrangement of atoms in diamond ?

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13. Diamond and graphite are_____.

(a) isomer

(b) allotropes (c) isotopes

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14. What type of hybridisation takes place in the formation of CO_2 molecule ?

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15. What type of hybridisation takes place in carbon atom for the formation of graphite ?



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16. What is carborundum ?



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17. What is the most recently discovered allotrope of carbon ?

[Hint: Buckminster fullerene]



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18. What is the anhydride of carbonic acid ?

[Hint: $H_2CO_3 \rightarrow CO_2 + H_2O \Rightarrow CO_2$ is the anhydride of H_2CO_3]



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19. What happens when orthoboric acid is heated ?



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20. Write a note on orthoboric acid.



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21. Write any two uses of diborane.



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22. Write any two uses of borax.



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23. What happens when borax is heated ?

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24. What happens when CO_2 is passed through lime water ?

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25. Name the elements of Group IVA and write their electronic configuration.

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26. What is the arrangement of atoms in diamond ?

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27. What is the allotropy ? What are different allotropic modification of carbon ?

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28. How sugar charcoal is prepared ?

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29. What is the arrangement of atoms in diamond ?

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30. Define allotropy ? Name any two allotropic modification of carbon ?

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31. Which one of the following is a conductor in the solid state ?

(a) sodium chloride

(b) diamond

(c) graphite

(d) sulphur



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32. Justify the position of carbon and lead in the periodic table on the basis of electronic configuration.



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33. Explain why diamond is a bad conductor while graphite is a good conductor of electricity ?



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34. State the number of neutrons and protons present in C^{12} and C^{14} .

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35. What is allotropy ?

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36. Write general trends in properties of Group 13 elements of boron family .

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37. Write the principle of preparation and two uses of the following :

(ii) Orthoboric Acid

(iii) Diborane

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38. Give a comparative account of Group 14 (Carbon Family) elements of the periodic table .

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39. Name the elements included in IVA group (Carbon Family) of the periodic table. Give the general characteristics of the elements.

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40. Write a note on " Allotropic modifications of carbon ".

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41. Write notes on silicones.

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42. Orthoboric acid is heated to red hot gives :

- A. metaboric acid
- B. tetraboric acid
- C. boron trioxide
- D. borax

Answer: C



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43. An aqueous solution of borax is :

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

Answer: B



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44. $B(OH)_3$ is a:

- A. monobasic acid
- B. dibasic acid
- C. tribasic acid
- D. triacidic base

Answer: A



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45. Anhydrous aluminium chloride exists as:

- A. monomer

B. dimer

C. trimer

D. polymer

Answer: B



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46. Boric acid is polymeric due to

A. its acidic nature

B. the presence of hydrogen bond

C. its monobasic nature

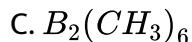
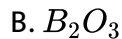
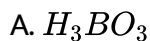
D. its geometry

Answer: B



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47. From B_2H_6 all the following can be prepared except :



Answer: D



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48. In diborane molecule,

A. 4 bridged hydrogens & 2 terminal hydrogens are present

B. 2 bridged hydrogens & 4 terminal hydrogens are present

C. 3 bridged hydrogens & 3 terminal hydrogens are present

D. None of these

Answer: B

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49. Which of the following does not give Borax bead test ?

A. chromium salt

B. ferrous salt

C. cobalt salt

D. sodium salt

Answer: D

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50. BF_3 is an acid according to :

A. Arrhenius concept

- B. Henderson's concept
- C. Lewis concept
- D. Bronsted-Lowry concept

Answer: C

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51. H_3BO_3 is:

- A. monobasic and weak Lewis acid
- B. monobasic and weak Bronsted acid
- C. monobasic and strong Lewis acid
- D. tribasic and weak Bronsted acid

Answer: A

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52. The dry ice is :

- A. a solid of ice without water
- B. solid sulphur dioxides
- C. solid carbon dioxide
- D. solid benzene

Answer: C



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53. A gas which burns with a blue flame is :

- A. CO
- B. O_2
- C. N_2
- D. CO_2

Answer: A

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54. Carbon atoms in diamond are bonded with each other in configuration :

- A. planer
- B. linear
- C. octahedral
- D. tetrahedral

Answer: D

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55. Which one of the following gases turn lime water milky ?

A. CO_2

B. CO

C. N_2

D. Cl_2

Answer: A



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56. Poisonous gas present in exhaust fumes of car is :

A. CH_4

B. C_2H_2

C. CO

D. CO_2

Answer: C



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57. The name 'Blue gas' is given to :

- A. natural gas
- B. coal gas
- C. producer gas
- D. water gas

Answer: D



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58. Carbon monoxide is not :

- A. a reducing agent
- B. a good oxidising agent
- C. neutral to litmus

D. poisonous to nature

Answer: B



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59. Carbon in carbon dioxide is :

A. sp hybridised

B. sp^2 hybridised

C. sp^3 hybridised

D. d^2sp^3 hybridised

Answer: B



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60. Carbon monoxide is observed by :

A. ammoniacal cuprous chloride

B. pyrogallol

C. chloroform

D. CCl_4

Answer: A

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61. Graphite is similar in structure to :

A. B

B. BN

C. B_4C

D. B_2H_6

Answer: B

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62. Write the formula of orthoboric acid.

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63. Write the formula of Borax.

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64. Write the composition of potash alum.

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65. What happens when lead nitrate is heated ?

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66. What is the composition of alum?



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67. Write the formula of orthoboric acid.



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68. Bauxite is the ore of which metal ?



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69. What is the composition of Borax ?



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70. Name an important ore of aluminium.



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71. Write one use of alum.



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72. Aluminium oxide is _____.(acidic, basic, amphoteric, neutral)



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73. What happens when aluminium nitride reacts with water ?



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74. What is the commercial name of SiC ?



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75. What is the most recently discovered allotrope of carbon ?

[Hint: Buckminster fullerene]

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76. What is the oxidation number of carbon in CH_2Cl_2 ?

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77. What is carborundum ?

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78. Which allotrope of carbon is used as a moderator in atomic reactors ?

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79. Why dry ice does not wet cloth in which it is placed ?

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80. Diamond and graphite are called_____.

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81. What is the arrangement of atoms in graphite ?

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82. Which allotropic modification of carbon conducts electricity ?

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83. What is the arrangement of atoms in diamond ?



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84. Why SnCl_2 is a solid, but SnCl_4 is a liquid ?



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85. What are the " Silicones".



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86. Silicon carbide is called _____.



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87. Structure of silicon carbide is similar to _____.



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88. Write two uses of silicon carbide.

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89. Write two uses of silicones ?

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90. Which is the anhydride of carbonic acid ?

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91. Name the elements of group-IVA.

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92. What is the general outer electronic configuration of Group-IVA (Gr-14) elements ?

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93. Which non-metal conduct electricity ?

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94. What is allotropy ?

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95. What are the different types of allotropes of carbon?

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96. Graphite and diamond are two _____ of carbon .

- (a) Isomers
- (b) Allotropes
- (c) Isotopes

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97. What is the arrangement of atoms in graphite ?

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98. Graphite marks paper, because _____

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99. Why graphite is soft and slippery in nature ?

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100. Why graphite conducts electricity ?

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101. Is diamond an element or compound ?

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102. Carbon monoxide is _____ oxide, while other monoxide of Group IVA elements are _____ oxides .

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103. What is dry ice ?

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104. Why is solid CO_2 is called dry ice ?

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105. Why CO_2 is a gas, but SiO_2 is a solid ?

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106. Why CCl_4 cannot be hydrolysed ?

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107. Which is the anhydride of carbonic acid ?

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108. What are silicones ?



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109. What happens when borax is heated ?

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110. What happens when orthoboric acid is heated ?

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111. The aqueous solution of aluminium chloride is acidic due to :

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112. Name two uses of borax.

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113. What is alum? Give its composition.

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114. How can you prepare orthoboric acid ?

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115. How alum is prepared ? Give equation.

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116. What is the composition of cryolite ? Why is it used in the extraction of aluminium ?

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117. What happens when aluminium hydroxide is treated with sodium hydroxide solution ?

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118. What is water gas ? How is it prepared ?

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119. Explain why diamond is hard while graphite is soft.

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120. Mention the hybrid state of carbon in diamond and graphite.

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121. What is allotropy ?

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122. Why graphite is used as lubricant ?

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123. Explain allotropes. Name two crystalline allotropes of carbon.

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124. Explain why diamond is a bad conductor while graphite is a good conductor of electricity ?

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125. Hydrolysis of Cl_4 is not possible but SiCl_4 is easily hydrolysed.

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126. Give one reaction in which CO_2 behaves as an oxidising agent. Give equation.

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127. What happens when CO_2 is passed over red hot coke ? Give equation.

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128. Justify the position of carbon and lead in the periodic table on the basis of electronic configuration.

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129. Why is solid CO_2 is called dry ice ?



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130. BF_4 acts as acid according to :

A. Arrhenius

B. Bronsted

C. Lewis

D. None

Answer: C



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131. Which of the following does not involve a catalyst ?

A. Thermite process

B. Ostwald process

C. Contact process

D. Haber process

Answer: A

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132. Reactivity of borazole is greater than that of benzene because.

A. Borazole is non-polar compound

B. Borazole is polar compound

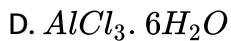
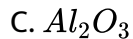
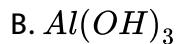
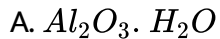
C. Borazole is electron deficient compound

D. Of localized electrons in it

Answer: B

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133. $AlCl_3$ on hydrolysis gives :



Answer: B



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134. Which is used as control rods in nuclear reactors ?

A. Al

B. Ga

C. Ti

D. B

Answer: D

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135. Hydrogen gas can be produced by the reaction of aluminium with a concentrated solution of:

A. Fe_2O_3

B. Acetic acid

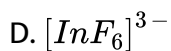
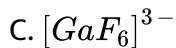
C. NaOH

D. NaF

Answer: C

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136. Which species does not exist ?



Answer: A



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137. Which member of group 13 is liquid at 30°C ?

A. B

B. Al

C. Ga

D. Tl

Answer: C



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138. Which of the following is most abundant in the earth crust ?

A. In

B. Ga

C. B

D. Al

Answer: D



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139. Hardest element of group 13 is:

A. B

B. Ga

C. Al

D. In

Answer: A



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140. $AlCl_3$ exists in dimer because :

A. Al has greater I.P.

B. Al has larger radius

C. High charge nucleus

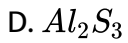
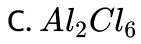
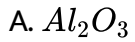
D. Incomplete p -orbital

Answer: D



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141. Which one is ionic ?

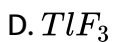
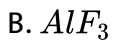


Answer: A



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142. Which one is covalent ?



Answer: A

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143. Which statement is correct ?

- A. BCl_3 and $AlCl_3$ are both Lewis acids and BCl_3 is stronger than $AlCl_3$
- B. BCl_3 and $AlCl_3$ are both Lewis acids and $AlCl_3$ is stronger than BCl_3
- C. BCl_3 and $AlCl_3$ are both equally strong Lewis acids
- D. Both BCl_3 and $AlCl_3$ are not Lewis acids

Answer: A

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144. Which statement regarding H_3BO_3 is not correct ?

- A. It is a strong tribasic acid
- B. It is prepared by acidifying an aqueous solution of borax
- C. It has a layer structure in which planar BO_3 units are joined by H-bonds.
- D. It does not act as proton donor but acts on Lewis acid by accepting OH^- ions

Answer: A



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145. Which of the following undergoes sublimation ?

- A. $AlCl_3$
- B. NH_4Cl
- C. Dry ice
- D. All of these

Answer: D

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146. In B_2H_6 :

- A. There is a direct boron-boron bond
- B. The structure is similar to that of C_2H_6
- C. The boron atoms are linked through hydrogen bridges
- D. All the atoms are in one plane

Answer: C

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147. The precious Ruby stone is :

- A. Aluminium silicate

B. Alumina

C. Sodium aluminium silicate

D. Sodium silicate

Answer: B

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148. Inorganic benzene is :

A. BN

B. BF_4

C. B_2H_6

D. $B_3N_3H_6$

Answer: D

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149. Which compound can make fireproof clothes ?

- A. Aluminium sulphate
- B. Ferrous sulphate
- C. Magnesium sulphate
- D. Cuprous sulphate

Answer: A

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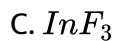
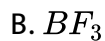
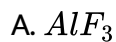
150. Nickeloy is an alloy containing :

- A. Ni + Cu +Cr
- B. Al + Cu +Cr
- C. Ni+Al+Cu
- D. None of the above

Answer: C

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151. Which of the following is not an ionic trihalide ?



Answer: B

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152. A metal which has no effect on a solution of mercury chloride is :



B. Al

C. Fe

D. Ag

Answer: D



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153. The first I.P. of Al is smaller than that of Mg because:

A. Atomic size of $Al > Mg$

B. Al has one electron in p-orbital

C. Atomic size of $Al < Mg$

D. Not knows

Answer: B



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154. Covalency of B in BF_4 is :

A. 5

B. 4

C. 3

D. 2

Answer: B



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155. Hydrogen forms a bridge in the chemical structure of :

A. Hydrogen peroxide

B. Lithium hydride

C. Diborane

D. Sodium peroxide

Answer: C

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156. Which of the following is not correct in case of boron nitride ?

- A. It is also called borazon
- B. It is chemically unreactive
- C. It is hard because it has diamond like structure
- D. It has magnetic properties

Answer: D

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157. In aluminates coordination number of Al is :

- A. 4

B. 6

C. 3

D. 1

Answer: B



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158. Alum is :

A. normal salt

B. Basic salt

C. Double salt

D. Mixed salt

Answer: C



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159. Borax bead test is responded by :

- A. Divalent metals
- B. Heavy metals
- C. Light metas
- D. Metals forming coloured metal-borates

Answer: D

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160. Electrolytic reduction of pure alumina is not possible because :

- A. It is amphoteric
- B. It dissociates on fusion
- C. It melts at very high temperature
- D. None of the above

Answer: C



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161. Aluminium forms :

- A. Electrovalent compounds only
- B. Covalent compounds only
- C. Electrovalent and covalent compounds both
- D. Coordinate compounds only

Answer: C



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162. Magnalium contains aluminium and :

- A. Cu

B. Mg

C. Cu ,Mg,Ni and Sn

D. Cu, Ni and Mg

Answer: B



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163. In Hall's process, the ore is mixed with :

A. Coke

B. Sodium carbonate

C. Sodium hydroxide

D. Calcium carbonate

Answer: B



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164. What is the byproduct obtained in the Serpeck's process ?

- A. Oxygen
- B. Ammonia
- C. Nitrogen dioxide
- D. Nitric oxide

Answer: B



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165. Which is not an alloy of aluminium :

- A. Magnalium
- B. Duralumin
- C. German silver
- D. Aluminium bronze

Answer: C

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166. Alumina may be converted into anhydrous aluminium chloride by:

- A. Heating it with conc. HCl
- B. Heating in a current of dry chlorine
- C. Heating it with rock salt
- D. Mixing it with carbon and heating the mixture in a current of dry chlorine

Answer: D

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167. Boric acid is prepared from borax by the action of :

- A. Hydrochloric acid
- B. Sodium hydroxide
- C. Carbon dioxide
- D. Sodium carbonate

Answer: A

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168. Aluminium vessels should not be washed with materials containing washing soda because :

- A. Washing soda is expensive
- B. Washing soda is easily decomposed
- C. Washing soda reacts with aluminium to form soluble aluminate
- D. Washing soda reacts with aluminium to form insoluble aluminium oxide

Answer: C



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169. Which statement is not true about potash alum ?

- A. It's empirical formula is $KAl(SO_4)_2 \cdot 12H_2O$
- B. It's aqueous solution is basic in nature
- C. It is used in dyeing industries
- D. On heating it melts and loses in water of crystallization

Answer: B



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170. Aluminium is more reactive than iron. But aluminium is less easily corroded than iron because.

- A. Oxygen forms a protective oxide layer
- B. Aluminium is a noble metal
- C. Iron undergoes reaction easily with water
- D. Iron forms both mono and divalent ions

Answer: A

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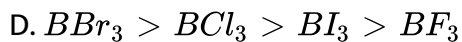
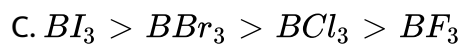
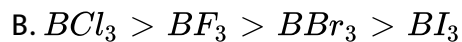
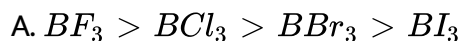
171. The role of fluorspar (CaF_2) which is added in small quantities in the electrolytic reduction of alumina dissolved in fused cryolite (Na_3AlF_6) is :

- A. As a catalyst
- B. To make the fused mixture very conducting
- C. To increase the temperature of the melt
- D. To decrease the rate of oxidation of carbon at the anode

Answer: B

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172. The correct Lewis acid order for boron halides is :



Answer: C

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

- A. Metallic aluminium
- B. Metallic magnesium
- C. Metallic iron
- D. Sodium metal

Answer: A

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174. The hardest compound of boron is :

- A. Boron carbide
- B. Boron nitride
- C. Boron oxide
- D. Boron hydride

Answer: A

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175. In the reaction $LiH + AlH_3 \rightarrow LiAlH_4$, AlH_3 and LiH acts as :

- A. Lewis base and Lewis acid
- B. Lewis acid and Lewis base
- C. Bronsted base and Bronsted acid
- D. None of the above

Answer: B



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176. Aluminium appears like gold when it is mixed with :

- A. 50 % Ni
- B. 90 % Cu
- C. 90 % Sn

D. 50 % Co

Answer: B



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177. In the electrolysis of alumina, cryolite is added to :

- A. Lower the melting point of alumina
- B. Increase the electrical conductivity
- C. Both (a) and (b)
- D. Remove impurities from alumina

Answer: C



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178. Al_2O_3 formation involves large quantity of heat evolution which makes its use in :

- A. Deoxidiser
- B. Thermite welding
- C. Confectionary
- D. Indoor photography

Answer: B



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179. Al and Ga have the same covalent radii because of:

- A. Poor shielding power of d-electrons of Ga atoms
- B. Poor shielding power of s-electron of Ga atoms
- C. Greater shielding power of s-electrons of a Ga atoms
- D. Greater shielding power of d-electrons of Ga atoms.

Answer: A

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180. Al-Bronze contains Al and :

A. Zn

B. Sb

C. Ni

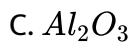
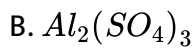
D. Cu

Answer: D

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181. Which is used as mordant ?

A. $AlCl_3$



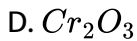
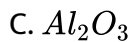
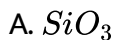
D. Alum

Answer: D



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182. Corundum is :



Answer: C



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183. Aqueous solution of potash alum is :

- A. Alkaline
- B. Neutral
- C. Acidic
- D. Sippy

Answer: C



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184. The most electropositive element is :

- A. Ga
- B. Al
- C. Ti
- D. B

Answer: B



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185. Alumina is the nature of :

- A. Acidic
- B. Basic
- C. Amphoteric
- D. Neutral

Answer: C



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186. All allums contain

- A. One monovalent and one trivalent metal

- B. Both monovalent metals
- C. One divalent and one monovalent metal
- D. Both divalent metals

Answer: A

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187. The weakest Lewis acid is :

- A. BF_3
- B. BCl_3
- C. BBr_3
- D. BI_3

Answer: A

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188. Metal protected by a layer of its own oxide is :

A. Au

B. Ag

C. Al

D. Cu

Answer: C



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189. When orthoboric acid (H_3BO_3) is heated the residue left is :

A. Boric anhydride

B. Metaboric acid

C. Boron

D. Borax

Answer: A

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190. Molecular weight of anhydrous aluminium chloride is :

A. 267.0

B. 133.5

C. 241.5

D. 483.0

Answer: A

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191. on heating Al at $800^{\circ}C$ in air, Al_2O_3 is formed. The reaction is :

A. Reduction of aluminium

B. An endothermic reaction

C. An exothermic reaction

D. None of these

Answer: C

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192. Borax is :

A. $Na_2B_4O_7$

B. $(Na_2B_4O_7) \cdot 4H_2O$

C. $(Na_2B_4O_7) \cdot 7H_2O$

D. $(Na_2B_4O_7) \cdot 10H_2O$

Answer: D

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193. Sapphire is a mineral of :

A. Al

B. Zn

C. Cu

D. Hg

Answer: A



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194. Borax on heating with cobalt oxide forms a blue bead of :

A. $Co(BO_2)_2$

B. $CoBO_2$

C. $Co_3(BO_3)_2$

D. $Na_3Co(BO_3)_2$

Answer: A

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195. Alumina on heating with carbon in nitrogen atmosphere gives :

A. $Al + CO$

B. $Al + CO_2$

C. $AlN + CO$

D. $Al + CO + N_2$

Answer: C

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196. Hoop's process is used in the refining of :

A. Au

B. Zn

C. Al

D. Cu

Answer: C

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197. The correct order of decreasing hardness of the following compound is :

A. Diamond > Borazon > Carborundum > Corundum

B. Borazon > Diamond > Carborundum > Corundum

C. Corundum > Carborundum > Borazon > Diamond

D. None

Answer: A

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198. When Al is added to potassium hydroxide solution :

- A. No reaction takes place
- B. Oxygen is evolved
- C. Water is produced
- D. Hydrogen is evolved

Answer: D

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199. Purification of alumina is essential because :

- A. Impure alumina is a very poor conductor of electricity
- B. Impure alumina has a very high melting point
- C. Impure alumina cannot react with the oxidizing agent
- D. It is difficult to purify it purify aluminium metal

Answer: D

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200. Boron carbide, B_4C is widely used for :

- A. Making acetylene
- B. Making plaster of paris
- C. As a hardest substance after diamond
- D. Making boric acid

Answer: C

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201. Which reaction cannot give anhydrous $AlCl_3$:

- A. Passing dry HCl over heated aluminium powder

B. Passing dry Cl_2 over heated aluminium powder

C. Heating a mixture of alumina and coke in a current of dry Cl_2

D. Heating of $AlCl_3 \cdot 6H_2O$

Answer: D

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202. Which one is explosive ?

A. $NH_4NO_3 + Al$ powder

B. PCl_5

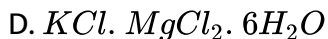
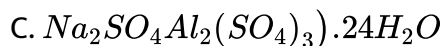
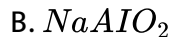
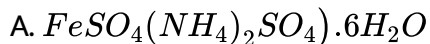
C. $Pb(NO_3)_2$

D. $C_6H_5NO_2$

Answer: A

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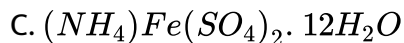
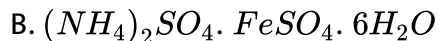
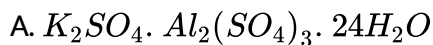
203. Which of the following is called alum ?



Answer: C

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204. Which of the following is known as alum ?



D. None of the above

Answer: A

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205. The process used for purification of bauxite ore containing iron oxide impurity is known as :

- A. Baeyer's process
- B. Hooppe's process
- C. Serpeck's process
- D. Electrolytic process

Answer: A

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206. In aluminothermy, aluminium is heated with :

- A. Calcium oxide
- B. Chromium oxide
- C. Magnesium oxide
- D. Sodium oxide

Answer: B

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207. Potash alum is water soluble and ionises in aqueous solution to give

:

- A. One type of ions
- B. Two types of ions
- C. Three types of ions
- D. Four types of ions

Answer: C

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208. Borax bead test is not given by :

- A. An aluminium salt
- B. A cobalt salt
- C. A copper salt
- D. A nickel salt

Answer: A

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209. Which is not correct ?

- A. Al acts as a reducing agent
- B. Al does not react with steam even at higher temperature
- C. Al forms a number of alloys with other metals

D. Al is ionic in all its compounds

Answer: D



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210. The molecules of aluminium chloride in vapour state :

- A. Have no shape
- B. Are shaped like a plane triangle
- C. Are round
- D. Are like randomly broken bricks

Answer: B



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211. The main factor responsible for weak acidic nature of B-F bonds in BF_3 is :

- A. Large electronegativity of F
- B. Three centred two electron bonds in BF_3
- C. $p\pi - d\pi$ back bonding
- D. $p\pi - p\pi$ back bonding

Answer: D



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212. Which is pure basic oxide ?

- A. B_2O_3
- B. Al_2O_3
- C. Tl_2O_3
- D. None of these

Answer: C

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213. Oxides of group 13 elements are:

- A. Acidic
- B. Basic
- C. Amphoteric
- D. All of these

Answer: D

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214. Which of the following cannot liberate H_2 with acids ?

- A. Al

B. B

C. Ti

D. In

Answer: B



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215. Which of the following shows variable valency ?

A. B

B. Al

C. Tl

D. None

Answer: C



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216. Melting point is highest for:

A. B

B. Al

C. Ga

D. In

Answer: A



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217. Pure H_2S gas can be obtained by the action of water on :

A. CuS

B. FeS

C. Flower of sulphur

D. Al_2S_3

Answer: D



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218. Orthoboric acid when heated to red hot gives :

- A. metaboric acid
- B. Pyroboric acid
- C. Boron and water
- D. Boric anhydride

Answer: D



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219. Boron was isolated by :

- A. Davy

B. Moseley

C. Rutherford

D. Moisson

Answer: A

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220. Boron differs from the other members of group 13 because it :

A. It is a non-metal

B. It has much lesser radius

C. It is covalent in its compounds

D. It has maximum covalency of 6(B_2H_6)

Answer: A

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221. Boron compounds behave as Lewis acids because of their :

- A. Acidic nature
- B. Covalent nature
- C. Electron deficiency
- D. Ionisation property

Answer: C

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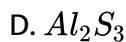
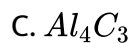
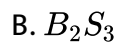
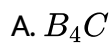
222. Which is amphoteric compound ?

- A. Cr_2O_3
- B. Al_2O_3
- C. Mn_2O_3
- D. Fe_2O_3

Answer: B

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223. Which does not react with water ?



Answer: A

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224. The precious stone aquamarine is :



B. Be-Al silicate

C. Na-Al silicate

D. Fluoro silicate of Al

Answer: C

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225. Which is amphoteric ?

A. $Al(OH)_3$

B. $B(OH)_3$

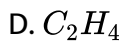
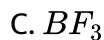
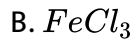
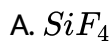
C. $Mg(OH)_3$

D. $NaOH$

Answer: A

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226. Which of the following is not a Lewis acid ?



Answer: D



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227. When a solution of sodium hydroxide is added in excess to the solution of potash alum, we obtain :

A. A white precipitate

B. Bluish white precipitate

C. A clear solution

D. A crystalline mass

Answer: C

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228. The two type of bonds present in B_2H_6 are covalent and :

- A. Ionic
- B. Coordinate
- C. Hydrogen bridge bond
- D. None of the above

Answer: C

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229. Which metal is powdered, suspended in oil and used as paint ?

- A. Fe

B. Sn

C. Ag

D. Al

Answer: D



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230. Which of the following does not belong to group 13 ?

A. B

B. Al

C. Ge

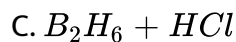
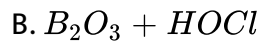
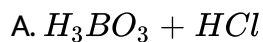
D. In

Answer: C



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231. The product formed in the reaction, $BCl_3 + H_2O \rightarrow$ Product is:



D. No reaction

Answer: A



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232. The structure of BF_3 is :

A. Tetrahedral

B. Pyramidal

C. Trigonal

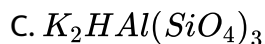
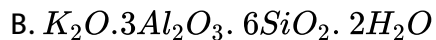
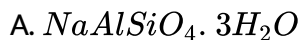
D. None of the above

Answer: C



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233. The composition of mica is :



Answer: B



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234. An alumina-silica clay called bentonite is dropped from aeroplanes in the slurry form for :

- A. Fertilizing the soil
- B. Spreading water over fires
- C. Cooling the soil
- D. Fumigation

Answer: D

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235. Which of the following is a gas ?

- A. BF_3
- B. BCl_3
- C. BBr_3
- D. BI_3

Answer: A

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236. What is false in case of boric acid (H_3BO_3) ?

- A. It is soluble in hot water
- B. It acts as a tribasic acid
- C. It has a planar structure
- D. It acts as a monobasic acid

Answer: B



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237. The protective film of oxide on the surface of Al metal may be strengthened by :

- A. Galvanizing
- B. Cathodizing
- C. Sherardizing

D. Anodizing

Answer: D



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238. Aluminium is not present in which of the following mineral :

A. Cryolite

B. Fledspar

C. Fluorspar

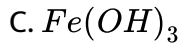
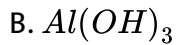
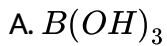
D. Mica

Answer: C



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239. An acid among the following is:



D. None of these

Answer: A



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240. The blue coloured mineral 'Lapis Lazuli' used as semi precious stone is :

A. Prussian blue

B. Sodium aluminosilicate

C. Zinc cobaltate

D. Basic copper carbonate

Answer: B

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241. The catalyst used in Friedel-Crafts reaction is :

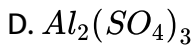
- A. Anhydrous aluminium chloride
- B. Finely divided nickel
- C. Finely divided platinum
- D. Pt

Answer: A

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242. Red Liquor is :

- A. $Al(OH)_3$
- B. $(CH_3COO)_3Al$
- C. $Al_2(CO_3)_3$

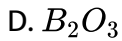
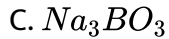
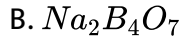


Answer: B



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243. The borax bead is chemically :



Answer: A



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244. The purification method used for mineral $Al_2O_3 \cdot 2H_2O$ is :

- A. Froth floatation
- B. Lizuation
- C. Leaching
- D. Magnetic separation

Answer: C

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245. The process used for purification of bauxite ore containing high silica content as impurity is :

- A. Baeyer's process
- B. Serpeck's process
- C. Hooppe's process
- D. Hall's process

Answer: B

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246. Which gives blue colour to glass ?

A. NiO

B. CoO

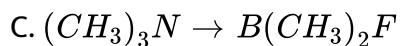
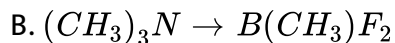
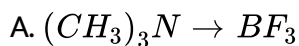
C. $FeSO_4$

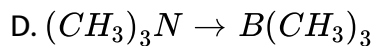
D. CdS

Answer: B

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247. Which of the following has the minimum heat of dissociation?





Answer: D



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248. The number of electrons present in the valence shell of group 13:

A. One

B. Two

C. Three

D. Zero

Answer: C



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249. On adding ammonium hydroxide solution to aqueous solution of $Al_2(SO_4)_3$:

- A. A precipitate is formed which dissolves in excess of ammonia solution
- B. A precipitate is formed which does not dissolve in excess of ammonium hydroxide
- C. No precipitate is formed
- D. None of these

Answer: B

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250. Aluminium becomes passive in nitric acid because it :

- A. IS a noble metal
- B. Has positive reduction potential

C. Forms a thin film of oxide

D. None of these

Answer: C



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251. Al reduces most of the metallic oxides due to its greater affinity for :

A. Metals

B. Oxygen

C. Electrons

D. Protons

Answer: B



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252. Al dissolves in molten $NaOH$ with the formation of :

- A. Aluminium hydroxide
- B. Sodium meta aluminate ($NaAlO_2$)
- C. Sodium aluminate (Na_3AlO_3)
- D. Alumina

Answer: C



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253. Aluminium is mainly extracted from :

- A. Magnetite
- B. Haematite
- C. Alumina
- D. Bauxite

Answer: D



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254. Which is not a mineral of aluminium:

A. Corundum

B. Bauxite

C. Anhydrite

D. Diaspore

Answer: C



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255. Thermite a mixture used for welding is :

A. Ferric oxide and aluminium powder

B. Fe and Al

C. Barium peroxide and magnesium powder

D. Cu and aluminium

Answer: A

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256. Alumino-thermy is a process involving :

A. Reduction of oxide of a metal by heating with sodium

B. Exothermic reduction reduction of metal oxides by heating with Al

C. Reduction of oxides of a metal by heating with carbon

D. None of these

Answer: B

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257. Thallium shows different oxidation states because :

- A. Of inert pair effect
- B. It is a transition metal
- C. Of its amphoteric character
- D. Of its high reactivity

Answer: A



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258. Which statement is correct ?

- A. Magnetite is an ore of manganese
- B. Bauxite is an ore of aluminium
- C. Haematite is an ore of mercury
- D. Pyrite is an ore of phosphorus

Answer: B

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259. Alum is used by dyer of cloth :

- A. As mordant
- B. For fire-proofing fabrics
- C. As first aid for cuts
- D. For softening hard water

Answer: A

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260. Stable compounds in +1 oxidation state are formed by :

- A. B

B. Al

C. Ga

D. Tl

Answer: D



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261. Which metal powder if spread in air, becomes hazardous?

A. B

B. Al

C. Ca

D. K

Answer: B



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262. In the aluminothermic process, aluminium acts as:

- A. A reducing agent
- B. A flux
- C. An oxidizing agent
- D. A solder

Answer: A

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263. Chemically borax is :

- A. Sodium metaborate
- B. Sodium orthoborate
- C. Sodium tetraborate
- D. Sodium tetraborate decahydrate

Answer: D



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264. Chief ore of Al is :

A. Cryolite

B. Alunite

C. Feldspar

D. Bauxite

Answer: D



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265. Alum is not used :

A. As an insecticide

- B. As a mordant in dyeing
- C. In the purification of water
- D. In tanning of leather

Answer: A

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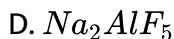
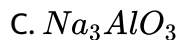
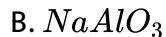
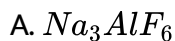
266. Aluminium is obtained by :

- A. Reducing Al_2O_3 with coke
- B. Electrolysing Al_2O_3 dissolved in Na_3AlF_6
- C. Reducing Al_2O_3 with chromium
- D. Heating Al_2O_3 and cryolite

Answer: B

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267. The cryolite is :

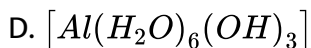
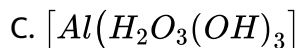
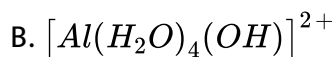
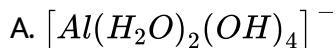


Answer: A



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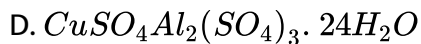
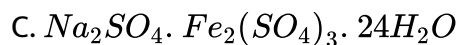
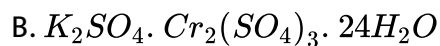
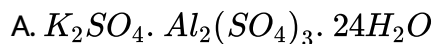
268. The dissolution of $Al(OH)_3$ by a solution of $NaOH$ results in the formation of :



Answer: A

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269. Which mixed sulphate is not an alum ?



Answer: D

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270. Which of the following exists as a dimer ?

A. Aluminium chloride

B. Aluminium bromide

C. Aluminium iodide

D. Magnesium chloride

Answer: A



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271. Duralumin is an alloy of :

A. Al and Mg

B. Mg and Cu

C. Al ,Mg, Mn and Cu

D. Al and Cu

Answer: C



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272. The alloy used in preparation of balance beam and light instruments:

- A. Copper
- B. Magnalium
- C. Aluminium bronze
- D. Nickeloy

Answer: A

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273. Which of the following is pseudo alum :

- A. $(NH_4)_2SO_4 \cdot Fe_2(SO_4)_3 \cdot 24H_2O$
- B. $K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$
- C. $MnSO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$
- D. None of the above

Answer: C

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274. Aluminium does not react with :

A. $NaOH$

B. HCl

C. N_2

D. HNO_3

Answer: D

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275. Which of the following statements about anhydrous aluminium chloride is correct ?

- A. It exists as $AlCl_3$ molecule
- B. It is a strong Lewis base
- C. It is not easily hydrolysed
- D. It sublimes at $100^\circ C$ under vacuum

Answer: D

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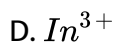
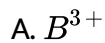
276. Colemanite is a mineral of :

- A. B
- B. Mg
- C. Al
- D. Mn

Answer: A

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277. Which does not exist ?

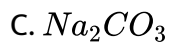
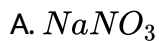


Answer: A



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278. Borax is prepared by treating colemanite with :



D. NaHCO_3

Answer: C



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279. Which is used as disinfectant ?

A. Boric acid

B. Sulphuric acid

C. Phosphorus acid

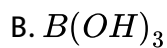
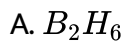
D. Phosphoric acid

Answer: A



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280. Which contains two banana bonds ?



D. All of these

Answer: A

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281. An aqueous solution of BCl_3 is :

A. Weak acid

B. Weak base

C. Natural

D. Strong base

Answer: A

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282. BF_3 is an example of Lewis acid because it behaves as :

- A. Electrophile
- B. Nucleophile
- C. Free radical
- D. Lyophilic

Answer: A



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283. B-F bond order in BF_3 is :

- A. 1
- B. 2
- C. 3

D. 4/3

Answer: D

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284. One that marks the paper like lead is :

A. Ga

B. Ti

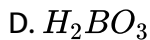
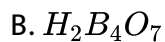
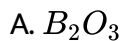
C. B

D. Tl

Answer: D

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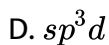
285. Boric acid on heating at $150^{\circ}C$ gives :



Answer: B

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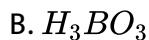
286. The hybridisation of boron atom in orthoboric acid is :



Answer: B

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287. Diborane reacts with water to form :



Answer: C



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288. The element placed in the group 13 and 3rd period of the periodic table is :

A. B

B. Mg

C. Al

D. Na

Answer: C



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289. Conc. HNO_3 can be stored in container of :

A. Cu

B. Sn

C. Zn

D. Al

Answer: D



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290. Aluminium is not used :

- A. In thermite welding
- B. As oxidiser in metallurgy
- C. For making utensils
- D. In silvery paints

Answer: B

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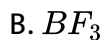
291. Alane is chemically:

- A. AlH_3
- B. $(AlH_3)_n$
- C. $LiAlH_4$
- D. None

Answer: B

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292. Which forms dimer ?



Answer: D



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293. Which of the following does not have a tetrahedral structure ?



D. CH_4

Answer: A

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294. Elements of group 13 form oxides of the general formula :

A. M_4O_5

B. MO

C. M_2O_3

D. M_2O_4

Answer: C

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295. Which shows inert pair effect ?

A. B

B. Al

C. Tl

D. Sc

Answer: C

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296. Boric acid is not used as :

A. As a flux in soldering

B. As an antiseptic

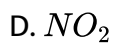
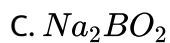
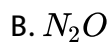
C. In making optical glasses

D. In making enamels and pottery glazes

Answer: A

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297. Boron nitride on reacting with caustic alkali gives:



Answer: A



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298. B-H-B bridge in B_2H_6 is formed by the sharing of :

A. 2 electrons

B. 4 electrons

C. 1 electron

D. 3 electrons

Answer: A

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299. Which is false in case of BF_3 ?

A. It is volatile liquid even at room temperature

B. It is Lewis acid

C. It has planar geometry

D. It forms adduct with NH_3

Answer: A

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300. Eka aluminium is :

A. Gallium

B. Germanium

C. Indium

D. Scandium

Answer: A

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301. Which is used in high temperature thermometry ?

A. Na

B. Ti

C. Ga

D. Hg

Answer: C

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302. B_2O_3 is :

- A. Ionic
- B. Basic
- C. Acidic
- D. Amphoteric

Answer: C



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303. Diaspore is:

- A. $Al_2O_3 \cdot 2H_2O$
- B. $Al_2O_3 \cdot 3H_2O$
- C. Al_2O_3

D. $Al_2O_3 \cdot H_2O$

Answer: D

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304. The boron, carbon, nitrogen and oxygen have their increasing ionisation enthalpy in the order

A. N,O,B,C

B. B,C,O,N

C. B,N,C,O

D. O,B,C,N

Answer: B

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305. On the addition of mineral acid to an aqueous solution of borax, the compound formed is :

- A. Orthoboric acid
- B. Borohydride
- C. Metaboric acid
- D. Pyroboric acid

Answer: A

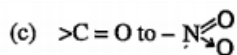


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306. NaBH_4 is used in organic chemistry to convert :

- A. $>C=O \rightarrow >CH_2$
- B. $>C=O \rightarrow >CHOH$

C.



D. $>C=O$ to $-NHOH$

Answer: B

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307. Lead is not affected by dilute HCl in cold, because:

A. Pb is less electronegative than H

B. PbO film is formed which resists chemical attack by acid

C. A protective coating of $PbCl_2$ is formed on Pb surface

D. PbO_2 film is always present on Pb surface, which resists chemical attack

Answer: C

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308. An insulator is :

- A. Silicon
- B. Graphite
- C. Aluminium
- D. Diamond

Answer: D



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309. Which of the following is amphoteric ?

- A. CO_2
- B. PbO_2
- C. SiO_2

D. GeO_2

Answer: B



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310. Which is neutral to litmus?

A. ZnO

B. SnO₂

C. CO

D. SiO₂

Answer: C



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311. Which can be directly brought into solid state from gaseous state ?

A. CO

B. CO_2

C. PH_3

D. $CO + H_2$

Answer: B

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312. Which is/are fire extinguishers?

A. Dry powder containing sand + $NaHCO_3$

B. $NaHCO_3 + H_2SO_4$

C. Foamite extinguishers containing $NaHCO_3 + Al_2(SO_4)_3$

D. All of the above

Answer: D

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313. Tin sulphide is :

- A. Yellow solid
- B. Soluble in yellow ammonium sulphide
- C. Precipitated by H_2S in acidic medium
- D. All of the above

Answer: D



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314. When Co is heated with NaOH under pressure , we get :

- A. Sodium benzoate
- B. Sodium acetate
- C. Sodium formate

D. Sodium oxalate

Answer: C



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315. Which is not used as a refrigerant

A. NH_3

B. CO_2

C. CCl_2F_2

D. CO

Answer: D



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316. Good conductor of heat and current is :

A. Anthracite

B. Diamond

C. Charcoal

D. Graphite

Answer: D

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317. Man dies in an atmosphere of carbon monoxide, because it :

A. Combines with the O_2 present in the body to form CO_2

B. Reduces the organic matter of tissues

C. Combines with haemoglobin of blood, making it incapable of absorbing O_2

D. Dries up the blood

Answer: C



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318. Graphite is used in nuclear reactors :

- A. As a lubricant
- B. As a fuel
- C. As moderator
- D. None of the above

Answer: C



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319. A substance has a very large fuel value. 1 g of its complete combustion will give more of :

- A. CO_2
- B. Water vapour

C. Ash gas

D. Calories

Answer: D



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320. The greatest percentage of CO is in :

A. Coal gas

B. Producer gas

C. Water gas

D. Oil gas

Answer: C



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321. Chemically zeolites are:

- A. Aluminosilicate
- B. Calcium aluminosilicate
- C. Hydrated sodium aluminosilicate
- D. None of the above

Answer: C



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322. Carbon tetrachloride has zero dipole moment because of :

- A. Planar structure
- B. Smaller size of C and Cl atoms ab
- C. Regular tetrahedral structure
- D. None of the above

Answer: C

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323. Mica is chemically :

- A. Potassium aluminosilicate having sheet structure
- B. Calcium aluminosilicate having fibrous structure
- C. Calcium magnesium silicate having three dimensional network
- D. Hydrated sodium aluminosilicate having three dimensional network

Answer: A

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324. Asbestos is chemically :

- A. Silicate of calcium and magnesium

B. Calcium alumino silicates

C. Magnesium alumino silicates

D. Calcium silicate + calcium aluminates

Answer: A

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325. The nature of bonding in diamond is :

A. Metallic

B. Coordinate

C. Covalent

D. Ionic

Answer: C

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326. Commercially important ore of lead is :

- A. Haematite
- B. Sphalerite
- C. Siderite
- D. Galena

Answer: D



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327. Which type of forces bind together the carbon atoms in diamond ?

- A. Coulombic forces
- B. Dipole-dipole forces
- C. van der Waals' forces
- D. Covalent forces

Answer: D

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328. The most abundant gas in ordinary air among the following is :

A. Argon

B. Helium

C. Carbon dioxide

D. Carbon monoxide

Answer: A

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329. If CO_2 is passed in excess into lime water, the milkyiness first formed disappears due to:

- A. Reversal of the original reaction
- B. Formation of volatile calcium derivatives
- C. Formation of water soluble calcium bicarbonate
- D. The solution getting heated by exothermic reaction

Answer: C

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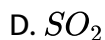
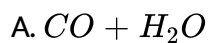
330. Producer gas is a mixture of :

- A. $CO + N_2$
- B. $CO + H_2$
- C. $N_2 + CH_4$
- D. $CO + H_2 + N_2$

Answer: A

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331. In complete combustion of petrol or diesel oil in automobile engines from can be best detected by testing the fuel gas for the presence of :

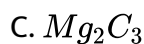
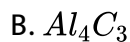


Answer: B



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332. Which of the following is methanides ?



D. Both (a) and (b)

Answer: D



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333. Which gas turns limewater milky?

A. Carbon dioxide

B. Nitrogen dioxide

C. Hydrogen sulphide

D. Carbon monoxide

Answer: A



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334. Which statement is false?

- A. Water gas is a mixture of hydrogen and carbon monoxide
- B. Producer gas is a mixture of carbon monoxide and nitrogen
- C. Water gas is a mixture of water vapour and hydrogen
- D. Natural gas consists of methane, ethane and gaseous hydrocarbons

Answer: C

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335. Difference between diamond and graphite is due to :

- A. Graphite combines with oxygen to form carbon dioxide but diamond does not
- B. The atoms in each have different masses
- C. The crystal structure in diamond is different from that in graphite
- D. All of these

Answer: C



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336. Newly shaped glass articles when cooled suddenly become brittle, therefore these are cooled slowly, this process is known as :

- A. Tempering
- B. Annealing
- C. Quenching
- D. Galvanising

Answer: B



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337. Solder is an alloy of :

- A. Pb, Sb and Sn
- B. Pb and Sn

C. Pb , Bi and Sn

D. Sn , Sb and Cu

Answer: B

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338. CO forms a volatile compound with :

A. Nickel

B. Copper

C. Sodium

D. Aluminium

Answer: A

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339. Lead pipes can be used for:

- A. Soft water
- B. Hard water
- C. Both hard and soft water
- D. None of the above

Answer: B



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340. A colourless gas which burns with blue flame and reduces CuO to

Cu is:

- A. N_2
- B. CO
- C. CO_2
- D. NO_2

Answer: B

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341. Rose metal is an alloy of :

A. $Sn + Pb + Bi$

B. $Sn + Cu$

C. $Sn + Sb + Cu$

D. None of the above

Answer: A

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342. Lead pipes are not suitable for drinking water, because :

A. Lead forms basic lead carbonate

B. Lead reacts with water containing air to form $Pb(OH)_2$

C. A layer of lead dioxide is deposited over pipes

D. Lead reacts with air to form litharge

Answer: B

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343. Silicon hydrides are named as :

A. Silicones

B. Silicates

C. Silicols

D. Silanes

Answer: D

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344. The use of diamond as a gem depends on its:

- A. Hardness
- B. High refractive index
- C. Purest form of carbon
- D. Chemical inertness

Answer: B



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345. Which is a true acid anhydride?

- A. Al_2O_3
- B. CO
- C. CaO
- D. CO_2

Answer: D

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346. In the manufacture of glass, addition of MnO_2 gives:

- A. Yellow colour
- B. Red colour
- C. Violet color
- D. Pink colour

Answer: C

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347. Synthesis gas is a mixture of :

- A. Steam and carbon monoxide

- B. Carbon monoxide and nitrogen
- C. Hydrogen and carbon monoxide
- D. Hydrogen and methane

Answer: C

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

- A. Cu_2O
- B. CdS
- C. MnO_2
- D. Cr_2O_3

Answer: D

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349. When a mixture of air and steam is passed over red hot coke, the outgoing gas contains :

- A. Producer gas
- B. Water gas
- C. Coal gas
- D. None of these

Answer: D



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350. By chlorinating carbon disulphide with chlorine in presence of aluminium chloride, we get:

- A. Carbon tetrachloride
- B. Chloroform
- C. Chloral

D. Methylene chloride

Answer: A

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351. The substance used as a smoke in warfare is

A. $SiCl_4$

B. PH_3

C. PCl_5

D. C_2H_2

Answer: B

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352. Which property is common in diamond and graphite?

A. Electrical conductivity

B. Relative atomic weight

C. Crystal structure

D. Density

Answer: B

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353. On doping Ge metal with a little of In, one gets:

A. p – *type* semiconductor

B. n-type semiconductor

C. Insulator

D. Rectifier

Answer: A

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354. In graphite, electrons are:

- A. Localized on each carbon atom
- B. Spread out between the sheets
- C. Localized on every third carbon atom
- D. Present in antibonding orbital

Answer: B



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355. Water gas is produced by:

- A. Passing steam through a red hot coke bed
- B. Saturating hydrogen with moisture
- C. Mixing oxygen and hydrogen in the ratio of 1 : 2

D. Heating a mixture of CO_2 and CH_4 in petroleum refineries

Answer: A

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356. Tin reacts with conc. H_2SO_4 to give:

A. stannic acid

B. Stannous sulphate

C. β -stannic acid

D. Stannic sulphate

Answer: D

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357. The nature of PbO is:

A. Basic

B. Acidic

C. Amphoteric

D. Neutral

Answer: C

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358. Which is formed when $SiCl_4$ vapours are passed over hot Mg?

A. $SiCl_2 + MgCl_2$

B. $Si + MgCl_2$

C. $Mg_2Si + Cl_2$

D. $MgSiCl_6$

Answer: B

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359. Pure CO can be obtained from :

- A. Sodium oxalate
- B. Nickel tetracarbonyl
- C. Formic acid
- D. Carbon dioxide and hydrogen

Answer: B



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360. Which elements has a limited co-ordination number of four?

- A. Sn
- B. C
- C. Si

D. Ge

Answer: B



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361. Massicot is prepared by :

A. Heating tin in air at about $300^{\circ}C$

B. Heating litharge

C. Heating red lead

D. Heating lead nitrate

Answer: D



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362. Graphite is made by heating coke with silica for many hours in a:

- A. Blast furnace
- B. Blast of steam under pressure
- C. In presence of air
- D. High electric arc furnace

Answer: D

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363. The correct order of decreasing ionic nature of lead dihalides is :

- A. $PbF_2 > PbCl_2 > PbBr_2 > PbI_2$
- B. $PbF_2 > PbBr_2 > PbCl_2 > PbI_2$
- C. $PbF_2 < PbCl_2 > PbBr_2 < PbI_2$
- D. $PbI_2 < PbBr_2 < PbCl_2 < PbF_2$

Answer: A

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364. Which metal is used to make bullet proof alloy steels is

A. Zr

B. Fe

C. Zn

D. Cu

Answer: A



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365. CO_2 is not used in :

A. Making Na_2CO_3

B. Fire extinguishers

C. Making aerated water

D. Disinfecting water

Answer: D

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366. On strong heating lead nitrate gives :

A. PbO , NO , O_2

B. PbO , NO , NO_2

C. PbO_2 , PbO , NO_2

D. PbO , NO_2 , O_2

Answer: D

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367. Which gas is responsible for green house effect ?

A. CO_2

B. SO_2

C. CO

D. SO_3

Answer: A

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368. Oxidation number of Pb is minimum in :

A. PbO

B. Pb_3O_4

C. PbO_2

D. All of these

Answer: B

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369. Tin reacts with :

- A. Hot conc, HCl
- B. Conc, HNO_3
- C. $HgCl_2$ on heating
- D. All of these

Answer: D



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370. Ammonical $CuCl$ absorbs :

- A. CO_2
- B. SO_2
- C. H_2SO_4

D. CO

Answer: D



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371. The colour of lead chromate is :

A. Red

B. Yellow

C. White

D. Black

Answer: B



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372. The elements of group 14 have 4 electrons in their outermost orbit. They:

- A. Form M^{4+} ions
- B. Form M^{4+} and M^{4-} ions
- C. Exhibit oxidation state of +4 and +2
- D. Exhibit oxidation state of +4

Answer: C



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373. PbO_2 is :

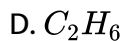
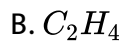
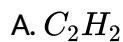
- A. Acidic
- B. Basic
- C. Neutral
- D. Amphoteric

Answer: D



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374. Aluminium carbide reacts with water to give :



Answer: C



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375. Mg_2C_3 has the following characteristics:

A. It is called magnesium allylenide

B. It contains Mg^{2+} and C_3^{4-} ions

C. It on hydrolysis gives propyne

D. All of the above

Answer: D

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376. Gas needed by plants for their growth :

A. CO_2

B. N_2

C. CO

D. O_2

Answer: A

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377. Least stable hydride is :

- A. Methane
- B. Plumbane
- C. Silane
- D. Stibine

Answer: B



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378. The metallic character of the elements to group 14:

- A. Decreases from top to bottom
- B. Has no significance
- C. Does not change
- D. Increases from top to bottom

Answer: D

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379. Antiknock compound is :

- A. Lead tetra acetate
- B. Basic lead carbonate
- C. Tetraethyl lead
- D. Sublimed white lead

Answer: C

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380. The strongest reducing agent is :

- A. SnCl_4

B. HF

C. SnCl_2

D. Cl_2

Answer: C



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381. Which is not used as pigment in paints ?

A. Lead dioxide

B. White lead

C. Lead chromate

D. Pb_3O_4

Answer: A



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382. Silicon is usually found in:

- A. Sand
- B. Coal
- C. quick Lime
- D. Limestone

Answer: A



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383. Lead pencil is manufactured by mixing clay with :

- A. Lead
- B. Graphite
- C. Lamp black
- D. Bone black

Answer: B

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384. Carbon atoms in diamond are bonded to each other in configuration which is :

- A. Planar
- B. Linear
- C. Tetrahedral
- D. Octahedral

Answer: C

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385. Tin dissolves in dilute HNO_3 forming:

A. Metastannic acid

B. Nitrous oxide

C. Ammonium nitrate

D. Stannic nitrate

Answer: C



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386. If a person is injured by the shot of a gun and all the pellets could not be removed, it may cause poisoning by:

A. Hg

B. Pb

C. Fe

D. Ae

Answer: B

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387. Sesquioxide of lead is :

A. PbO

B. PbO_2

C. Pb_2O

D. Pb_2O_3

Answer: D

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388. Purest form of silica is :

A. Quartz

B. Flint

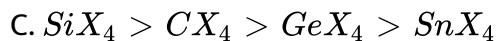
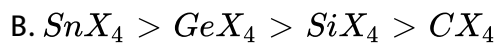
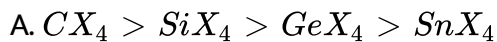
C. Sandstone

D. Kieselguhr

Answer: A

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389. The thermal stability order for group 14 halides is :



D. None of the above

Answer: A

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390. Gun shots are made of lead with a little arsenic. The function of as is to increase:

- A. Range of fire
- B. Power of fire
- C. Brittleness
- D. Weight of fire

Answer: C



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391. Tetraethyl lead is used as:

- A. Fire extinguisher
- B. Antiknock compound
- C. Pain killer
- D. Mosquito killer

Answer: B



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392. Compound of lead used in match industry is :

A. PbO

B. PbO_2

C. PbC_2

D. None

Answer: B



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393. Annealing of glass is done to :

A. Make it more brittle

- B. Make it opaque
- C. Prevent brittleness
- D. Make it transparent

Answer: C

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394. Reducing agent is :

- A. SnO
- B. SnO_2
- C. $SnCl_2$
- D. $SnCl_4$

Answer: C

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395. Oxides of silicon are:

- A. Liquids
- B. Solids
- C. Gases
- D. None

Answer: B



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396. The product obtained when silica reacts with hydrogen fluoride is :

- A. SiF_4
- B. H_2SiF_6
- C. H_2SiF_4
- D. H_2SiF_3

Answer: B

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397. Which is not an ore of lead?

- A. Galena
- B. Anglesite
- C. Calamine
- D. Cerussite

Answer: C

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398. Lead pencil contains:

- A. Pb

B. FeS

C. Graphite

D. PbS

Answer: C



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399. Zn on heating with barium carbonate gives:

A. BaO

B. ZnO

C. CO_2

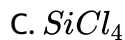
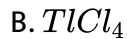
D. All of these

Answer: D



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400. Which is not hydrolysed ?



Answer: D



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401. Colour is imparted to glass by mixing:

A. Synthetic dyes

B. Metal oxides

C. Oxides of non-metal

D. Coloured salt

Answer: B

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402. The purest form of carbon is :

A. Bituminous coal

B. Coal-tar

C. Coal gas

D. Diamond

Answer: D

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403. The metal used in acid storage batteries is :

A. Copper

B. Tin

C. Magnesium

D. Lead

Answer: D



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404. The glass having smallest coefficient of thermal expansion is :

A. Soda lime glass

B. Soft glass

C. Safety glass

D. Pyrex glass

Answer: D



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405. Cassiterite is an ore of:

- A. Tin
- B. Mercury
- C. Lead
- D. Iron

Answer: A



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406. Graphite conducts electricity because of :

- A. Weak van der Waals forces between layers
- B. Covalent bonding between carbon atoms of layers
- C. Delocalized electrons in each layer
- D. sp^2 -hybridisation of carbon atoms in each layer

Answer: C

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407. Which is the least pure form of carbon:

- A. Graphite
- B. Lamp black
- C. Wood charcoal
- D. Animal charcoal

Answer: D

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408. Carbon monoxide will reduce :

- A. Litharge

B. Cupric oxide

C. Zinc oxide

D. Ferric oxide

Answer: C

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409. Tin plague is the :

A. Conversion of stannous to stannic

B. Conversion of white tin to grey tin

C. Emission of sound while bending a tin rod

D. Atmospheric oxidation of tin

Answer: B

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410. Carbon monoxide on heating with sulphur gives :

A. COS

B. SO_2

C. SO_3

D. None of these

Answer: A



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411. Activation of charcoal :

A. Can be achieved only with charcoal form nut shells

B. Increases the adsorbing power of the charcoal

C. Is accomplished by giving powdered charcoal an electrical charge

D. Is achieved by heating the charcoal in air

Answer: B



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412. Which is pseudo solid?

A. Glass

B. Diamond

C. Sodium chloride

D. $CaCO_3$

Answer: A



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413. Tetrahalides of IVB group 14 elements are:

A. Ionic

B. Covalent

C. Polar

D. Coordinate covalent

Answer: B



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414. An example of a major air pollutant is :

A. Oxygen

B. Carbon dioxide

C. Carbon monoxide

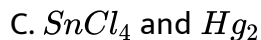
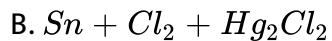
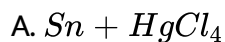
D. Helium

Answer: C



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415. When SnCl_2 reacts with HgCl_2 , the products formed are :



D. None of these

Answer: C



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416. Which is the hardest element ?

A. Iron

B. Silicon

C. Diamond

D. Aluminium

Answer: C

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417. Water glass is :

- A. Calcium silicate
- B. Sodium, calcium silicate
- C. Sodium silicate
- D. Magnesium silicate

Answer: C

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418. Bell metal is an alloy of :

- A. $Sn + Pb$

B. $Cu + Sn$

C. $Sn + Sb$

D. None

Answer: B

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419. Which gas present in atmosphere darkens the surface painted by white lead ?

A. SO_2

B. NH_3

C. CO_2

D. H_2S

Answer: D

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420. The chemical formula of phosgene or carbonyl chloride is :



Answer: B



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421. The coal form containing maximum percentage of carbon is:

A. Lignite

B. Anthracite

C. Bituminous

D. Peat

Answer: B

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422. CeO_2 is present in:

A. Crookes glass

B. Pyrex glass

C. Flint glass

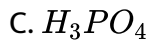
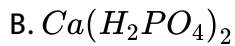
D. All of these

Answer: A

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423. Carborundum is the commercial name of :

A. Al_2O_3



Answer: D

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424. Which poisonous gas is present in the exhaust of car ?

A. Methane

B. Carbon monoxide

C. Acetylene

D. Ethene

Answer: B

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425. Carbon in CO_2 is:

- A. sp -hybridised
- B. sp^2 -hybridised
- C. sp^3 -hybridised
- D. dsp^3 -hybridised

Answer: A



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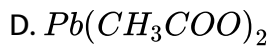
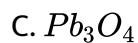
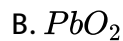
426. Silica dissolves readily in

- A. HF
- B. HCl
- C. HI
- D. HNO_3

Answer: A

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427. Litharge is:



Answer: A

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428. The hybridisation of carbon in carbon monoxide is :



B. sp^2

C. sp

D. dsp^2

Answer: C



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429. Which glass has the highest percentage of lead?

A. Soda glass

B. Flint glass

C. Pyrex glass

D. Jena glass

Answer: B



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430. Silicon is an important constituent of :

- A. Chlorophyll
- B. Haemoglobin
- C. Rocks
- D. Amalgams

Answer: C



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431. Which compound is solid ?

- A. CO_2
- B. NH_3
- C. PH_3
- D. SiO_2

Answer: D



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432. Red lead is :

A. PbO

B. Pb_3O_4

C. PbO_2

D. HgS

Answer: B



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433. Teflon is:

A. Fluorocarbon

B. Hydrocarbon

C. Pesticide

D. Insecticide

Answer: A

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434. Which is not a characteristic property of carbon?

A. Catenation

B. Multiple bond formation

C. Availability of d orbitals for bonding

D. Highest electronegativity in the group

Answer: C

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435. Which element does not exhibit allotropy ?

A. C

B. As

C. Bi

D. P

Answer: D



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436. Which element shows more pronounced inert pair effect ?

A. Si

B. Sn

C. Pb

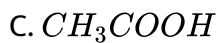
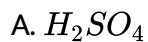
D. C

Answer: C



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437. Lead pipes are readily corroded by :



D. Pure water

Answer: C



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438. The colour of blue glass is due to the presence of the oxide of :

A. Cr

B. Ni

C. Co

D. Fe

Answer: C



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439. Which is used for the manufacture of optical instruments?

A. SiO_2

B. Si

C. SiH_4

D. SiC

Answer: C



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440. The variety of glass, used for the preservation of eggs is :

- A. Jena glass
- B. Safety glass
- C. Water glass
- D. Bottle glass

Answer: C



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441. Ultra violet rays are not allowed to pass through :

- A. Flint glass
- B. Crown glass
- C. Crookes glass
- D. Safety glass

Answer: C

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442. Glass is a :

- A. Liquid
- B. Solid
- C. Supercooled liquid
- D. Transparent organic polymer

Answer: C

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443. The structure and hybridisation of $Si(CH_3)_4$ is:

- A. Bent, sp

B. Trigonal, sp^2

C. Octahedral, sp^3d

D. Tetrahedral, sp^3

Answer: D

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444. The acid used for etching the glass is :

A. Sulphuric acid

B. Perchloric acid

C. Hydrofluoric acid

D. Aqua-regia

Answer: C

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445. A metallic oxide which imparts purple colour to pottery is :

- A. Lead oxide
- B. Copper oxide
- C. Sodium oxide
- D. Manganese dioxide

Answer: D

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446. Tendency for catenation is strongest in:

- A. C
- B. O
- C. N
- D. Si

Answer: A



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447. Metalloid among the following is :

A. Si

B. C

C. Ge

D. Pb

Answer: C



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448. The element forms neutral as well as acidic oxides is :

A. Sn

B. Si

C. C

D. P

Answer: C

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449. Carbon burns in air and forms two oxides CO and CO_2 . This shows that carbon has :

A. Two allotropic forms

B. Two oxidation states

C. Two isotopes

D. 4 electrons in valence shell

Answer: B

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450. Graphite is good conductor of current but diamond is non-conductor because :

- A. Deamond is hard and graphite is soft
- B. Graphite and diamond have different atomic configuration
- C. Graphite is composed of positively charged carbon ions
- D. Carbon in graphite is sp^2 -hybridised while carbon in diamond is sp^3 hybridised.

Answer: C



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451. The number of carbon compounds is very large because it :

- A. Is tetravalent
- B. Forms double and triple bonds

C. Is non-metal

D. Shows catenation

Answer: D

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452. Feldspar is :

A. Potassium sodium aluminosilicate

B. A mixture of potassium, aluminium and silicon oxides

C. Hydrated calcium silicate

D. None of the above

Answer: A

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453. Carbon dioxide is a gas silica is a solid because:

- A. Carbon dioxide is composed of discrete covalent CO_2 molecules, whereas silica has continuous tetrahedral structure.
- B. CO_2 molecules are lighter than SiO_2 molecules
- C. CO_2 is more acidic than SiO_2
- D. Melting point of silica is very high

Answer: A



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454. The anhydride of carbonic acid H_2CO_3 is :

- A. C_2O_2
- B. CO_2
- C. CO

D. Na_2CO_3

Answer: B

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455. Hydrolysis of Cl_4 is not possible but $SiCl_4$ is easily hydrolysed.

- A. Carbon cannot expand its octet but silicon can expand
- B. Electronegativity of carbon is higher than of silicon
- C. IP of carbon is higher than of silicon
- D. Carbon forms double and triple bonds but not silicon

Answer: A

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456. A potter wishes to make a deep blue glaze . Which one of these available chemicals should be mix:

- A. Iron oxide
- B. Cuprous oxide
- C. Cobalt oxide
- D. Nickel oxide

Answer: C



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457. Glass is soluble in:

- A. HF
- B. H_2SO_4
- C. $HClO_4$
- D. Aqua-regia

Answer: A



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458. Carbon reacts with strong electropositive metal oxides to form:

- A. Carbide
- B. Carbonate
- C. Hydroxide
- D. Oxide

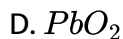
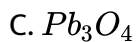
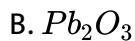
Answer: A



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459. The compound used in lead accumulators is :

- A. PbO



Answer: D

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460. Producer gas, a fuel and also a source of nitrogen is obtained by :

A. Passing steam over incandescent coke

B. Restricted supply of air through a bed of incandescent coke

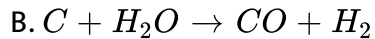
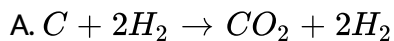
C. Passing a mixture of steam and air over incandescent coke

D. Spraying oil into hot retorts

Answer: B

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461. What happens when steam is passed over red hot carbon:



C. Water vapour dissociates into H_2 and O_2

D. None of these

Answer: B



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462. Which element occurs in free state :

A. C

B. Si

C. Ge

D. Sn

Answer: A

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463. The elements of IVB group or group 14 are :

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

Answer: A

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464. Which statement is correct with respect to the property of the elements with increase in atomic number in the carbon family?

- A. Their metallic character decreases
- B. The stability of +2 oxidation state increases
- C. Their ionisation energy increases
- D. Their atomic size decreases

Answer: B

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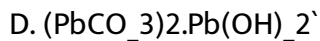
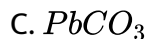
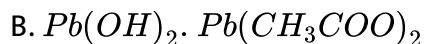
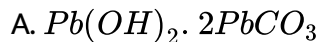
465. Diamond and graphite are:

- A. Isomers
- B. Isotopes
- C. Allotropes
- D. Polymers

Answer: C

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466. Basic lead carbonate is :



Answer: A



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467. Elements of group IVB are:

A. Strongly electropositive

B. Strongly electronegative

C. Weakly electronegative

D. Neither strong nor weak electronegative

Answer: D

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468. A salt which gives CO_2 with hot H_2SO_4 and also decolourises acidified $KMnO_4$ on warming is :



C. Oxalate

D. Acetate

Answer: C

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469. The ability of a substance to assume two or more crystalline structures is called

- A. Isomerism
- B. Amorphism
- C. Polymorphism
- D. Isomorphism

Answer: C



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470. Which halide is least stable and has doubtful existence ?

- A. CCl_4
- B. GeI_4
- C. SnI_4
- D. PbI_4

Answer: D



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471. Hot and conc. HNO_3 react with carbon to form:

A. CO_2

B. CO

C. C_6H_5COOH

D. $NO_2 + CO_2$

Answer: D



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472. Carbon differs from other elements to the group. Which is the false statement:

- A. Due to this limitation of coordination number 4
- B. Due to d-orbitals in penultimate shell
- C. Due to its unique ability to form multiple bonds
- D. Due to its marked tendency to form long chains (catenation)

Answer: B

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473. R_3SiCl on hydrolysis forms:

- A. R_3SiOH
- B. $R_3Si - O - SiR_3$
- C. $R_2Si = O$
- D. None of the above

Answer: B

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474. Aqueous solution of sodium silicate is :

- A. Acidic
- B. Alkaline
- C. Neutral
- D. Insoluble

Answer: B



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475. Which melts in boiling water ?

- A. Gun metal
- B. Wood's metal
- C. Monel metal

D. Bell metal

Answer: B



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476. Pb shows oxidation state of

A. +2, +4

B. +1, +2

C. +3, +4

D. Only +4

Answer: A



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477. The fraction by volume of carbon monoxide in producer gas is about :

A. $1/2$

B. $1/3$

C. $1/4$

D. $1/2$

Answer: B



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478. CO_2 and N_2 are non-supporters of combustion . However, for putting out fires CO_2 is preferred over N_2 because CO_2 :

A. Does not burn

B. Forms non-combustible products with burning substances

C. Is denser than nitrogen

D. Is a more reactive gas

Answer: C

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479. The fuel gas having volume composition equal to 34 % CH_4 + 48 % H_2 + 12 % O_2 + 3 % CO is :

A. Oil gas

B. Water gas

C. Coal gas

D. Petrol gas

Answer: C

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480. The dry ice is :

- A. Solid ice without any water
- B. solid sulphur dioxides
- C. solid carbon dioxide
- D. solid benzene

Answer: C



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481. Water gas cannot be prepared by a continuous process because:

- A. More coke must be added from time to time
- B. The furnace must be allowed to cool occasionally
- C. It cannot be manufactured without producer gas
- D. The reaction ceases when coke is too cool

Answer: D

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482. The core of a non-luminous Bunsen burner flame is observed to be yellow in colour. This is because of :

- A. Contamination from the metal of the burner
- B. Impurities in the fuel
- C. Incomplete combustion
- D. None of the above

Answer: C

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483. If the flame of a gas stove burns with yellow tips, the burner must be adjusted to provide:

A. More gas

B. More air

C. Less air

D. None of these

Answer: B

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484. When sodium formate is heated in a current of CO_2 at $360^\circ C$ we get :

A. Sodium formate

B. Sodium oxalate

C. Sodium acetate

D. sodium carbonate

Answer: D

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485. A kettle which becomes furred-up in use has inside it a deposit composed mainly of :

- A. Calcium carbonate
- B. Magnesium bicarbonate
- C. Magnesium sulphate
- D. Sodium sulphate

Answer: A

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486. Which of the following is better fuel ?

- A. Solid
- B. Liquid

C. Gaseous

D. Semi solid

Answer: C

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487. The component present in greater proportion in water gas is :

A. H_2

B. CO

C. CO_2

D. N_2

Answer: A

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488. The reducing power of divalent species decreases in the order :

A. $Ge > Sn > Pb$

B. $Sn > Ge > Pb$

C. $Pb > Sn > Ge$

D. None of these

Answer: A



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489. Which form of carbon is used in making boot polish, printing ink, paint and black varnish?

A. Bone black

B. Graphite

C. Gas carbon

D. Lamp black

Answer: D



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490. Which of the following is similar to graphite ?

A. BN

B. B

C. B_4C

D. B_2H_6

Answer: A



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491. Solid CO_2 is used as:

A. Poison

B. Fire extinguisher

C. Refrigerant

D. Artificial respirant

Answer: C



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492. Which gas has more percentage in coal gas ?

A. CO

B. H

C. H_2

D. CH_4

Answer: C



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493. Bond energy is highest for :

A. Sn-Sn

B. Ge-Ge

C. $C - C$

D. $Si - Si$

Answer: C



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494. Which of the following is more stable ?

A. Sn^{4+}

B. Pb^{4+}

C. Ge^{4+}

D. Si^{4+}

Answer: B



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495. Graphite is soft because:

- A. It has three dimensional structure
- B. It has layer structure
- C. It is black
- D. It has low density

Answer: B



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496. Tin, a silvery white metal exists in :

- A. Four allotropic forms

B. Three allotropic forms

C. Five allotropic forms

D. Two allotropic forms

Answer: B



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497. CO_2 is obtained by heating :

A. $NaCO_3$

B. K_2CO_3

C. $NaHCO_3$

D. None of these

Answer: C



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498. Which is not allotrope of carbon?

A. Graphite

B. Diamond

C. Soot

D. Carborundum

Answer: D



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499. When chlorine is passed through molten tin, the product obtained is:

A. SnCl_2

B. $[\text{SnCl}_4]^{2-}$

C. $[\text{SnCl}_6]^{2-}$

D. SnCl_4

Answer: D



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500. Thermodynamically most stable form of carbon is :

- A. Diamond
- B. Coke
- C. Charcoal
- D. Graphite

Answer: D



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501. Which element of group 14 forms only one hydride ?

- A. C

B. Si

C. Sn

D. Pb

Answer: D



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502. Carbon is soluble in :

A. Conc. HCl

B. Dil. HNO_3

C. H_2SO_4

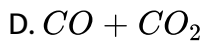
D. Dil. HCl

Answer: C



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503. What is formed when oxalic acid is dehydrated by conc. H_2SO_4 :



Answer: D



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504. Bleaching powder on treatment with CO_2 gives:



Answer: B

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505. The common semiconductor is :

A. Fe

B. Se

C. Ge

D. C

Answer: C

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506. Crystalline varieties of allotropes of carbon is :

A. Graphite

B. Coke

C. Peat

D. Gas Carbon

Answer: A



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507. Carbon gets itself dissolved in:

A. Dil. H_2SO_4

B. Conc. H_2SO_4

C. Dil. HCl

D. Conc. HCl

Answer: B



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508. The approximate composition of soda glass is :

A. SiO_2 75 % , Na_2O 15 % , CaO 8 % , Al_2O_3 2 %

B. SiO_2 45 % , Na_2O 4 % , CaO 3 % , K_2O 4 % , PbO 44 %

C.

SiO_2 80 % , Na_2O 4 % , CaO 0.5 % , K_2O 0.5 % , B_2O_3 12 % , Al_2O_3 3 %

D. None of the above

Answer: A



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509. Carbon dioxide dissolves under pressure in water to give

A. An alkaline solution

B. An acidic solution

C. A neutral solution

D. A highly alkaline solution

Answer: B

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510. Which oxide has three dimensional structure?

A. CO

B. CO_2

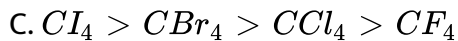
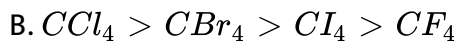
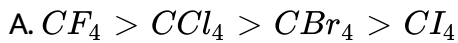
C. SiO_2

D. SO_2

Answer: C

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511. The C-X bond energy order for carbon tetrahalides is :



D. None of these

Answer: A

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512. Which is not a crystalline form of silica?

A. Quartz

B. Azurite

C. Cristobalite

D. Tridymite

Answer: B

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513. Carbogen is :

- A. Mixture of $O_2 + 5 - 10\% CO_2$
- B. Used by pneumonia patients for respiration
- C. Used by victims of CO for respiration
- D. All of the above

Answer: D



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514. When $SnCl_4$ is treated with excess HCl, the complex $[SnCl_6]^{2-}$ is formed. The oxidation state of Sn in this complex is :

- A. +6
- B. +4
- C. -2

D. +2

Answer: B



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515. CO_2 is bubbled into an aqueous solution of Na_2CO_3 to give:

A. $NaOH$

B. HCO_3^-

C. H_2O

D. OH^-

Answer: B



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516. Suppose you have to determine the percentage of carbon dioxide in a sample of a gas available in a container. Which is the best absorbing material for the carbon dioxide?

- A. Cold, solid calcium hydroxide
- B. Cold , solid calcium chloride
- C. Heated copper oxide
- D. Heated charcoal

Answer: A



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517. The metal which does not form a polynuclear carbonyl is:

- A. Chromium
- B. Manganese
- C. Iron

D. Cobalt

Answer: A



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518. Wood charcoal is used in gas masks because it :

A. Is poisonous

B. Liquifies gas

C. Is porous

D. Absorbs gases

Answer: D



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519. Which gas is essential constituent of almost all fuel gases?

A. CO_2

B. N_2

C. CO

D. H_2O

Answer: C



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520. Which gas is used in aerated water :

A. Water vapours

B. CO_2

C. CO

D. SO_2

Answer: B



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521. Oil gas is obtained in laboratory by :

- A. Heating of alcohol
- B. Cracking of kerosene
- C. Heating castor oil
- D. Heating coconut oil

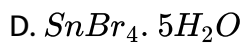
Answer: B



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522. Butter of tin is :

- A. $\text{SnCl}_{2.5} \cdot \text{H}_2\text{O}$
- B. $\text{SnCl}_4 \cdot 5\text{H}_2\text{O}$
- C. $\text{SnBr}_2 \cdot 2\text{H}_2\text{O}$



Answer: B



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523. Which form of carbon has a two-dimensional sheet-like structure ?

A. Coal

B. Coke

C. Diamond

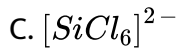
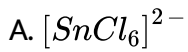
D. Graphite

Answer: D



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524. Which species does not exist ?



Answer: D



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525. During day time plants absorb:

A. Carbon dioxide

B. Carbon monoxide

C. Nitrogen

D. Oxygen

Answer: A



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526. Highest electronegativity among the following is for :

A. C

B. Si

C. Sn

D. Pb

Answer: A



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527. Silicon carbide is used as:

A. Dehydrating agent

B. Abrasive

C. Solvent

D. Catalyst

Answer: B

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528. Most ionic chloride is :



Answer: A

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529. The inert form of carbon is :

A. Diamond

B. Graphite

C. Coal

D. Charcoal

Answer: A



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530. Which metal is an important component of transistors ?

A. Ag

B. Ge

C. Os

D. Ra

Answer: B



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531. The most reactive form of carbon is :

- A. Diamond
- B. Graphite
- C. Coal
- D. Charcoal

Answer: D



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532. CO reacts with chlorine in presence of sunlight to give :

- A. $COCl_2$
- B. CO_2
- C. Cl_4

D. $CHCl_3$

Answer: A

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533. C and Si belong to group 14. The maximum coordination number of carbon in commonly occurring compounds is 4, whereas that of silicon is

6. This is due to :

- A. Large size of silicon
- B. Availability of vacant d-orbitals in silicon
- C. More electropositive nature of silicon
- D. Silicon being vulnerable to attack by nucleophilic reagents

Answer: B

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534. Coke is obtained from coal by:

- A. Cracking
- B. Fractional distillation
- C. Destructive distillation
- D. None of the above

Answer: C



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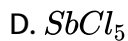
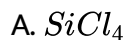
535. Chrome yellow is :

- A. $PbCrO_4$
- B. $K_2Cr_2O_7$
- C. $PbMoO_4$
- D. Pb_3O_4

Answer: A

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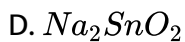
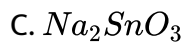
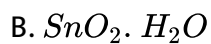
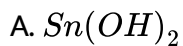
536. Pyrene (a fire extinguisher) is :



Answer: B

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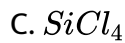
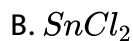
537. Addition of excess of sodium hydroxide solution to stannous chloride solution, we obtain:



Answer: D

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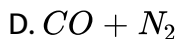
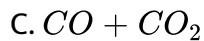
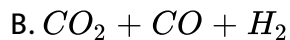
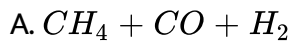
538. An ionic compound is :



Answer: B

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539. The main constituents of coal gas are :

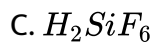
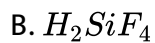
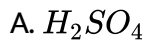


Answer: A



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540. Which acid is formed when SiF_4 reacts with water.



D. None of these

Answer: C

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541. The calorific value of carbon monoxide is about ____ k cal:

A. 7.8

B. 11.6

C. 47

D. 94

Answer: A

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542. The substance used in pigment is :

A. Lithopone

B. Borax

C. Alumina

D. None of these

Answer: A

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543. Lead sugar is :

A. $PbCl_2$

B. $Pb(NO_3)_2$

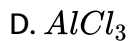
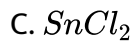
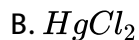
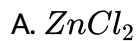
C. $PbSO_4$

D. $(CH_3COO)_2Pb$

Answer: D

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544. Iodine is decolourised by :



Answer: C



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545. CO_2 is called dry ice or drycold because :

A. It wets the surface

B. It does not melt

- C. At atmospheric pressure solid CO_2 changes directly into the gas and the liquid phase is not formed and does not wet the surface
- D. It is gaseous in nature

Answer: C



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