CHEMISTRY

BOOKS - MARVEL CHEMISTRY (HINGLISH)

REDOX REACTIONS

Mcqs

1. Development of ozone hole is regarded as

A. Displacement reaction

B. Precipitation reaction

C. Redox reaction

D. Nuclear reaction

Answer: C

View Text Solution

2. A substance which loses electron (s)is

A. Oxidant

B. Reducing agent

C. An oxidising agent

D. Substance that oxidises

Answer: B

Watch Video Solution

3. Unbalanced half equation $ClO_{3(aq)}^{-} \rightarrow ClO_{2(aq)}$ is

A. a redox reaction

B. an electron transfer reaction

C. an oxidation

D. reduction

Answer: D

Watch Video Solution

4. The unbalanced half equation $CrCl_3 \rightarrow (Cr_2O_7)^{2-}$ is an example of

A. Redox reaction

B. Oxidation reaction

C. Reduction reaction

D. Combustion reaction

Answer: B

Watch Video Solution

5. Which of the following represents oxidation ?

A. $2Cl^- - 2e^- \rightarrow Cl_2$

B. $Sb^{+5} + 2e^- \rightarrow Sb^{31}$

C. $S \rightarrow S^2 - 2e^-$

D. $\left[Fe(CN)_6\right]^{3-} \rightarrow \left[Fe(CN)_6\right]^{4-} - e^-$

Answer: A

Watch Video Solution

6. A metal ion M^{+2} loses 3 electrons its oxidation number will be

A. -1

B. 0

C. $+5$

D. $+3$

Answer: C

Watch Video Solution

7. Oxidation state(s) of chlorine in $CaOCl_2$ (bleaching powder)

A. 0

B. -1

C. $+1$

D. $+1, \ -1$

Answer: A

Watch Video Solution

8. Which of the following is a redox reaction ?

A. H_2SO_4 with NaOH

B. In atmosphere, O_3 from O_2 by lighting

C. Nitrogen oxides from nitrogen and oxygen by lightning

D. Evaporation of H_2O

Answer: C

Watch Video Solution

9. The reaction of $KMnO_4$ and HCl results in:

A. Oxidation of Mn in $KMnO_4$ and production of Cl_2

B. Reduction of Mn in $KMnO_4$ and production of H_2

C. Oxidation of Mn in $KMnO_4$ and production of H_2

D. Reduction of Mn in $KMnO_4$ and production of Cl_2

Answer: D

Watch Video Solution

10. The compound that canwork both as an oxidising as well as a reducing agent is

A. $KMnO_4$

B. H_2SO_4

C. BaO_2

D. H_2O_2

Answer: D

Watch Video Solution

11. Which of the following behaves as both oxidising and reducing agents ?

A. H_2SO_4

B. SO_2

C. H_2O

D. HNO_3

Answer: B

Watch Video Solution

12. Which of the following molecules can act as an oxidating as well as a reducing agent?

A. H_2O

B. SO_3

C. H_2O_2

D. F_2

Answer: C

Watch Video Solution

13. Which of the following is not a reducing agent ?

A. SO_2

B. H_2O_2

C. CO_2

D. NO_2

Answer: C

Watch Video Solution

14. The reaction in which hydrogen peroxide acts as a reducting agent is .

A. $PbS + 4H_2O_2 \rightarrow PbSO_4 + 4H_2O$

B. $2KI + H_2O_2 \rightarrow 2KOH + I_2$

C. $2FeSO_4 + H_2SO_4 + H_2O_2 \rightarrow Fe_2(SO_4)_3 + 2H_2O$

D. $Ag_2O + H_2O_2 \rightarrow 2Ag + H_2O + O_2$

Answer: D

Watch Video Solution

15. HNO_3 acts as

A. Acid

B. Oxidising agent

C. Reducing agent

D. Both (a) and (b)

Answer: D

Watch Video Solution

16. Which one of the following acts as a reducing as well as oxidising agent ?

A. O_3

B. ClO_4^-

C. F_2

D. MnO_4^-

Answer: A

Watch Video Solution

17. The most powerful oxidising agent is :

A. H_3BO_3

B. HPO_3

C. H_3PO_4

D. H_2SO_4

Answer: D

Watch Video Solution

18. Reduction involves

A. loss of electrons

B. gain in electrons

C. increase in oxidation number

D. addition of oxygen

Answer: B

Watch Video Solution

19. In the reaction between sodium and chlorine to form sodium chlorine

A. sodium atom is reduced

B. sodium ion is reduced

C. chlorine atom is reduced

D. chlorine ion is reduced

Answer: C

Watch Video Solution

20. Which of the following is not an example of redox reaction?

A. $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + 2HCl$

B. $2K + F_2 \rightarrow 2KF$

C. $CuO + H_2 \rightarrow Cu + H_2O$

D. $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

Answer: A

Watch Video Solution

21. Which of the following is a redox reaction ?

A. $Mg(OH)_2 + 2NH_4Cl \rightarrow MgCl_2 2NH_4OH$

B. $NaCl + KNO_3 \rightarrow NaNO_3 + KCl$

C. $CaC_2O_4 + 2HCl \rightarrow CaCl_2 + H_2C_2O_4$

D. $Zn + 2AgCN \rightarrow 2Ag + Zn(CN)_2$

Answer: D

Watch Video Solution

22. Which of the following is a redox reaction ?

A. $C_{12}H_{22}O_{11} + H_2O \rightarrow 2C_6H_{12}O_6$

B. $CuSO_4 + 4NH_3 \rightarrow \left[Cu(NH_3)_4\right]SO_4$

C. $Na_2SO_4 + BaCl_2 \rightarrow BaSO_4 + 2NaCl$

D. $2CuSO_4 + 4KI \rightarrow Cu_2I_2 + 2K_2SO_4 + I_2$

Answer: D

Watch Video Solution

23. Identify the redox reaction out of the following reactions.

A. $C_{12}H_{22}O_{11} \rightarrow C_6H_{12}O_6 + C_6H_{12}O_6$

B. $HgCl_2 + 2KI \rightarrow HgI_2 + 2KCl$

C. $4NH_3 + 3O_2 \rightarrow 2N_2 + 6H_2O$

D. $PCl_3 + 3H_2O \rightarrow 3HCl + H_3PO_3$

Answer: C

Watch Video Solution

24. Which of the following is not an example of redox reaction?

A. $CuO + H_2 \rightarrow Cu + H_2O$

B. $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

C. $2K + F_2 \rightarrow 2KF$

D. $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + 2HCl$

Answer: D

Watch Video Solution

25. The reaction, $2H_2O_{(l)} \rightarrow 4H^+_{(aq)} + O_{2(g)} + 4e^-$ is

A. an oxidation reaction

B. a reduction reaction

C. a redox reaction

D. a hydrolysis reaction

Answer: A

Watch Video Solution

26. Which of the following is a redox reaction ?

A. $NaCl + KNO_3 \rightarrow NaNO_3 + KCl$

B. $CaC_2O_4 + 2HCl \rightarrow CaCl_2 + H_2C_2O_4$

C. $Mg(OH)_2 + 2NH_4Cl \rightarrow MgCl_2 + 2NH_4OH$

D. $Zn + 2AgCN \rightarrow 2Ag + Zn(CN)_2$

Answer: D

Watch Video Solution

27. In the reaction :-

$C + 4HNO_3 \rightarrow CO_2 + 2H_2O + 4NO_2$

HNO_3 acts as :-

A. an oxidising agent

B. an acid

C. an acid as well as oxidizing agent

D. a reducing agent

Answer: A

Watch Video Solution

28. Which of the following reactions involves neither oxidation nor reduction ?

A. $CrO_4^- \rightarrow Cr_2O_7^{2-}$

B. $Cr \rightarrow CrCl_3$

C. $Na \rightarrow Na^+$

D. $2S_2O_3^{2-} \rightarrow S_4O_6^{2-}$

Answer: A

Watch Video Solution

29. What products are expected from the desproprtionation reactin of hypochorous acid ?

A. HCl and Cl_2O

B. HCl and $HClO_3$

C. $HClO_3$ and Cl_2O

D. $HClO_2$ and $HClO_4$

Answer: B

Watch Video Solution

30. A substance that gains electrons (s) is

A. an oxidising agent

B. a reducing agent

C. a substance that oxidizes

D. reductant

Answer: A

Watch Video Solution

31. A substance that goes to higher oxidation state (number) is

A. an oxidising agent

B. a substance that reduces

C. a reducing agent

D. oxidant

Answer: C

Watch Video Solution

32. Which of the following substance (s)can act as an oxidising well as reducing agent ?

A. Sodium nitrite

B. Sodium nitrate

C. Sodium thiosulphate

D. Sodium peroxide

Answer: A

Watch Video Solution

33. The conversion of sugar $C_{12}H_{22}O_{11} \rightarrow CO_2$ is

A. Oxidation of Mn in $KMnO_4$ and production of Cl_2

B. Reduction

C. None

D. Both

Answer: A

View Text Solution

34. Which of the following reactions involve oxidation and reduction?

A. $NaBr + HCl + NaCl + HBr$

B. $HBr + AgNO_2 + AgBr + HNO_2$

C. $H_2 + Br_2 + 2HBr$

D. $Na_2O + H_2SO_4 \rightarrow Na_2SO_4 + H_2O$

Answer: C

Watch Video Solution

35. White P reacts with caustic soda, the products are PH_3 and NaH_2PO_2. This reaction is an example of:

A. Oxidation

B. Reduction

C. Oxidation and Reduction

D. Neutralization

Answer: C

Watch Video Solution

36. In a reaction between zinc and iodine in which zinc iodide is formed, what is being oxidised ?

A. Zinc ions

B. Iodide ions

C. Zinc atom

D. Iodine

Answer: C

Watch Video Solution

37. A substance whose oxidation state decreases is

A. Oxidising agent

B. Reductant

C. Reducing agent

D. Undergoing oxidation

Answer: A

Watch Video Solution

38. Oxidation number of hydrogen in sodium hydride (Na_2H_2) is

A. $+1$

B. $+2$

C. -1

D. 0

Answer: C

Watch Video Solution

39. In the reaction $X^+ + Y \rightarrow X + Y^+$,X is

A. Oxidised

B. Reducing agent

C. Oxidising agent

D. Reductant

Answer: C

View Text Solution

40. The sum of oxidation states of all atoms in CrO_4^{2-} is

A. Zero

B. 4

C. -2

D. $+6$

Answer: C

Watch Video Solution

41. Oxidising agent is one whose oxidation number

A. increases

B. decreases

C. increases or decreases

D. remains unchanged

Answer: B

Watch Video Solution

42. In the reaction $2FeCl_2 + cl_2 \rightarrow 2FeCl_3$, chlorine undergoes

A. Oxidation

B. Reduction

C. Either oxidation or reduction

D. De-electronation

Answer: B

Watch Video Solution

43. Oxidation state of Boron in $Na_2B_4O_7$ is

A. Zero

B. $+2$

C. $+3$

D. -1

Answer: C

Watch Video Solution

44. When iron filling are added to copper sulphate solution Cu is precipitated because of

A. reduction of Fe

B. oxidation of Fe

C. reduction of sulphate ions

D. hydrolysis of copper

Answer: B

Watch Video Solution

45. The oxidation number of C in sucrose $(C_{12}H_{22}O_{11})$ is

A. 0

B. $+12$

C. -12

D. $+7$

Answer: A

Watch Video Solution

46. The element with atomic number 9 will exhibit oxidation state of

A. $+2$

B. 0

C. -1

D. $+4$

Answer: C

Watch Video Solution

47. In the reaction $H_2S + SO_2 \rightarrow S + H_2O$, H_2S is

A. an oxidising agent

B. Reducing agent

C. Both oxidising and reducing agent

D. Evolved

Answer: B

Watch Video Solution

48. Oxidation number of carbon in methane is

A. -4

B. Zero

C. $+1$

D. -1

Answer: A

Watch Video Solution

49. Oxidation number of Fe in Fe_3O_4 is

A. $+2$

B. $+3$

C. $\frac{8}{3}$

D. $\frac{2}{3}$

Answer: C

Watch Video Solution

50. In the titration of $KMnO_4$ against FAS (Ferrous ammonium sulphate) the colour of $KMnO_4$ disappears as $KMnO_4$ acts as

A. Oxidising agent

B. Reducing agent

C. Indicator

D. Electron donor

Answer: A

Watch Video Solution

51. Oxidation number of phosphorus in phosphate ion is

A. $+3$

B. $+7$

C. -3

D. $+5$

Answer: D

Watch Video Solution

52. The oxidation number of C in CH_3OH, $HCHO$, $HCOOH$ and C_2H_2 is respectively

A. $-2, 0, +2, -1$

B. $-2, -4, +2, -2$

C. $-2, 0, +2, 0$

D. $-1, 0, +2, -1$

Answer: A

Watch Video Solution

53. The oxidation number of S in Na_2S_2 is

A. -4

B. -2

C. 0

D. -1

Answer: D

Watch Video Solution

54. Oxidation number of sodium in sodium amalgam $\left(N\frac{a}{H}g\right)$ is

A. $+1$

B. 0

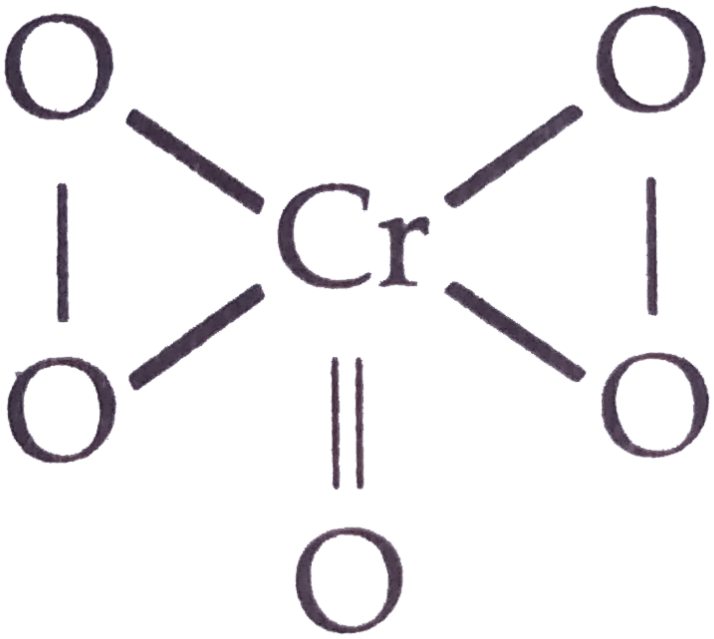
C. -1

D. $+2$

Answer: B

View Text Solution

55. Oxidation state of chromium in



A. $+10$

B. $+3$

C. $+6$

D. $+2$

Answer: C

Watch Video Solution

56. Oxidation number of manganese in potassium permaganate is

A. $+6$

B. $+7$

C. $+14$

D. $+5$

Answer: B

Watch Video Solution

57. Oxidation number of P in PO_4^{3-}, of S in SO_4^{2-} and that of $Cr_2O_7^{2-}$ are respectively

A. $+3, \ +6, \ +5$

B. $+6, \ +6, \ +5$

C. $+5, \ +3, \ +6$

D. $-3, \ -5, \ +6$

Answer: B

Watch Video Solution

58. The oxidation state of Fe in brown complex $\left[Fe(H_2O)_5NO\right]SO_4$ is

A. 0

B. $+1$

C. $+3$

D. $+2$

Answer: D

Watch Video Solution

59. When $KMnO_4$ acts as an oxidising agnet and ultimetely from MnO_4^{2-}, MnO_2, Mn_2O_3, and Mn^{2+}, then the number of electrons transferred in each case, respectively, are

A. 4,3,1,5

B. 1,5,3,7

C. 1,3,4,5

D. 3,5,7,1

Answer: C

Watch Video Solution

60. In the reaction

$$3Br_2 + 6CO_3^{2-} + 3H_2O \rightarrow 5Br^- + 2BrO_3^- + 6HCO_3^-$$

A. Bromine is oxidised and water is reduced

B. Bromine is neither oxidised nor reduced

C. Bromine is oxidised and carbonate is reduced

D. Bromine is both reduced and oxidised

Answer: D

Watch Video Solution

61. Which of the following arrangements represent increaseing oxidation number of the central atom?

A. $CrO_4^-, MnO_4^-, CrO_2^-, ClO_3^-$

B. $ClO_3^-, CrO_4^{2-}, MnO_4^-, CrO_2^-$

C. $CrO_2^-, ClO_3^-, MnO_4^-, CrO_4^{2-}$

D. $CrO_2^-, ClO_3^-, CrO_4^{2-}, MnO(4)^-$

Answer: D

Watch Video Solution

62. The average oxidation state of sulphur in $Na_2S_4O_6$ is

A. $+3.5$

B. $+2$

C. $+2.5$

D. $+3$

Answer: C

Watch Video Solution

63. In the reaction $4NH_3 + 3O_{2(g)} \rightarrow 2N_{2(g)} + 6H_2O_{(g)}$

A. NH_3 acts as an oxidant and O_2 acts as reductant

B. O_2 acts as an oxidant as well as reductant

C. O_2 acts as an oxidant and NH_3 acts as reductant

D. NH_3 acts as an oxidant and reductant

Answer: C

Watch Video Solution

64. The oxidation numbers of sulphur atoms in H_2SO_5 and $H_2S_2O_8$ are respectively (peroxomonousulphuric acid, peroxodisulphuric acid)

A. $+8$ and $+7$

B. $+8$ and $+6$

C. $+4$ and $+6$

D. $+3$and 3

Answer: B

Watch Video Solution

65. The oxidation number of sulphur in $H_2S_2O_4$, , $H_2S_2O_6$, $H_2S_2O_5$is respectively

A. $+3, +5, +4$

B. $+6, +3, +5$

C. $+3, +4, +5$

D. $+5, +4, +3$

Answer: A

Watch Video Solution

66. Oxidation state of P in $H_4P_2O_5$, $H_4P_2O_6$, $H_4P_2O_7$ are respectively

A. $+3, +5, +4$

B. $+5, +3, +4$

C. $+3, +4, +5$

D. $+6, +3, +5$

Answer: C

Watch Video Solution

67. Among the following, identify the species with an atom in $+6$ oxidation state.

A. CrO_2Cl_2

B. $Cr(CN)_6^{3-}$

C. MnO_4^-

D. NiF_6^-

Answer: A

Watch Video Solution

68. The oxidation number of iron in the compound $K_4\left[Fe(CN)_6\right]$ is

A. $+1,\ +2$

B. $-1,\ +3$

C. $+2,\ +3$

D. $+3, +2$

Answer: D

Watch Video Solution

69. In which of the following S has highest oxidation state ?

A. $N_2S_4O_6$

B. H_2SO_4

C. S_2Cl_2

D. S_8

Answer: B

Watch Video Solution

70. The element with atomic number 17, can exhibit oxidation state of

A. Zero

B. $+2$

C. -1

D. $+1$

Answer: C

Watch Video Solution

71. Which of the following statement is not correct ?

A. Oxidant is a substance which increases the oxidation number of other substance

B. Reductant is a substance which which decreases the oxidation number of other substance

C. In oxidation there is decrease is decrease in oxidation number

D. The oxidation number of oxidant decreases

Answer: C

Watch Video Solution

72. The oxidation number of sulphur in S_2F_2 and S_8 is

A. $+1, 0$

B. $-1, \ +1$

C. $0, \ +1$

D. $+2, 0$

Answer: A

Watch Video Solution

73. The pairs of compounds having metals in their highest oxidation state is

A. MnO_4^-, CrO_2Cl_2

B. $MnO_2, FeCl_2$

C. $[NiCl_4]^{2-}[CoCl_4]^-$

D. $\left[Fe(CN)_6\right]^{3-}Co(CN)_3$

Answer: A

Watch Video Solution

74. When SO_2 is passed in acidified potassium dichromate solution, the oxidation number of S is changed from

A. $+4$ to $+6$

B. $+6$ to $+4$

C. $+4$ to 0

D. $+4$ to $+2$

Answer: A

Watch Video Solution

75. Which is the best description of the behaviour of bromine in the reaction given below

$H_2O + Br_2 \rightarrow HOBr + HBr$

A. Proton acceptor only

B. Oxidised only

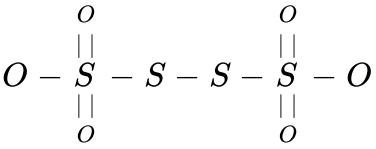
C. Reduced only

D. Both oxidised and reduced

Answer: D

Watch Video Solution

76. The oxidation states of S atom in $S_4O_6^{2-}$ from left to right respectively are



A. $+6, 0, 0, +6$

B. $+3, +1, +1, +3$

C. $+5, 0, 0+5$

D. $+4, +1, +1, +4$

Answer: C

Watch Video Solution

77. In the following reaction, which is the species being oxidised ?

$2Fe^{3+}_{(aq)} + 2I^{-}_{(aq)} \rightarrow I_{2(aq)} + 2Fe^{2+}_{(aq)}$

A. Fe^{3+}

B. I^{-}

C. I_2

D. Fe^{2+}

Answer: B

Watch Video Solution

78. Which of the following reactions depicts the oxidising property of SO_2 ?

A. $SO_2 + H_2O \rightarrow H_2SO_4$

B. $2H_2S + SO_2 \rightarrow 3S + 2H_2O$

C. $Cl_2 + SO_2 \rightarrow SO_2Cl_2$

D. $2MnO_4^- + 5SO_2 + 2H_2O \rightarrow 5SO_4^{2-} + 2Mn^{2+} + 4H^+$

Answer: B

Watch Video Solution

79. Potassium permanganate is a powerful oxidising substance

A. Potassium permanganate is a powerful oxidising substance

B. Potassium permanganate is a weaker oxidising agent than Potassium dichromate

C. Potassium permanganate is a stronger oxidising agent than Potassium dichromate

D. Potassium dichromate oxidises a secondary alcohol into a ketone

Answer: B

View Text Solution

80. Which substance is serving as a reducing agent in the following reaction?

$$14H^{+} + Cr_2O_7^{2-} + 3Ni \rightarrow 2Cr^{3+} + 7H_2O + 3Ni^{2+}$$

A. H_2O

B. Ni

C. H^{+}

D. $Cr_2O_7^{2-}$

Answer: B

Watch Video Solution

81. Nitric oxide acts as a reducing agent in which of the following reaction ?

A. $4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O$

B. $2NO + 3I_2 + 4H_2O \rightarrow NO_3^- + 6I^- + 8H^+$

C. $2NO + H_2SO_3 \rightarrow N_2O + H_2SO_4$

D. $2NO + H_2S \rightarrow N_2O + S + H_2O$

Answer: B

Watch Video Solution

82. In the reaction

$$3Br_2 + 6CO_3^{2-} + 3H_2O \rightarrow 5Br^- + 2BrO_3^- + 6HCO_3^-$$

A. Bromine is oxidised and carbonate is reduced

B. Bromine is reduced and water is oxidised

C. Bromine is neither reduced nor oxidised

D. Bromine is both reduced and oxidised

Answer: D

Watch Video Solution

83. In the chemical reaction,

$$Ag_2O + H_2O + 2e^- \rightarrow 2Ag + 2OH^-$$

A. Water is oxidised

B. Electrons are reduced

C. Silver is oxidised

D. Silver is reduced

Answer: D

Watch Video Solution

84. Phosphorus has the oxidation state of $+3$ in

A. Phosphorus acid

B. Orthophosphoric acid

C. Hypophosphorous acid

D. Metaphosphoric acid

Answer: A

Watch Video Solution

85. In which of the compounds does 'maganese' exhibit highest oxidation number ?

A. MnO_2

B. Mn_3O_4

C. K_2MnO_4

D. $MnSO_4$

Answer: C

Watch Video Solution

86. One of the following has both positive and negative oxidation states

A. F

B. Cl

C. He

D. Na

Answer: B

View Text Solution

87. In which of the following compounds , the oxidation number of iodine is fractional ?

A. IF_7

B. I_3^-

C. IF_5

D. IF_3

Answer: B

Watch Video Solution

88. In which of the following compounds, nitrogen has an oxidation state of -1 ?

A. N_2O

B. NO_2^-

C. NH_2OH

D. N_2H_4

Answer: C

Watch Video Solution

89. The oxidation number of cobalt in $K\left[Co(CO)_4\right)$ is

A. $+1$

B. $+3$

C. -1

D. -3

Answer: C

Watch Video Solution

90. Oxidation number of nitrogen in $(NH_4)_2SO_4$ is

A. $-1/3$

B. -1

C. $+1$

D. -3

Answer: D

View Text Solution

91. Oxidation number of carbon in CH_2Cl_2 is

A. -4

B. $+4$

C. 0

D. -2

Answer: C

View Text Solution

92. Oxidation state of the metal ion in the complex $\left[Fe(CN)_6\right]^{3-}$ is

A. $+3$

B. -3

C. $+6$

D. -6

Answer: A

View Text Solution

93. Which of the following elements has least oxidation number ?

A. $Ni(CN)_4$

B. $Ni(CO)_4$

C. Fe_2O_3

D. SF_6

Answer: B

View Text Solution

94. The oxidation number of cobalt in $K_3\left[Co(NO_2)_6\right]$ is

A. 0

B. $+4$

C. $+3$

D. $+6$

Answer: C

View Text Solution

95. In which of the following transition metal complexes does not metal exhibit zero oxidation state ?

A. $\left[Co(NH_3)_6Cl_3\right.$

B. $\left[Fe(H_2O)_6SO_4\right.$

C. $Ni(CO)_4$

D. $\left[Fe(H_2O)_6\right]X_3$

Answer: C

View Text Solution

96. The brown ring complex is formulated as $\left[Fe(H_2O)_5NO^+\right]SO_4$. The oxidation number of iron is

A. 1

B. 2

C. 3

D. 0

Answer: A

View Text Solution

97. In which of the following complexes, oxidation state of metal is zero ?

A. $\left[Pt(NH_3)_2Cl_2\right]$

B. $\left[Cr(CO)_6\right]$

C. $\left[Cr(NH_3)_3Cl_3\right]$

D. $\left[Cr(en)_2Cl_2\right]$

Answer: B

View Text Solution

98. The oxidation number of sulphur in S_8, S_2F_2, H_2S respectively, are

A. $0,\ +1$ and -2

B. $+2,\ +1$ and -2

C. $0,\ +1$and $+2$

D. $-2,\ +1$ and -2

Answer: A

View Text Solution

99. A metal ion M^{3+} loses 3 electrons, its oxidation number will be

A. $+3$

B. $+6$

C. 0

D. -3

Answer: B

View Text Solution

100. Which of the following transition metal has zero oxidation state ?

A. $[Fe(CO_5)]$

B. $NH_2.NH_2$

C. $NOClO_4$

D. CrO_5

Answer: A

View Text Solution

101. The oxidation state of chromium in potassium dichromate $(K_2Cr_2O_7)$ is

A. -5

B. $+6$

C. $+2$

D. -2

Answer: B

View Text Solution

102. The oxidation state of osmium (Os) in OsO_4 is

A. $+7$

B. $+6$

C. $+4$

D. $+8$

Answer: D

View Text Solution

103. Oxidation satate of oxygen in H_2O_2 is:

A. -2

B. -1

C. 0

D. -4

Answer: B

Watch Video Solution

104. Among the following, identify the species with an atom in $+6$ oxidation state.

A. MnO_4^-

B. $Cr(CN)_6^-$

C. NiF_6^{2-}

D. CrO_2Cl_2

Answer: D

Watch Video Solution

105. On reduction of $KMnO_4$ by oxalic acid in acidic medium, the oxidation number of Mn changes.What is the magnitude of this change ?

A. From 7 to 2

B. From 6 to 2

C. From 5 to 2

D. From 7 to 4

Answer: A

View Text Solution

106. Oxidation number of Fe in Fe_3O_4 is

A. $+2$

B. $+3$

C. $8/3$

D. $2/3$

Answer: C

Watch Video Solution

107. The oxidation number of S in $H_2S_2O_8$ is

A. $+2$

B. $+4$

C. $+6$

D. $+7$

Answer: D

Watch Video Solution

108. The oxidation state of Fe in $K_4\left[Fe(CN)_6\right]$ is

A. $+2$

B. $+6$

C. $+3$

D. $+4$

Answer: A

Watch Video Solution

109. When $KMnO_4$ acts as an oxidising agnet and ultimetely from MnO_4^{2-}, MnO_2, Mn_2O_3, and Mn^{2+}, then the number of electrons transferred in each case, respectively, are

A. 4,3,1,5

B. 1,5,3,7

C. 1,3,4,5

D. 3,5,7,1

Answer: C

Watch Video Solution

110. The oxidation number of sulphur is $Na_2S_2O_4$ is

A. 1.5

B. 2.5

C. 3

D. 2

Answer: B

Watch Video Solution

111. In which of the following reactions, there is no change in valency ?

A. $4KClO_3 \rightarrow 3KClO_4 + KCl$

B. $SO_2 + 2H_2S \rightarrow 2H_2O + 3S$

C. $BaO_2 + H_2SO_4 \rightarrow BaSO_4 + H_2O_2$

D. $2BaO + O_2 \rightarrow 2BaO_2$

Answer: C

Watch Video Solution

112. What is the coefficient of oxalate ion in the following reaction ?

$MnO_4^- + C_2O_4^- + H^+ \rightarrow Mn^{2+} + CO_2H_2O$

A. 4

B. 2

C. 3

D. 5

Answer: D

Watch Video Solution

113. In the reaction

$2FeCl_3 + H_2S \rightarrow 2FeCl_2 + 2HCl + S$

A. $FeCl_3$ acts as an oxidising agent

B. Both H_2S and $FeCl_3$ are oxidised

C. $FeCl_3$ is oxidised while H_2S is reduced

D. H_2S acts as an oxidising agent

Answer: A

Watch Video Solution

114. When $KMnO_4$ reacts with acidified $FeSO_4$

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

B. only $KMnO_4$ is oxidised

C. only $FeSO_4$ is oxidised

D. none of these

Answer: A

Watch Video Solution

115. One mole of N_2H_4 loses 10 moles of electrons of form a new compound, y. Assuming that all nitrogen appear in the new compound, what is the oxidation state of nitrogen in y. (There is no change in the oxidation state of hydrogen.)

A. -1

B. -3

C. $+3$

D. $+5$

Answer: C

Watch Video Solution

116. Oxidation number of P is $+3$ in the compound

A. H_3PO_2

B. H_3PO_3

C. H_3PO_4

D. $H_4P_2O_7$

Answer: B

Watch Video Solution

117. Oxidation number of Cl in $KClO_3$ is

A. -1

B. -5

C. $+1$

D. $+5$

Answer: D

Watch Video Solution

118. The sum of oxidation states of all atoms in ClO_4^- ion is

A. zero

B. -4

C. -1

D. $+2$

Answer: C

Watch Video Solution

119. The oxidation number if I in HOI is

A. -1

B. 0

C. -2

D. $+1$

Answer: D

Watch Video Solution

120. Oxidation number of oxygen in O_2^{2-} ion is

A. -2

B. $+1$

C. -1

D. $+2$

Answer: C

Watch Video Solution

121. In the following reaction

$$3Br_2 + 6CO_3^{2-} + 3H_2O \rightarrow 5Br^- + BrO_3^- + 6HCO_3^-$$

A. Bromine is oxidised and carbonate is reduced

B. Bromine is reduced and water is oxidised

C. Bromine is neither reduced nor oxidised

D. Bromine is both reduced and oxidised

Answer: D

Watch Video Solution

122. Which of the following statement is correct about oxidation number ?

A. The O.N. of all atoms is elementary states is 0

B. The sum of O.N. of all the atoms in the formula of a compound is always zero

C. Alkali and alkaline earth metals have $+1$ and $+2$ oxidation states respectively

D. All the above

Answer: D

Watch Video Solution

123. In which one of the following changes there are transfer of five electrons?

A. $MnO_4^- \rightarrow Mn^{2+}$

B. $CrO_4^{2-} \rightarrow Cr^{3+}$

C. $MnO_4^{2-} \rightarrow MnO_2$

D. $Cr_2O_7^{2-} \rightarrow 2Cr^{3+}$

Answer: A

Watch Video Solution

124. In which of the following compounds iron has lowest oxidation state?

A. $FeSO_4(NH_4)_2SO_4.6H_2O$

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

C. $Fe(CO)_5$

D. FeO

Answer: C

Watch Video Solution

125. The oxidation state of phosphorus vary from

A. -3 to $+5$

B. -1 to $+1$

C. -3 to $+3$

D. -5 to $+1$

Answer: A

Watch Video Solution

126. The oxidation number of an element in a compound is evaluated on the basis of certain rules. Which of the following rules is not correct in this respect ?

A. In all its compounds, oxidation number of fluorine is -1

B. The algebraic sum of all the oxidation numbers in a compound is zero

C. An element in the free or uncombined state has oxidation number zero

D. The oxidation number of hydrogen is always $+1$

Answer: D

Watch Video Solution

127.

$$aHSO_{4(aq)}^{-} + bAs_{4(s)} + cPb_3O_4 + dH_{(aq)}^{+} \rightarrow xPbSO_{4(s)} + yH_2AsO_{(aq)}^{-}$$

The above equation balances when,

A. a=60,b=1, c=10, d=26 and x=30, y=4, z=24

B. a=26,b=10,c=1,d=30 and x=4, y=24, z=30

C. a=1,b=30, c=10, d=26 and x=30, y=24, z=4

D. a=10, b=26, c=1, d=30 and x=30, y=4, z=24

Answer: A

View Text Solution

128. The values of m and n in the following redox reaction,

$mCl_2 + 6OH^- \rightarrow ClO_3^- + nCl^- + 3H_2O$ are

A. m=2, n=4

B. m=3, n=5

C. m=5, n=3

D. m=4, n=2

Answer: B

Watch Video Solution

129. In the redox reaction,

$xKMnO_4 + NH_3 \rightarrow yKNO_3 + MnO_2 + MnO_2 + KOH + H_2O,$ x

and y are

A. x=3,y=8

B. x=8, y=3

C. x=8, y=6

D. x=4, y=6

Answer: B

Watch Video Solution

130. For the redox reaction,

$$MnO_4^- + C_2O_4^{2-} + H^+ \rightarrow Mn^{2+} + CO_2 + H_2O$$

the correct coefficients of the reactants for the balanced reaction are

A.

	MnO_4^-	$C_2O_4^{2-}$	H^+
(a)	2	5	16

B.

	MnO_4^-	$C_2O_4^{2-}$	H^+
(b)	16	5	2

C.

	MnO_4^-	$C_2O_4^{2-}$	H^+
(c)	5	16	2

D.

	MnO_4^-	$C_2O_4^{2-}$	H^+
(d)	2	16	5

Answer: A

Watch Video Solution

131. $KMnO_4$ oxidises oxalic acid in acidic medium. The number of CO_2 molecules produced as per the balanced equation is

A. 10

B. 8

C. 6

D. 3

Answer: A

Watch Video Solution

132. In reaction $A + B^+ \rightarrow A^+ + B$, A is

A. oxidised

B. reduced

C. an oxidising agent

D. that lowers its oxidation number

Answer: A

Watch Video Solution

133. Which of the following equations is a balanced one?

A. $5BiO_3^- + 22H^+ + Mn^{2+} \rightarrow 5Bi^{3+} + 11H_2O + MnO_4^-$

B. $5BiO_3^- + 4H^+ + 2Mn^{2+} \rightarrow 5Bi^{3+} + 7H_2O + 2MnO_4^-$

C. $2BiO_3^- + 4H^+ + Mn^+ \rightarrow 2Bi^{3+} + 2H_2O + MnO_4^-$

D. $6BiO_3^- + 12H^+ + 3Mn^{2+} \rightarrow 6Bi^{3+} + 6H_2O + 3MnO_4^-$

Answer: B

Watch Video Solution

134. An oxidising agent used to bleach wood pulp into white paper is

A. Oxygen

B. Potassium Permaganate

C. Chlorine

D. Sodium

Answer: B

View Text Solution

135. The oxidising agent used in bleaching of clothes to remove stains is

A. Chlorine

B. Oxygen

C. NaOCl

D. H_2O_2

Answer: C

Watch Video Solution

136. Bromine water reacts with sulphur dioxide to form

A. HBr and S

B. H_2O_2 and HBr

C. S and H_2O

D. H_2SO_4 and HBr

Answer: D

Watch Video Solution

137. The chemical that undergoes self oxidation and self reduction in the same reaction is

A. Benzyl alcohol

B. Acetone

C. Formaldehyde

D. Acetic acid

Answer: C

Watch Video Solution

138. Number of moles of $K_2Cr_2O_7$ can be reduced by 1 mole of Sn^{2+} ions is:

A. $1/3$

B. 3

C. $1/6$

D. 6

Answer: A

Watch Video Solution

139. Formula weight divided by the change in oxidation number gives

A. equivalent weight of an oxidant

B. equivalent weight of an reductant

C. the number of electrons gained in the reaction

D. the equivalent weight of the oxidant or reductant

Answer: D

Watch Video Solution

140. The equivalent weight of Mohr's salt

$FeSO_4(NH_4)_2.6H_2O$

A. its molecular weight

B. atomic weight

C. half-its molecular weight

D. one-third its molecular weight

Answer: A

View Text Solution

141. The set of numerical coefficients that balances the chemical equation

$K_2CrO_4 + HCl \rightarrow K_2Cr_2O_7 + KCl + H_2O$

A. 1,1,2,2,1

B. 2,2,1,1,1

C. 2,1,1,2,1

D. 2,2,1,2,1

Answer: D

Watch Video Solution

142. The unbalanced half equation,

$CrO_{4(aq)}^{2-} \rightarrow Cr(OH)_{(aq)}^{-}$ is

A. an oxidation

B. a redox reaction

C. a reduction

D. an electron transfer equation

Answer: C

Watch Video Solution

143. The equivalent weight of iron in Fe_2O would be:

A. 28

B. 56

C. 18.6

D. 112

Answer: C

Watch Video Solution

144. When SO_2 is passed through acidic solution of potassium dichromate, then chromium sulphate is formed. Change in valency of chronium is

A. $+4$ to $+2$

B. $+5$ to $+3$

C. $+6$ to $+3$

D. $+7$ to $+2$

Answer: C

Watch Video Solution

145. In reaction,

$$Cr_2O_7^{2-} + 14H^+ + 6I^- \rightarrow 2Cr^{3+} + 7H_2O + 3I_2$$

which element is reduced ?

A. I

B. O

C. half-its molecular weight

D. Cr

Answer: D

View Text Solution

146. A compound of Xe and F is found to have 53.5% Xe. What is the oxidation number of Xe in this comound?

A. -4

B. 0

C. $+4$

D. $+6$

Answer: D

Watch Video Solution

147. In the following reaction,

$$4P + 3KOH + 3H_2O \rightarrow 3KH_2PO_2 + PH_3$$

A. only phosphorus is oxidised and reduced

B. only phosphorus is reduced

C. phosphorus is both oxidised and reduced

D. phosphorus is neither oxidised nor reduced

Answer: C

Watch Video Solution

148. Oxidation state of nitrogen is incorrectly given for

A. $\left[Co(NH_3)_5Cl\right]Cl_2$ 0

B. NH_2OH -1

C. $(N_2H_5)_2SO_4$ -2

D. Mg_3N_2 -3

Answer: A

Watch Video Solution

149. The species that undergoes disproportionation is an alkaline medium are

A. Cl_2

B. MnO_4^{2-}

C. NO_2

D. All

Answer: D

View Text Solution

150. Which of the following reactions will not take place ?

A. $Fe + H_2SO_4 \rightarrow FeSO_4 + H_2$

B. $Cu + 2AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$

C. $2KBr + I_2 \rightarrow 2KI + Br_2$

D. $CuO + H_2 \rightarrow Cu + H_2O$

Answer: C

Watch Video Solution

151. The oxidation state of chromium in the final product formed by the reaction between Kl and acidified potassium dichromate solution is :

A. $+3$

B. $+2$

C. $+6$

D. $+4$

Answer: A

Watch Video Solution

152. Which of the following chemical reactions depict the oxidizing behavior of $NaSO_4$?

A. $NaCl + H_2SO_4 \rightarrow NaHSO_4 + HCl$

B. $2PCl_5 + H_2SO_4 \rightarrow 2POCl_3 + 2HCl + SO_2Cl_2$

C. $2HI + H_2SO_4 \rightarrow I2 + SO_2 + 2H_2O$

D. $Ca(OH)_2 + H_2SO_4 \rightarrow CaSO_4 + 2H_2O$

Answer: C

View Text Solution

153. Oxidation number of H in AIH_3 is

A. $+1$

B. -1

C. $+3$

D. zero

Answer: B

Watch Video Solution

154. The oxidising agent used in bleaching of clothes to remove stains is

A. NaOCl

B. Chlorine

C. H_2O_2

D. H_2S

Answer: A

Watch Video Solution

155. The oxidation state of carbon in $C_2H_5O_4^-$ is

A. $+1$

B. $+4$

C. $+2$

D. $+3$

Answer: C

Watch Video Solution

156. The oxidation state of 'O' in O_2 is

A. -2

B. $+1$

C. 0

D. $+2$

Answer: C

Watch Video Solution

157. When ethene is dydrogenated to form ethane, hydrogen acts as a/an

A. Oxidising agent

B. Reducing agent

C. Bleaching agent

D. Oxidant

Answer: B

Watch Video Solution

158. The equivalent weight of MnO_4^- ion in acidic medium is

A. 31.6

B. 23.8

C. 55

D. 119

Answer: B

Watch Video Solution

159. The weight in grams of $K_2Cr_2O_7$ required to oxidise Fe_{21} ions present in 7.6 gram of $FeSO_4$ to Fe^{3+} if the reaction is carried out in an acidic medium is

A. 4.9 grams

B. 15.2 grams

C. 2.45 grams

D. 7.6 grams

Answer: C

Watch Video Solution

160. The oxidation number of oxygen in OF_2 is

A. -2

B. -1

C. $+2$

D. 0

Answer: C

Watch Video Solution

161. Which of the following species do not show disproportionation reaction ?

A. ClO_4^-

B. ClO^-

C. ClO_3^-

D. ClO_2^-

Answer: A

Watch Video Solution

162. In the reaction,

$$Cr_2O_7^{2-} + H_2O \rightarrow 2CrO_4^{2-} + 2H^+$$

Cr undergoes

A. Oxidation

B. Reduction

C. Neither oxidation nor reduction

D. Both oxidation and reduction

Answer: C

Watch Video Solution

163. What is the oxidation number of chlorine in bleaching powder?

A. $+1$

B. -1

C. 0

D. $+2$

Answer: C

Watch Video Solution

164. The equivalent mass of potassium permanganate in alkaline medium is

A. Molar mass /2

B. Molar mass / 5

C. Molar mass itself

D. Molar mass/3

Answer: D

Watch Video Solution

165. In the reaction,

$MnO_{4(aq)}^{-} + Br_{(aq)}^{-} \rightarrow MnO_{2(s)} + BrO_{3(aq)}^{-}$, the oxidant is /are

A. Br^{-}

B. H_2O

C. Both MnO_4^{-}, Br^{-}

D. MnO_4^{-}

Answer: D

Watch Video Solution

166. The largest oxidation number exhibited by an element depends on its outer eletronic configuration. With which of the following outer electronic configurations the element will exhibit largest oxidation number ?

A. $3d^5 4s^2$

B. $3d^3 4s^2$

C. $3d^2 4s^2$

D. $3d^1 4s^2$

Answer: A

Watch Video Solution

167. $Zn(s) + 2HCl \rightarrow ZnCl_2 + H_2$

A. Zinc is acting as an oxidant

B. Chlorine is acting as a reactant

C. Hydrogen ion is acting as an oxidant

D. Chlorine is acting as an oxidant

Answer: C

Watch Video Solution

168. The brown ring complex compound is formulated as $\left[Fe(H_2O)_5NO\right]SO_4$. The oxidation state of Fe is

A. 1

B. 2

C. 3

D. 0

Answer: A

Watch Video Solution

169. The oxidation number of carbon in CH_2O is.

A. -2

B. $+2$

C. 0

D. $+4$

Answer: C

Watch Video Solution

170. In which of the following compounds transition metal is in oxidation state zero

A. $\left[\left[Co(NH_3)_6\right]Cl_2\right.$

B. $\left[Fe(H_2O)_0SO_4\right]$

C. $\left[Ni(CO)_4\right]$

D. $\left[Fe(H_2O)_3\right](OH)_2\right]$

Answer: C

Watch Video Solution

171. One mole of N_2H_4 loses ten moles of electrons to form a new compound Y. Assuming that all the nitrogen appears in the new

compound, what is the oxidation state of nitrogen in Y ? There is no change in oxidation state of hydrogen.

A. -1

B. -3

C. $+3$

D. $+5$

Answer: C

View Text Solution

172. The oxidation state of 'N' in hydrazoic acid is

A. $+1/3$

B. $+3$

C. -1

D. $-1/3$

Answer: D

Watch Video Solution

173. The oxidation state of 'P' in $Ba(H_2PO_2)_2$ is

A. -1

B. $+3$

C. $+2$

D. $+1$

Answer: D

Watch Video Solution

174. When potassium permanganate is titrated against ferrous ammonium permanganate is

A. Molecular weight /10

B. Molar weight /5

C. Molecular weight/2

D. Molecular weight

Answer: B

View Text Solution

175. The oxide that is not reduced by hydrogen is

A. Ag_2O

B. Fe_2O_3

C. CuO

D. K_2O

Answer: D

Watch Video Solution

176. In which of the following compounds the oxidation number of carbon is zero ?

A. C_8H_8

B. $C_6H_{12}O_{16}$

C. C_6H_6

D. C_2H_6

Answer: B

Watch Video Solution

177. Maximum number of oxidation states of transition metal is derived from the following configuration

A. ns electrons

B. (n-1) d electrons

C. (n+1) d electrons

D. ns+(n-1) d electrons

Answer: D

View Text Solution

178. During the oxidation of Mn^{2+} to MnO_4^{-1} by PbO_2 in acidic medium, the number of moles of acid consumed per mole of Mn^{2+} ion is

A. 4

B. $1/2$

C. 2

D. none of these

Answer: C

Watch Video Solution

179. During the disproportionation of I_2 to iodide and iodate ions, the ratio of iodate and iodide ions formed in alkaline medium is

A. $1:5$

B. $5:1$

C. $3:1$

D. $1:3$

Answer: A

Watch Video Solution

180. In the reaction

$$3Br_2 + 6CO_3^{2-} + 3H_2O \rightarrow 5Br^- + 2BrO_3^- + 6HCO_3^-$$

A. Bromine is oxidised and carbonate is reduced

B. Bromine is both reduced and oxidised

C. Bromine is neither reduced nor oxidised

D. Bromine is reduced and water is oxidised

Answer: B

Watch Video Solution

181. When the ion $Cr_2O_7^{2-}$ acts as an oxidant in acidic aqueous solution the ion Cr^{3+} is formed. How many mole of Sn^{2+} would be oxidised to Sn^{4+} by one mole $Cr_2O_7^{2-}$ ion:

A. $2/3$

B. $3/2$

C. 2

D. 3

Answer: D

Watch Video Solution

182. The oxidation state of Cr in CrO_5 is

A. $+6$

B. $+10$

C. $+5$

D. $+4$

Answer: B

Watch Video Solution

183. Oxidation number of nitrogen in which among the oxides of nitrogen is the lowest ?

A. Nitric oxide

B. Nitrous oxide

C. Nitrogen dioxide

D. Dinitrogen trioxide

Answer: B

Watch Video Solution

184. When $0.1 mol MnO_4^{2-}$ is oxidized the quantity of electricity required to completely oxidize MnO_4^{2-} to MnO_4^- is

A. 69500 C

B. $2 \times 96500 C$

C. 6950 C

D. 96.50C

Answer: C

Watch Video Solution

Test Your Grasp

1. When $KMnO_4$ reacts with acidified $FeSO_4$

A. only $FeSO_4$ is oxidised

B. only $KMnO_4$ is oxidised

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

D. none of the above

Answer: C

Watch Video Solution

2. Of the following reactions, only one is a redox reaction.Identify it.

A. $Ca(OH)_2 + 2HCl \rightarrow CaCl_2 + 2H_2O$

B. $BaCl_2 + MgSO_4 \rightarrow BaSO_4 + MgCl_2$

C. $2S_2O_7^{2-} + 2FeO \rightarrow 2Cu + 2Fe + SO_2$

D. $Cu_2S + 2FeO \rightarrow 2Cu + 2Fe + SO_2$

Answer: D

View Text Solution

3. In which of the following pairs, there is greatest difference in the oxidation number of the underlined elements ?

A. $NO_2$and N_2O_4

B. P_2O_5 and P_4O_{10}

C. N_2O and NO

D. SO_2 and SO_3

Answer: D

Watch Video Solution

4. A,B and C are three elements forming part of a compound in oxidation states of $+2,\ +5$ and -2 respectively. What could be the compound ?

A. $A_2(BC)_2$

B. $A_2(BC_4)_3$

C. $A_3(BC_4)_2$

D. ABC

Answer: C

Watch Video Solution

5. When SO_2 is passed through the solution of potassium iodate,the oxidation state of iodine changes from

A. $+5$ to 0

B. $+5$ to -1

C. -5 to 0

D. -7 to -1

Answer: B

Watch Video Solution

6. In the reaction between SO_2 and SO_3 the equivalent weight of ozone is

A. the same as its molecular weight

B. half of the molecular weight

C. one-third of the molecular weight

D. one-fourth of the molecular weight

Answer: B

Watch Video Solution

7. The atomic number of an element is 22. The highest oxidation state exhibited by it in its compound is

A. 1

B. 2

C. 3

D. 4

Answer: D

Watch Video Solution

8. The equivalent weight of potassium permanganate in acid solution is

A. 158

B. 31.6

C. 52.16

D. 79

Answer: B

Watch Video Solution

9. In the reaction which element undergoes oxidation as well as reduction

$SO_2 + 2H_2S \rightarrow 3S + 2H_2O$ is

A. Hydrogen

B. Sulphur

C. Oxygen

D. Sulphur dioxide

Answer: B

Watch Video Solution

10. In the chemical reaction,

$K_2Cr_2O_7 + xH_2SO_4 + ySO_2 \rightarrow K_2SO_4 + Cr_2(SO_4)_3 + zH_2O$

$x, y,$ and z are

A. 1,3,1

B. 4,1,4

C. 3,2,3

D. 2,1,2

Answer: A

Watch Video Solution

11. Consider the following reaction,

$$5H_2O_2 + xClO_2 + 2OH^- \rightarrow Cl^- + yO_2 + 6H_2O$$

The reaction is balanced if:

A. x=5,y=2

B. x=2,y=5

C. x=4, y=10

D. x=5, y=5

Answer: B

Watch Video Solution

12. $xMnO_4^- + yH_2O_2 \rightarrow 2Mn^{2+} + 5H_2O + 9O_2 + Ze^-$ In this reaction, the values of x, y, and z, respectively, are .

A. 2,5,6

B. 5,2,9

C. 3,5,5

D. 2,6,6

Answer: A

Watch Video Solution

13. The oxidation states of sulphur in the anions SO_3^{2-}, $S_2O_4^{2-}$, and $S_2O_6^{2-}$ follow the order

A. $SO_3^{2-} < S_2O_4^{2-} < S_2O_6^{2-}$

B. $S_2O_4^{2-} < S_2O_6^{2-} < SO_3^{2-}$

C. $S_2O_6^{2-} < S_2O_4^{2-} < SO_3^{2-}$

D. $S_2O_4^{2-} < SO_3^{2-} < S_2O_6^{2-}$

Answer: D

Watch Video Solution

14. 20 ml 0.18 M KOH is required to react with $FeCl_2$ to convert it into $Fe(OH)_2$. 15ml of $FeCl_2$ is required in the reaction. What will be the molarity of $FeCl_2$?

A. 0.1M

B. 0.15M

C. 0.18M

D. 0.2M

Answer: B

View Text Solution

15. Of the following elements, which one has the same oxidation state in all of its compounds ?

A. Hydrogen

B. Carbon

C. Oxygen

D. Fluorine

Answer: D

Watch Video Solution

16. The oxidation number of carbon in CH_2O is.

A. -2

B. $+2$

C. 0

D. $+4$

Answer: C

Watch Video Solution

17. The oxidation number of phosphorus in $Ba(H_2PO_2)_2$ is:-

A. $+3$

B. $+2$

C. $+1$

D. -1

Answer: C

Watch Video Solution

18. When $KMnO_4$ is reduced with oxalic acid in acidic solution, the oxidation number of Mn changes from

A. 7 to 4

B. 6 to 4

C. 7 to 2

D. 4 to 2

Answer: C

Watch Video Solution

19. If three electrons are lost by a metal ion M^{3+}, its final oxidation number would be

A. zero

B. $+6$

C. $+2$

D. 4

Answer: B

Watch Video Solution

20. Phosphorus has the oxidation state $+3$ in

A. Orthophosric acid

B. Phosphorous acid

C. Metaphospohoric acid

D. Pyrophosphoric acid

Answer: B

Watch Video Solution

21. When $K_2Cr_2O_7$ is converted to K_2CrO_4, the change in the oxidation state of chromium is

A. 0

B. 3

C. 4

D. 6

Answer: A

Watch Video Solution