AP – POLYCET

2017

Time : 2 Hours **Total Marks : 120**

SECTION –III

Chemistry

91. Which electromagnetic waves are sensitive to our eyes?
    A. X-rays
    B. Ultraviolet rays
    C. Visible rays
    D. Microwaves
92. The number of possible orbitals in a sub-shell with the angular momentum quantum number (l) is
    A. $l + 1$
    B. $2l + 1$
    C. $2(2l + 1)$
    D. 0 to n – 1
93. The atomic weight of a bivalent element is 9. The equivalent weight of the same element is
    A. 18
    B. 13.5

C. 4.5
D. 3

94. 4f elements are called
A. lanthanides
B. actinides
C. noble elements
D. transitional elements

95. The valency of aluminium in Al_2O_3 with respect to oxygen is
A. 2
B. 3
C. 1
D. 1.5

96. Which of the following ions.is larger in size?
A. Na^+
B. Mg^{2+}
C. Al^{3+}
D. H^+

97. The correct ionization energy order in the following sets of elements is
A. C > O > N
B. N > O > C
C. O > N > C
D. N > C > O

98. The formula of the compound formed by A^{3+} and B^{2-} is
    A. A_3B_2
    B. A_2B_3
    C. AB
    D. A_2B
99. The ratio of coordination number of Na' and in face-centred cubic lattice crystal of NaCl is
    A. 6 : 6
    B. 6 : 1
    C. 1 : 6
    D. 3 : 4
100. The numbers of bond pairs of electrons and one pair of electrons in 02 molecule respectively are
    A. 2, 2
    B. 2, 1
    C. 4, 2
    D. 2, 4
101. Which of the following molecules has highest bond dissociation energy?
    A. F – F
    B. Cl – Cl
    C. Br – Br
    D. I – I

102. The numbers of hybrid orbitals and atomic orbitals involved in BF3 respectively are

A. 2, 2
B. 4, 4
C. 3, 1
D. 3, 3

103. which of the following metals has lowest reactivity?

A. Na
B. Al
C. Au
D. Cu

104. The fusible product formed when the impurity present in ore reacts with flux is called as

A. gangue
B. slag
C. mineral
D. alloy

105. Blast furnace is mainly suitable for

A. smelting
B. roasting
C. calcination
D. oxidation

106. 2-methylpropane is also called as

A. Iso-propane
B. n-butane

C. n-propane
D. Iso-butane

107. The IUPAC name of $HO - CH_2 - CH_2 - CH_2 - COOH$ is
A. 1-hydroxy-4-butkunoic acid
B. 4-carboxyl- 1 -butanol
C. 3-hydroxy-1-propanoic acid
D. 4-hydroxy-1-butanoic aid

108. $CH_3 - CH_2$-OH reacts with alkaline $KMnO_4$ and heats to form first the compound A, which further oxidizes to form the compound B. The name of the compound B is
A. ethanol
B. ethanal
C. formaldehyde
D. acetic acid

109. But-2-yne reacts with H_2 in Ni catalyst to form but-2-ene. This reaction is an example for
A. substitution reaction
B. addition reaction
C. elimination reaction
D. rearrangement reaction

110. The hardest material among the allotropes of carbon is .
A. diamond

B. graphite

C. coke

D. coal

111. the electric configuration of carbon in excited state is

A. $1s^2\,2s^2\,2\,px^1\,py^1 2\,pz^1$

B. $1s^2\,2s^1 2\,px^1\,py^1 2\,pz^1$

C. $1s^2\,2s^2\,2\,px^1\,py^1$

D. $1s^2\,2s^2\,2\,px^1$

112. Match the following

(a) $Zn_{(s)} + 2\,AgNO_{3(aq)} + 2\,Ag_{(s)}$

(i) Decomposition reaction

(b) $NaCl_{(s)} + AgNO_{3(aq)} \rightarrow AgCl_{(s)} + NaNO_{3(aq)}$

(ii) Combination reaction

(c) $CaCO_{3(s)} \rightarrow CaO_{(s)} + CO_{2(g)}$

(iii) Displacement reaction

(d) $Ng_{(s)} + O_{2(g)} \rightarrow 2MgO_{(g)}$

(iv) Double displacement reaction

A. (a) (b) (c) (d)
(iii) (iv) (i) (ii)

B. (a) (b) (c) (d)
(iv) (iii) (i) (ii)

C. (a) (b) (c) (d)
(iii) (iv) (ii) (i)

D. (a) (b) (c) (d)
(iii) (i) (iv) (ii)

113. Stainless steel is an alloy of

A. Fe + Cr + Ni + C

B. Fe + Cu + Ni + Zn

C. Fe + Mn + C + Cu

D. Fe + C + Pb + Mn

114. Which enzyme in apples, pears and banana fruits can change its colour with oxygen on cut surface of fruits?

A. Zymase

B. Polyphenol

C. Polyphenol oxidase

D. Maltase

115. $Fe_2O_3 + Al \rightarrow Al_2O_3 + 2Fe$. In this reaction, which statement is correct?

A. Fe_2O_3 is oxidized.

B. Al is reduced.

C. Al is oxidized.

D. Fe is reduced.

116. The number of moles of HCl can react with one mole sodium carbonate is

A. 1

B. 3
C. 2
D. $\frac{1}{2}$

117. The base used in soda-acid fire extinguishers is
A. Na_2CO_3
B. NaHCO3
C. NaOH
D. Na_2O

118. The pH of milk of magnesia is ir
A. 7-8
B. 6-7
C. 10-11
D. 4-5

119. Which of the following salt solutions is basic in nature? I .
A. NaCl
B. NH_4Cl
C. Na_2CO_3

120. Bohr's model explains the line spectra of
A. H^+ ion
B. H atom
C. He atom
D. Li^+ ion