CHEMISTRY

BOOKS - DISHA PUBLICATION CHEMISTRY (HINGLISH)

THE P-BLOCK ELEMENTS (GROUP 15, 16, 17 & 18)

Exercise

1. Among the oxides of nitrogen : N_2O_3, N_2O and N_2O_5 , the molecules having nitrogen-nitrogen bond is/are

A. N_2O_3 and N_2O_4

B. N_2O_4 and N_2O_5

C. N_2O_3 and N_2O_5

D. Only N_2O_5

Answer: A

View Text Solution

2. The compound that does not produce nitrogen gas by the thermal decomposition is

A. $Ba(N_3)_2$

B. $(NH_4)_2Cr_2O_7$

C. NH_4NO_2

D. $(NH_4)_2SO_4$

Answer: D

Watch Video Solution

3. A metal 'M' reacts with nitrogen gas to afford $'M_3N'$. $'M_3N'$ on heating at high temperature gives back 'M' and on reaction with water produces a gas 'B'. Gas 'B' reacts with aqueous solution of $CuSO_4$ to form a deep blue compound. 'M' and 'B' respectively are :

A. Li and NH_3

B. Ba and N_2

C. Na and NH_3

D. Al and N_2

Answer: A

4. The number of S = O and S–OH bonds present in peroxodisulphuric acid and pyrosulphuric acid respectively are :

A. (2 and 2) and (2 and 2)

B. (2 and 4) and (2 and 4)

C. (4 and 2) and (2 and 4)

D. (4 and 2) and (4 and 2)

Answer: D

Watch Video Solution

5. The products obtained when chlorine gas reacts with cold and dilute aqueous $NaOH$ are :

A. CIO^- and CIO_3^-

B. CIO_2^- and CIO_3^-

C. CI^- and CIO^-

D. CI^- and CIO_2^-

Answer: C

6. Which intermolecular force is most responsible in allowing xenon gas to liquefy ?

A. Instantaneous dipole-induced dipole

B. Ion-dipole

C. Ionic

D. Dipole-dipole

Answer: A

7. The non-metal that does not exhibit posittve oxidation state is:

A. Chlorine

B. Iodine

C. Fluorine

D. Oxygen

Answer: C

8. The pair in which phosphours atoms have a formed oxidation state of $+3$ is

A. Orthophosphorous and hypophosphoric acids

B. Pyrophosphorous and pyrophosphoric acids

C. Orthophosphorous and pyrophosphorous acids

D. Pyrophosphorous and hypophosphoric acids

Answer: C

Watch Video Solution

9. The least number of oxyacids are formed by:

A. Chlorine

B. Nitrogen

C. Fluorine

D. Sulphur

Answer: C

Watch Video Solution

10. The geometry of $XeOF_4$ by VSEPR theory is

:

A. pentagonal planar

B. octahedral

C. square pyramidal

D. trigonal bipyramidal

Answer: C

Watch Video Solution

11. Which of the following halide does not hydrolyse

A. $SbCl_3$

B. $AsCl_3$

C. PCl_3

D. NF_3

Answer: D

Watch Video Solution

12. NO is purified by

A. Absorption in $(NH_4)_2SO_4$ solution

B. Passing into conc. H_2SO_4

C. Absorbing in $FeSO_4$ solution

D. Electrolysis method

Answer: C

View Text Solution

13. If phosphorous acid is allowed to react with sufficient quantity of KOH, the product obtained is.

A. K_3PO_3

B. KH_2PO_3

C. K_2HPO_3

D. $KHPO_3$

Answer: C

Watch Video Solution

14. Which one of the following pairs is obtained on heating ammonium dichromate?

A. N_2 and H_2O

B. N_2O and H_2O

C. NO and H_2O

D. NO and N_2O

Answer: A

Watch Video Solution

15. Nitrogen reacts with calcium and carbon or when N_2 gas is passed over heated calcium carbide (at $1070K$) it gives___ which is an

important fertiliser marketed under the name Nitrolium.

A. Calcium nitrate

B. Calcium cyanide

C. Calcium cyanamide

D. Calcium nitride

Answer: C

Watch Video Solution

16. Which of the following compound had a P-P bond ?

A. $H_4P_2O_5$

B. $(HPO_3)_3$

C. $H_4P_2O_6$

D. $H_4P_2O_7$

Answer: C

Watch Video Solution

17. P_2H_4 can be romoved from phosphine containing traces of it

A. by passing impure PH_3 gas through a freezing mixture

B. by passing the impure PH_3 gas through HI and then its treatment with KOH (aq)

C. by both (a) and (b)

D. by none of these

Answer: C

View Text Solution

18. The dipoles moment of NF_3 is less than NH_3 because

A. NH_3 forms associated molecules

B. F is more reactive then H

C. The resultant of bond polarity is less

D. The resultant in individual polarities is opposed by the polarity of lone pair

Answer: D

Watch Video Solution

19. Which one is incorrect

A. White phosphorus glows in dark because of its slow combustion in air

B. The energy of oxidation of white phosphorus (i.e., slow combustion in air) is emitted as light.

C. Red phosphorus glows in dark because of its slow combustion in air

D. Cold fire can be produced by combustion of white phosphorus

Answer: C

Watch Video Solution

20. When orthophosphoric acid is heated to $600^\circ C$ the product formed is

A. PH_3

B. P_2O_5

C. H_3PO_3

D. HPO_3

Answer: D

Watch Video Solution

21. PCl_3 reacts with water to form :

A. PH_3

B. H_3PO_4 and HCl

C. $POCl_3$

D. H_3PO_4

Answer: B

 Watch Video Solution

22. Nitrogen is relatively inactive element because

A. its atom has a stable electronic configuration

B. it has low atomic radius

C. its electronegativity is fairly high

D. dissociation energy of its molecule is fairly high

Answer: D

Watch Video Solution

23. Nitrogen dioxide cannot be prepared by heating :

A. KNO_3

B. $Pb(NO_3)_2$

C. $Cu(NO_3)_2$

D. $AgNO_3$

Answer: A

Watch Video Solution

24. The number of hydrogen atoms attached to phosphorus atom in hypophosphorus is

A. 3

B. 1

C. 2

D. 0

Answer: C

Watch Video Solution

25. Which of the following statements is not correct for nitrogen ?

A. Its electronegativity is very high

B. d-orbitals are available for bonding

C. It is a typical non-metal

D. Its molecular size is small

Answer: B

View Text Solution

26. Collectively the elements of group 15 are called

A. pnicogens

B. pnicopens

C. nicopen

D. none of these

Answer: A

View Text Solution

27. Chlorine upon reaction with $NaOH$ in cold yields :

A. $NaCl, NaClO, H_2O$

B. $NaCl, NaClO_3, H_2O$

C. $NaClO, NaClO_3, H_2O$

D. $NaCl, H_2O$

Answer: A

Watch Video Solution

28. NH_3 gas is dried over

A. CaO

B. HNO_3

C. P_2O_5

D. $CuSO_4$

Answer: A

29. Which of the following oxides of nitrogen is a coloured gas ?

A. N_2O

B. NO

C. N_2O_5

D. NO_2

Answer: D

Watch Video Solution

30. The number of $P-O-P$ bonds in cyclic metaphosphoric acid is.

A. 0

B. 2

C. 3

D. 4

Answer: C

Watch Video Solution

31. Blue solid which is obtained on racting equimolar amounts of two gases at 245K is

A. N_2O

B. N_2O_3

C. N_2O_4

D. N_2O_5

Answer: B

Watch Video Solution

32. Which of the following oxides is neutral ?

A. N_2O_3

B. N_2O_4

C. N_2O_5

D. N_2O

Answer: D

Watch Video Solution

33. Ammonia on reaction with hypochlorite anion can form :

A. NO

B. N_2H_4

C. NH_4Cl

D. both (b) and (c)

Answer: D

34. How many bonding electron pairs are there in white phosphorus ?

A. 2

B. 4

C. 3

D. 6

Answer: D

Watch Video Solution

35. Producer gas is a mixture of :

A. CO and N_2

B. CO_2 and H_2

C. N_2 and O_2

D. CH_4 and N_2

Answer: A

36. One mole of magnesium nitride on reaction with an excess of water gives

A. one mole of NH_3

B. two moles of NH_3

C. one mole of HNO_3

D. two moles of HNO_3

Answer: B

37. One mole of calciium phosphide on reaction with excess water gives

A. one mole of phosphine.

B. two moles of phosphorice acid.

C. two moles of phosphine.

D. one mole of phosphorus pentoxide.

Answer: C

38. Which is the most thermodynamically stable allotropic form of phosphorus ?

A. Red

B. White

C. Black

D. Yellow

Answer: C

 Watch Video Solution

39. The product formed in the reaction of $SOCl_2$ with white phosphorus is

A. PCI_3

B. SO_2Cl_2

C. SCI_3

D. $POCl_3$

Answer: A

Watch Video Solution

40. In case of hydride of oxyge family, which of the following physical property change regularly on moving down the group

A. Melting point

B. Thermal stability

C. Boiling point

D. Critical temperature

Answer: B

Watch Video Solution

41. Which of the following statements is correct:

A. Ozone is a reasonance hybrid of oxygen.

B. Ozone is an isomer of oxygen.

C. Ozone has no relationship with oxygen.

D. Ozone is an allotropic modification of oxygen.

Answer: D

42. it is possible to obtain oxygen from air by fractional distillation because

A. oxygen is in a different group of the periodic table from nitrogen.

B. oxygen is more reactive than nitrogen.

C. oxygen has higher b.p. than nitrogen.

D. oxygen has a lower density than nitrogen.

Answer: C

Watch Video Solution

43. The number of $S-S$ bonds in SO_3, $S_2O_3^{2-}$, $S_2O_6^{2-}$ and $S_2O_8^{2-}$ respectively are

A. 1,0,0,1

B. 1,0,1,0

C. 0,1,1,0

D. 0,1,0,1

Answer: C

Watch Video Solution

44. Oleum is

A. castor Oil

B. oil of vitriol

C. fuming H_2SO_4

D. none of them

Answer: C

Watch Video Solution

45. By passing H_2S gas in acidified $KMnO_4$ solution, we get

A. S

B. K_2S

C. MnO_2

D. K_2SO_3

Answer: A

Watch Video Solution

46. Oxidation of thiosulphate by iodine gives

A. tetrathionate ion

B. sulphide ion

C. sulphate ion

D. sulphite ion

Answer: A

Watch Video Solution

47. When PbO_2 reacts with conc. HNO_3 the gas evolved is

A. NO_2

B. O_2

C. N_2

D. N_2O

Answer: B

Watch Video Solution

48. The compound which gives off oxygen on moderate heating is:

A. cupric oxide

B. mercuric oxide

C. zinc oxide

D. aluminium oxide

Answer: B

Watch Video Solution

49. Oxidation state exhibited by sulphur is

A. $+6$

B. $+4$

C. 0

D. All of the above

Answer: D

50. On electrolysis of dilute sulphuric acid using platinum electrodes, the product obtained at the anode will be

A. hydrogen

B. oxygen is more reactive than nitrogen.

C. hydrogen sulphide

D. sulphur dioxide

Answer: B

Watch Video Solution

51. A gas that cannot be collected over water is.

A. N_2

B. O_2

C. SO_2

D. PH_3

Answer: C

Watch Video Solution

52. Sodium thiosulphate is prepared by

A. reducing Na_2SO_4 solution with H_2S.

B. boiling Na_2SO_3 solution with S in alkaline medium.

C. neutralising $H_2S_2O_3$ solution with NaOH.

D. boiling Na_2SO_3 solution with S in acidic medium.

Answer: B

Watch Video Solution

53. Which of the following is not oxidized by O_3?

A. Kl

B. $FeSO_4$

C. $KMnO_4$

D. K_2MnO_4

Answer: C

Watch Video Solution

54. Which one of the following compounds is a peroxide?

A. KO_2

B. BaO_2

C. MnO_2

D. NO_2

Answer: B

Watch Video Solution

55. Sulphur trioxide can be obtained by which of the following reactions:

A. $CaSO_4 + C \xrightarrow{\triangle}$

B. $Fe_2(SO_4)_3 \xrightarrow{\triangle}$

C. $S + H_2SO_4 \xrightarrow{\triangle}$

D. $H_2SO_4 + PCl_5 \xrightarrow{\triangle}$

Answer: B

Watch Video Solution

56. Which of the following does not give oxygen on heating?

A. $Zn(ClO_3)_2$

B. $K_2Cr_2O_7$

C. $(NH_4)_2Cr_2O_7$

D. $KClO_3$

Answer: C

Watch Video Solution

57. Acidity of diprotic acids in aqueous solutions increases in the order

A. $H_2S < H_2Se < H_2Te$

B. $H_2Se < H_2S < H_2Te$

C. $H_2Te < H_2S < H_2Se$

D. $H_2Se < H_2Te < H_2S$

Answer: A

Watch Video Solution

58. In the reaction:

$3Br_2 + 6OH^{\Theta} \rightarrow 5Br^{\Theta} + BrO_3^{\Theta} + 3H_2O, Br_2$

is

A. Oxidised

B. Reduced

C. Disintegrated

D. Disproportionated

Answer: D

Watch Video Solution

59. In the case of alkali metals, the covalent character decreases in the order.

A. $MF > MCl > MBr > MI$

B. $MF > MCl > MI > MBr$

C. $MI > MBr > MCl > MF$

D. $MCl > MI > MBr > MF$

Answer: C

Watch Video Solution

60. Potassium chlorate on heating with cone H_2SO_4 gives

A. chlorine dioxide

B. $HClO_4$

C. $KHSO_4$

D. All of thse

Answer: D

Watch Video Solution

61. In the manufacture of bromine from sea water the mother liquor containing bromide is treated with

A. carbon dioxide

B. chlorine

C. iodine

D. sulphur dioxide

Answer: B

Watch Video Solution

62. Which of the following species has four lone..

A. I

B. O^-

C. Cl^-

D. He

Answer: C

Watch Video Solution

63. Which one is the correct order of the size of the iodine species?

A. $I > I^+ > I^-$

B. $I > I^- > I^+$

C. $I^+ > I^- > I$

D. $I^- > I > I^+$

Answer: D

Watch Video Solution

64. A one litre flask is full of brown bromine vapours. The intensity of brown colour of

vapour will not decrease apprciably on adding to the flask some.

A. pieces of marble

B. animal charcoal powder

C. carbon tetrachloride

D. carbon disulphide

Answer: A

Watch Video Solution

65. 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. Both oxidized and reduced

C. Oxidized only

D. Reduced only

Answer: B

Watch Video Solution

66. Conc. HNO_3 reacts with I_2 to form:

A. HI

B. HOI

C. HIO_2

D. HIO_3

Answer: D

Watch Video Solution

67. For a given alcohol the order of reactivity of halogen acids is :

A. $HI > HBr > HCl$

B. $HCl > HBr < HI$

C. $HI < HBr < HCl$

D. $HCl < HI < HBr$

Answer: A

Watch Video Solution

68. Iodine is a :

A. electrovalent solid

B. atomic solid

C. molecular solid

D. covalent solid

Answer: C

 Watch Video Solution

69. The correct order of increasing bond angles in the following species are:

A. $Cl_2O < ClO_2 < ClO_2^-$

B. $ClO_2 < Cl_2 < ClO_2^-$

C. $Cl_2O < ClO_2^- < ClO_2$

D. $ClO_2^- < Cl_2O < ClO_2$

Answer: D

View Text Solution

70. Which compound is prepared by the following reaction?

$$Xe + 2F_2 \xrightarrow[673K, 5-6atm]{Ni \text{ vessel}}$$

A. XeF_2

B. XeF_6

C. XeF_4

D. $XeOF_2$

Answer: C

Watch Video Solution

71. Liquid flow from a higher to a level .Which of the following liquids can climb up the wall of the glass vessel in which it is placed ?

A. Alcohol

B. Liquid He

C. Liquid N_2

D. Water

Answer: B

Watch Video Solution

72. In the clathrates of xenon with water, the nature of bonding between xenon and water molecule is:

A. covalent

B. hydrogen bonding

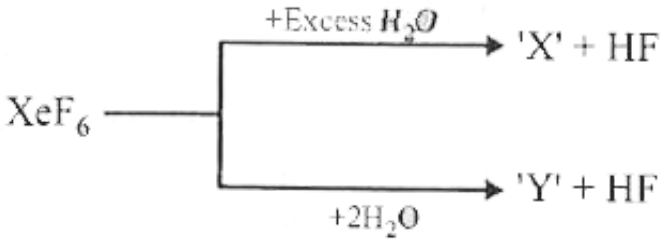
C. coordinate

D. dipole-induced dipole

Answer: D

 Watch Video Solution

73. Incorrect statement regarding following reactions is : :



A. X' is explosive

B. Y' is an oxyacid of xenon

C. Both are example of non-redox reaction

D. XeF_6 can undergo partial hydrolysis

Answer: B

Watch Video Solution

74. Total number of lone pair of electrons is $XeOF_4$ is

A. 0

B. 1

C. 2

D. 3

Answer: B

Watch Video Solution

75. The density of neon will be highest at

A. $0^{\circ} C$ and 2 atm

B. $273^{\circ} C$ and 2 atm

C. STP

D. $273^{\circ} C$ and 1 atm

Answer: A

Watch Video Solution

76. Which of the following is least polarisable?

A. Ne

B. He

C. Xe

D. Kr

Answer: B

Watch Video Solution

77. For advertisement, the coloured discharge tubes contain:

A. He

B. Ne

C. Ar

D. Kr

Answer: B

Watch Video Solution

78. Monazite is source of

A. He

B. Kr

C. Ar

D. both (b) and (c)

Answer: A

 Watch Video Solution

79. Noble gases are group of elements which exhibit very :

A. high chemical activity

B. low chemical activity

C. minimum electronegativity

D. paramagnetic properties

Answer: B

 Watch Video Solution

80. Which inert gas has abnormal behaviour on liquefaction ?

A. Xe

B. He

C. Ar

D. Kr

Answer: B

Watch Video Solution

81. Which of the following compound does not produce oxyacid of central atom on hydrolysis?

A. BF_3

B. NCl_3

C. SF_4

D. PCl_5

Answer: B

Watch Video Solution

82. Which of the following oxyacid contains both P-H and P-P bond siultaneously?

A. $H_4P_2O_5$

B. $H_4P_2O_7$

C. $H_4P_2O_6$

D. None

Answer: D

Watch Video Solution

83. Among the following compounds, which on heating do not produce N_2 ?

A. $(NH_4)_2Cr_2O_7$

B. $NH_4Cl + NaNO_2$

C. $NH_4Cl + CaO$

D. $Ba(N_3)_2$

Answer: C

Watch Video Solution

84. Which of the following species has the highest dipole moment?

A. NH_3

B. PH_3

C. AsH_3

D. SbH_3

Answer: A

Watch Video Solution

85. Following tests are shown by

(i) Decolourisation of acidified soln. of $KMnO_4$

(ii) Liberation of I_2 from an acidified soln. of KI

(iii) On treatment with dil HCl, brown fumes of NO_2 which turns $FeSO_4$ soln. black.

A. Nitrites

B. Nitrates

C. Both (a) and (b)

D. Neither (a) nor (b)

Answer: A

Watch Video Solution

86. Which is the correct sequence in the following properties? For the correct order mark (T) and for the incorrect order mark (F) :

(i) Melting point :

$NH_3 > SbH_3 > AsH_3 > PH_3$

(ii) Boiling point :

$NH_3 > SbH_3 > AsH_3 > PH_3$

(iii) Dipole moment order :

$NH_3 > SbH_3 > AsH_3PH_3$

A. TFT

B. FTF

C. FFT

D. FFT

Answer: A

View Text Solution

87. Amongst the following compounds

(I) $H_5P_3O_{10}$

(II) $H_6P_4O_{13}$

(III) $H_5P_5O_{15}$

(IV) $H_7P_5O_{16}$

non-cyclic phosphates are:

A. I,II

B. I,II,III

C. I,II,IV

D. I,II,III,IV

Answer: C

Watch Video Solution

88. Nitrogen forms N_2, but phosphorus is converted into P_4 from P, the reason is

A. Triple bond is present between phosphrous atom

B. $p_\pi - p_\pi$ bonding is strong

C. $p_\pi - p_\pi$ bonding is weak

D. Multiple bond is formed easily

Answer: C

View Text Solution

89. In case of nitrogen, NCl_3 is possible but not NCl_5 while in case of phosphorous, PCl_5 are possible. It is due to

A. availability of vacant d orbitals in P but not in N.

B. lower electronegativity of P than N.

C. lower tendency of H-bond formation in Pthan N.

D. Occurrence of P in solid while N in gaseous state at room temperature.

Answer: A

 Watch Video Solution

90. What may be expected to happen when phosphine gas is mixed with chlorine gas ?

A. PCl_3 and HCl are formed and the mixture warms up.

B. PCl_5 and HCl are formed and the mixture cools down.

C. PH_3. Cl_2 is formed with warming up.

D. The mixture only cools down.

Answer: B

Watch Video Solution

91. $[X] + H_2SO_4 \rightarrow$ [Y] colourless with irritating smell. [Y] $+K_2Cr_2O_7 + H_2SO_4 \rightarrow$ green solution

[X] and [Y] are

A. Cr^{Θ}, HCl

B. SO_3^{2-}, SO_2

C. S^{2-}, H_2S

D. CO_3^{2-}, CO_2

Answer: B

Watch Video Solution

92. The correct order of O - O bond length in $O_2H_2O_2$ and O_3 is

A. $O_3 > H_2O_2 > O_2$

B. $O_2 > H_2O_2 > O_3$

C. $O_2 > O_3 > H_2O_2$

D. $H_2O_2 > O_3 > O_2$

Answer: D

Watch Video Solution

93. Identify the correct sequence of increasing number of π-bonds in the structure of the following molecules:

(I)$H_2S_2O_6$ (II)$H_2S_2O_3$ (III)$H_2S_2S_5$

A. I,II,III

B. II,III,I

C. II,I,III

D. I,III,II

Answer: B

Watch Video Solution

94. The correct order of S-S bod length is following oxyanions is :

(i) $S_2O_4^{2-}$ (ii) $S_2O_5^{2-}$ (iii) $S_2O_6^{2-}$

A. $I > II > III$

B. $I > III > II$

C. $III > II > I$

D. $III > I > II$

Answer: A

View Text Solution

95. Which of the following statements is false?

A. Radon is obtained from the decay of radium

B. Helium is inert gas

C. Xenon is the most reactive among the rare gases

D. The most abundant rare gas found in the atmosphere is helium

Answer: D

Watch Video Solution

96. Oxygen and sulphur both are the members of the same group in periodic table but H_2O is liquid while H_2S is gas because

A. molecular weight of water is more.

B. electronegativity of sulphur is more.

C. H_2S is weak acid.

D. water molecules are having weak hydrogen bonds between them.

Answer: D

View Text Solution

97. A greenish yellow gas reacts with an alkali metal hydroxide to form a halate which can be used in fireworks and safety matches. The gas and the halate are

A. $Br_2, KBrO_3$

B. $Cl_2, KClO_3$

C. $I_2, NaIO_3$

D. I_2, KIO_3

Answer: B

Watch Video Solution

98. Which one of the following pairs of reactantas does not form oxygen when they react with each other ?

A. F_2, $NaOH$ solution (hot, conc.)

B. F_2, H_2O

C. Cl_2, $NaOH$ solution (cold, dilute)

D. $CaOCl_2$, H_2SO_4 (dilute, small amount)

Answer: C

Watch Video Solution

99. Which of the following is correct statement?

A. F_2 has higher dissociation energy than Cl_2.

B. F has higher electron affinity than Cl.

C. HF is stronger acid than HCl.

D. Boiling point increases down the group in halogens.

Answer: D

Watch Video Solution

100. Only iodine forms hepta-fluroide IF_7, but chlorine and bromine give penta-flurorides. The reason for this is:

A. Low electron affinity of iodine.

B. Unusual pentagonal bipyramidal structure of IF_7.

C. That the large iodine atom can accommodate more number of smaller fluorine atom around it.

D. Low chemical reactivity of IF_7,

Answer: C

Watch Video Solution

101. The incorrect order is

A. $HF > HCl < HBr < HI$: Acidic strength

B. $HF > HCl > HBr > HI$: Thermal stability

C. $HF > HCl > HBr > HI$: Boiling point

D. $HF > HCl > HBr > HI$: Bond dissociation enthalpy

Answer: C

Watch Video Solution

102. Which of the following oxyacids of chlorine is formed on shaking chlorine water with freshly precipitated yellow oxide of mercury?

A. $HClO_3$

B. $HClO_2$

C. HClO

D. $HClO_4$

Answer: C

Watch Video Solution

103. The correct statement(s) regarding,

(i) $HClO$, (ii) $HClO_2$, (iii) $HClO_3$ and (iv) $HClO_4$ is (are)

A. The number of $Cl = O$ bonds in (ii) and (iii) together is two.

B. The number of lone pairs of electrons on Cl in (ii) and (iii) together is three.

C. The hydridizatio of Cl in (iv) is sp^2.

D. Amogst (i) to (iv), the strongest acid is (i).

Answer: B

Watch Video Solution

104. The formation of $O_2^+[PtF_6]^-$ is the basis for the formation of xenon fluorides. This is because:

A. O_2 and Xe have comparable sizes.

B. Both O_2 and Xe are gases.

C. O_2 and Xe have comparable ionisation energies.

D. Both (a) and (c) .

Answer: D

Watch Video Solution

105. Inert gases such as heliume behave like ideal gases over a wide range of temperature .However , they condense into the solid state

at very low temperatures. it indicates that at very low temperature there is a

A. weak attractive force between the atoms.

B. weak repulsive force between the atoms.

C. strong attractive force between the atoms.

D. strong repulsive force between the atoms.

Answer: B

106. Out of (i) $XeO_3 (ii) XeOF_4$ and $(iii) XeF_6$ the molecules having same number of lone pairs on Xe are

A. (i) and (ii) only

B. (i)and (iii) only

C. (ii) and (iii) only

D. (i),(ii) and (iii)

Answer: D

Watch Video Solution

107. Noble gases can be separated by:

A. passing them through suitable solution

B. electrolysis of their fluorides

C. adsorption and desorption on charcoal

D. adsorption and desorption on activated hydrogen

Answer: C

Watch Video Solution

108. XeF_2 and XeF_6 are separately hydrolysed then:

A. Both give out O_2

B. XeF_6 gives O_2 and XeF_2 does not

C. XeF_2 alone gives O_2

D. Neither of them gives HF

Answer: C

Watch Video Solution

109. SbF_5 react with XeF_4 to form an adduct. The shapes of cation and anion in the adduct are respectively:

A. Square planar, trigonal bipyramidal

B. T-shaped, octahedral

C. Square pyramidal, octahedral

D. Square planar, octahedral

Answer: B

Watch Video Solution

110. Which one of the following statements regarding helium is incorrect?

A. It is used to produce and sustain powerful superconducting magnets.

B. It is used as a cryogenic agent for carrying out experiments at low temperatures.

C. It is used to fill gas balloons instead of hydrogen because it is lighter and non-inflammable.

D. It is used in gas-cooled nuclear reactors.

Answer: C