EXERCISE-I

Nitrogen family

1. Phosphine is generally prepared in the laboratory
(A) By heating phosphorus in a current of hydrogen
(B) By heating white phosphorus with aqueous solution of caustic potash
(C) By decomposition of P_2H_4 at 110^oC
(D) By heating red phosphorus with an aqueous solution of caustic soda

2. Which of the following elements is most metallic
(A) Phosphorus (B) Arsenic
(C) Antimony (D) Bismuth

3. The basicity of orthophosphoric acid is
(A) 2 (B) 3
(C) 4 (D) 5

4. HNO_2 acts as
(A) Oxidising agent
(B) Reducing agent
(C) Both (A) and (B)
(D) Its solution is stable

5. Nitrogen dioxide cannot be obtained by heating
(A) KNO_3 (B) $Pb(NO_3)_2$
(C) $Cu(NO_3)_2$ (D) $AgNO_3$

6. Which of the following is oxidised in air
(A) White phosphorus (B) CH_4
(C) H_2O (D) NaCl

7. A pure sample of nitrogen is prepared by heating
(A) Calcium cyanamide
(B) Barium azide
(C) Ammonium hydroxide
(D) Ammonium nitrite

8. Nitrous oxide
(A) Is a mixed oxide
(B) Is an acidic oxide
(C) Is highly soluble in hot water
(D) Supports the combustion of sulphur

9. Which of the following represents laughing gas
(A) NO (B) N_2O
(C) NO_2 (D) N_2O_3

10. NO_2 is a mixed oxide is proved by the first that with NaOH, it forms
(A) Nitrites salt
(B) Nitrates salt
(C) Mixture of nitrate and nitrite
(D) Ammonia

11. Which of the following metal produces nitrous oxide with dil. HNO_3
(A) Sn (B) Zn
(C) Cu (D) Ag

12. Which of the following acid exist in polymeric form
(A) HPO_3 (B) $H_4P_2O_7$
(C) H_3PO_4 (D) None of these

13. Superphosphate of lime is
(A) A mixture of normal calcium phosphate and gypsum
(B) A mixture of primary calcium phosphate and gypsum
(C) Normal calcium phosphate
(D) Soluble calcium phosphate

14. If phosphoric acid is allowed to react with sufficient quantity of NaOH, the product obtained is
(A) $NaHPO_3$ (B) Na_2HPO_4
(C) NaH_2PO_4 (D) Na_3PO_4

15. White phosphorus contains
(A) P_5 molecules (B) P_4 molecules
(C) P_6 molecules (D) P_2 molecules

16. Of the following, the most acidic is
(A) As_2O_3 (B) P_2O_3
(C) Sb_2O_3 (D) Bi_2O_3

17. Of the following, non-existent compound is
(A) PH_4I (B) As_2O_3
(C) $SbCl_2$ (D) As_2H_3

18. Pure N_2 gas is obtained from

(A) $NH_3 + NaNO_2$ (B) $NH_4Cl + NaNO_2$

(C) $N_2O + Cu$ (D) $(NH_4)_2Cr_2O_7$

19. Pure nitrogen can be prepared from

(A) NH_4OH (B) Ca_3N_2

(C) NH_4NO_2 (D) $Ba(NO_3)_2$

20. Nitrogen combines with metals to form

(A) Nitrites (B) Nitrates

(C) Nitrosyl chloride (D) Nitrides

21. 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

22. The cyanide ion, CN^- and N_2 are isoelectronic. But in contrast to CN^-, N_2 is chemically inert because of

(A) Low bond energy

(B) Absence of bond polarity

(C) Unsymmetrical electron distribution

(D) Presence of more number of electrons in bonding orbitals

23. Which statement is not correct for nitrogen

(A) It has a small size

(B) It does not readily react with O_2

(C) It is a typical non-metal

(D) *d*-orbitals are available for bonding

24. The element which is essential in nitrogen fixation is

(A) Zinc (B) Copper

(C) Molybdenum (D) Boron

25. Laughing gas is prepared by heating

(A) NH_4Cl (B) $(NH_4)_2SO_4$

(C) $NH_4Cl + NaNO_3$ (D) NH_4NO_3

26. Red phosphorus can be obtained from white phosphorus by

(A) Heating it with a catalyst in an inert atmosphere

(B) Distilling it in an inert atmosphere

(C) Dissolving it in carbon disulphide and crystallizing

(D) Melting it and pouring the liquid into water

27. Bones glow in the dark because

(A) They contain shining material

(B) They contain red phosphorus

(C) White phosphorus undergoes slow combustion in contact with air

(D) White phosphorus changes into red form

28. Which of the following properties of white phosphorus are shared by red phosphorus

(A) It shows phosphorescenes in air

(B) It reacts with hot aqueous NaOH to give phosphine

(C) It dissolves in carbon disulphide

(D) It burns when heated in air

29. Mixture used for the tips of match stick is

(A) $S + K$

(B) Sb_2S_3

(C) $K_2Cr_2O_7 + S +$ red P

(D) $K_2Cr_2O_7 + K + S$

30. In modern process phosphorus is manufactured by

(A) Heating a mixture of phosphorite mineral with sand and coke in electric furnace

(B) Heating calcium phosphate with coke

(C) Heating bone ash with coke

(D) Heating the phosphate mineral with sand

31. When aluminium phosphide is treated with dil. sulphuric acid

(A) SO_2 is liberated (B) PH_3 is evolved

(C) H_2S is evolved (D) H_2 is evolved

32. With reference to protonic acids, which of the following statements is correct

(A) PH_3 is more basic than NH_3

(B) PH_3 is less basic than NH_3

(C) PH_3 is equally basic as NH_3

(D) PH_3 is amphoteric while NH_3 is basic

33. One of the acid listed below is formed from P_2O_3 and the rest are formed from P_2O_5. The acid formed from phosphorus (III) oxide is

(A) HPO_3 (B) $H_4P_2O_7$

(C) H_3PO_4 (D) H_3PO_3

34. P_2O_5 is heated with water to give
(A) Hypophosphorus acid
(B) Orthophosphorus acid
(C) Hypophosphoric acid
(D) Orthophosphoric acid

35. Hypophosphorus acid is
(A) A tribasic acid (B) A dibasic acid
(C) A monobasic acid (D) Not acidic at all

36. Which of the following has highest boiling point
(A) NH_3 (B) PH_3
(C) AsH_3 (D) SbH_3

37. In the following reaction
$P_4 + 3NaOH + 3H_2O \rightarrow PH_3 + 3NaH_2PO_2$
(A) Phosphorus is oxidised
(B) Phosphorus is oxidised and reduced
(C) Phosphorus is reduced
(D) Sodium is oxidised

38. HNO_3 in aqueous solution yields
(A) NO_3^- and H^+ (B) NO_3^- and H_3O^+
(C) NO_2^- and OH^- (D) N_2O_5 and H_2O

39. The oxyacid of phosphorus, in which phosphorus has the lowest oxidation state, is
(A) Hypophosphorus acid
(B) Orthophosphoric acid
(C) Pyrophosphoric acid
(D) Metaphosphoric acid

40. Superphosphate is a mixture of
(A) $Ca(H_2PO_4)_2 H_2O + CaCl_2 . 2H_2O$
(B) $Ca_3(PO_4)_2 . H_2O + CaCl_2 . 2H_2O$
(C) $Ca_3(PO_4)_2 . H_2O + 2CaSO_4 . 2H_2O$
(D) $Ca(H_2PO_4)_2 . H_2O + 2CaSO_4 . 2H_2O$

41. In case of nitrogen, NCl_3 is possible but not NCl_5 while in case of phosphorous, PCl_3 as well as PCl_5 are possible. It is due to
(A) Availability of vacant *d*-orbital in *P* but not in *N*
(B) Lower electronegativity of *P* than *N*
(C) Lower tendency of *H* bond formation in *P* than *N*
(D) Occurrence of *P* in solid while *N* in gaseous state at room temperature

42. When ammonia is passed over heated copper oxide, the metallic copper is obtained. the reaction shows that ammonia is
(A) A dehydrating agent (B) An oxidising agent
(C) A reducing agent (D) A nitrating agent

43. Urea is preferred to ammonium sulphate as a nitrogeneous fertilizer because
(A) It is more soluble in water
(B) It is cheaper than ammonium sulphate
(C) It is quite stable
(D) It does not cause acidity in the soil

44. Liquid ammonia is used for refrigeration because
(A) It has a high dipole moment
(B) It has a high heat of vapourisation
(C) It is basic
(D) It is a stable compound

45. Action of concentrated nitric acid (HNO_3) on metallic tin produces
(A) Stannic nitrate (B) Stannous nitrate
(C) Stannous nitrite (D) Meta stannic acid

46. Which of the following is nitrogenous fertilizers
(A) Bone meal
(B) Thomas meal
(C) Nitro phosphate
(D) Ammonium sulphate

47. Which compound is related to Haber's process
(A) CO_2 (B) H_2
(C) NO_2 (D) NH_3

48. Ammonia is dried over
(A) Quick lime (B) Slaked lime
(C) Anhy. $CaCl_2$ (D) None of these

49. Which of the following compounds is sparingly soluble in ammonia
(A) AgI (B) AgBr
(C) AgCl (D) $CuCl_2$

50. The carbonate which does not leave a residue on heating is
(A) Na_2CO_3 (B) Ag_2CO_3
(C) $CuCO_3$ (D) $(NH_4)_2CO_3$

51. Orthophosphoric acid represents the molaysis condition due to
(A) Hydrogen bonding
(B) Phosphorous group
(C) Maximum oxygen group
(D) Tribasicity

52. Which of the following elements forms a strongly acidic oxide
(A) P (B) As
(C) Sb (D) Bi

53. In group V-A of the periodic table nitrogen forms only a trihalide but other elements form pentahalides also. The reason is
(A) Nitrogen has less affinity towards halogens
(B) Nitrogen halides are covalent
(C) Nitrogen undergoes d^2sp^3 hybridization
(D) Nitrogen does not have *d*-orbitals

54. In the nitrogen family the $H-M-H$ bond angle in the hydrides MH_3 gradually becomes closer to 90^o on going from *N* to *Sb*. This shows that gradually
(A) The basic strength of hydrides increases
(B) Almost pure *p*-orbitals are used for $M-H$ bonding
(C) The bond energies of M–H bond increase
(D) The bond pairs of electrons become nearer to the central atom

55. An element *(X)* forms compounds of the formula XCl_3, X_2O_5 and Ca_3X_2, but does not form XCl_5, which of the following is the element X
(A) B (B) Al
(C) N (D) P

56. Which of the following tendencies remains unchanged on going down in the nitrogen family (Group-VA) ?
(A) Highest oxidation state
(B) Non-metallic character
(C) Stability of hydrides
(D) Physical state

57. Which of the following oxy acids of phosphorus is a reducing agent and monobasic
(A) H_3PO_2 (B) H_3PO_3
(C) H_3PO_4 (D) $H_4P_2O_6$

58. Bone black is a polymorphic form of
(A) Phosphorus (B) Sulphur
(C) Carbon (D) Nitrogen

59. Nitrous oxide is known as
(A) Breathing gas (B) Laughing gas
(C) exercising gas (D) Laboratory gas

60. When lead nitrate is heated, it gives
(A) NO_2 (B) NO
(C) N_2O_5 (D) N_2O

Oxygen family

61. Oxygen was discovered by
(A) Priestley (B) Boyle
(C) Scheele (D) Cavandish

62. The compound which gives off oxygen on moderate heating is
(A) Cupric oxide (B) Mercuric oxide
(C) Zinc oxide (D) Aluminium oxide

63. 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

64. Oxygen is denser than air so it is collected over
(A) H_2O (B) Ethanol
(C) Mercury (D) Kerosene oil

65. Oxygen molecule exhibits
(A) Paramagnetism (B) Diamagnetism
(C) Ferromagnetism (D) Ferrimagnetism

66. When oxygen is passed through a solution of Na_2SO_3 we get
(A) Na_2SO_4 (B) Na_2S
(C) $NaHSO_4$ (D) NaH

67. Oxygen does not react with
(A) P (B) Na
(C) S (D) Cl

68. The formula of ozone is O_3, it is
(A) An allotrope of oxygen
(B) Compound of oxygen
(C) Isotope of oxygen
(D) None of these

69. Ozone is obtained from oxygen
(A) By oxidation at high temperature
(B) By oxidation using a catalyst
(C) By silent electric discharge
(D) By conversion at high pressure

70. Which of the following statement is true about ozone layer
(A) It is harmful because ozone is dangerous to living organism
(B) It is beneficial because oxidation reaction can proceed faster in the presence of ozone
(C) It is beneficial because ozone cuts out the ultraviolet radiation of the sun
(D) It is harmful because ozone cuts out the important radiation of the sun which are vital for photosynthesis

71. In the reaction $HCOOH \xrightarrow{H_2SO_4} CO + H_2O$; H_2SO_4 acts as
(A) Dehydrating agent (B) Oxidising agent
(C) Reducing agent (D) All of these

72. When conc. H_2SO_4 comes in contact with sugar, it becomes black due to
(A) Hydrolysis (B) Hydration
(C) Decolourisation (D) Dehydration

73. Oxalic acid when heated with conc. H_2SO_4, gives out
(A) H_2O and CO_2 (B) CO and CO_2
(C) Oxalic sulphate (D) CO_2 and H_2S

74. Which one is known as oil of vitriol
(A) H_2SO_3 (B) H_2SO_4
(C) $H_2S_2O_7$ (D) $H_2S_2O_8$

75. The acid used in lead storage cells is
(A) Phosphoric acid (B) Nitric acid
(C) Sulphuric acid (D) Hydrochloric acid

76. Which one of the gas dissolves in H_2SO_4 to give oleum
(A) SO_2 (B) H_2S
(C) S_2O (D) SO_3

77. Oleum is
(A) Castor oil (B) Oil of vitriol
(C) Fuming H_2SO_4 (D) None of them

78. There is no $S-S$ bond in
(A) $S_2O_4^{2-}$ (B) $S_2O_5^{2-}$
(C) $S_2O_3^{2-}$ (D) $S_2O_7^{2-}$

79. Which of the following sulphate is insoluble in water
(A) H_2O, (B) $CdSO_4$
(C) $PbSO_4$ (D) $Bi_2(SO_4)_3$

80. When sulphur is boiled with Na_2SO_3 solution, the cmpound formed is
(A) Sodium sulphide
(B) Sodium sulphate
(C) Sodium persulphate
(D) Sodium thiosulphate

81. In the preparation of sulphuric acid, Ca^{2+}, NO_3^- is used in the reaction, which is
(A) $S + O_2 \rightarrow SO_2$
(B) $2SO_2 + O_2 \rightarrow 2SO_3$
(C) $SO_2 + H_2O \rightarrow H_2SO_4$
(D) $N_2 + 3H_2 \rightarrow 2NH_3$

82. Which of the following hydrides has the lowest boiling point
(A) H_2O (B) H_2S
(C) H_2Se (D) H_2Te

83. The catalyst used in the manufacture of H_2SO_4 by contact process is
(A) Al_2O_3 (B) Cr_2O_3
(C) V_2O_5 (D) MnO_2

84. The molecular formula of sulphur is
(A) S (B) S_2
(C) S_4 (D) S_8

85. Which of the following is not suitable for use in a descicator to dry substances
(A) Conc. H_2SO_4 (B) Na_2SO_4
(C) $CaCl_2$ (D) P_4O_{10}

86. Which shows polymorphism
(A) *O* (B) *S*
(C) *Se* (D) All

87. All the elements of oxygen family are
(A) Non-metals (B) Metalloids
(C) Radioactive (D) Polymorphic

88. The triatomic species of elemental oxygen is known as
(A) Azone (B) Polyzone
(C) Triozone (D) Ozone

89. Shape of O_2F_2 is similar to that of
(A) C_2F_2 (B) H_2O_2
(C) H_2F_2 (D) C_2H_2

90. Which of the following bonds has the highest energy
(A) Se – Se (B) Te – Te
(C) S – S (D) O – O

Halogen family

91. A quick supply of Cl_2 gas may be made by reacting crystals of $KMnO_4$ with a concentrated solution of
(A) Potassium chloride (B) Sodium chloride
(C) Bleaching powder (D) Hydrochloric acid

92. The strongest acid amongst the following is
(A) $HClO_4$ (B) $HClO_3$
(C) $HClO_2$ (D) HClO

93. Iodine deficiency in diet causes
(A) Nightblindness (B) Rickets
(C) Goitre (D) Beri-beri

94. Which of the following is correct
(A) Iodine is a solid
(B) Chlorine is insoluble in water
(C) Iodine is more reactive than bromine
(D) Bromine is more reactive than chlorine

95. When *KBr* is treated with concentrated H_2SO_4 redish brown gas evolved, gas is
(A) Mixture of bromine and *HBr*
(B) *HBr*
(C) Bromine
(D) None of these

96. Which of the following pairs is not correctly matched
(A) A halogen which is liquid at room temperature—*Bromine*
(B) The most electronegative element—*Fluorine*
(C) The most reactive halogen—*Fluorine*
(D) The strongest oxidizing halogen—*Iodine*

97. Iodine is formed when potassium iodide reacts with a solution of
(A) $ZnSO_4$ (B) $CuSO_4$
(C) $(NH_4)_2SO_4$ (D) Na_2SO_4

98. As the atomic number of halogens increases, the halogens
(A) Lose the outermost electrons less readily
(B) Become lighter in colour
(C) Become less denser
(D) Gain electrons less readily

99. Which statement is correct about halogens
(A) They are all diatomic and form univalent ions
(B) They are all capable of exhibiting several oxidation states
(C) They are all diatomic and form divalent ions
(D) They can mutually displace each other from the solution of their compounds with metals

100. Mark the smallest atom
(A) F (B) Cl
(C) Br (D) I

101. Chlorine acts as a bleaching agent only in presence of
(A) Dry air (B) Moisture
(C) Sunlight (D) Pure oxygen

102. Euchlorine is a mixture of
(A) Cl_2 and SO_2 (B) Cl_2 and ClO_2
(C) Cl_2 and CO (D) None of these

103. A gas reacts with CaO, but not with $NaHCO_3$. The gas is

(A) CO_2 (B) Cl_2

(C) N_2 (D) O_2

104. When chlorine is passed over dry slaked lime at room temperature, the main reaction product is

(A) $Ca(ClO_2)_2$ (B) $CaCl_2$

(C) $CaOCl_2$ (D) $Ca(OCl_2)_2$

105. Bromine is obtained commercially from sea water by adding

(A) $AgNO_3$ solution (B) Crystals of NaBr

(C) Cl_2 (D) C_2H_4

106. In the manufacture of bromine from sea water, the mother liquor containing bromides is treated with

(A) CO_2 (B) Cl_2

(C) I_2 (D) SO_2

107. Br^- is converted into Br_2 by using

(A) Cl_2 (B) Conc. HCl

(C) HBr (D) H_2S

108. A salt, which on heating with conc. H_2SO_4 gives violet vapours, is

(A) Iodide (B) Nitrate

(C) Sulphate (D) Bromide

109. When I_2 is dissolved in CCl_4, the colour that results is

(A) Brown (B) Violet

(C) Colourless (D) Bluish green

110. Which of the following halogen oxides is ionic

(A) ClO_2 (B) BrO_2

(C) I_2O_5 (D) I_4O_9

111. Which one is highest melting halide

(A) NaCl (B) NaBr

(C) NaF (D) NaI

112. The above answer is correct because the chosen halide has

(A) Minimum ionic character

(B) Maximum ionic character

(C) Highest oxidising power

(D) Lowest polarity

113. Which of the following oxidizes H_2O to oxygen

(A) Chlorine (B) Fluorine

(C) Bromine (D) Iodine

114. The bleaching action of the bleaching powder is due to the liberation of

(A) Chlorine (B) Molecular oxygen

(C) Nascent oxygen (D) Calcium carbonate

115. Which of the following element is extracted commercially by the electrolysis of an aqueous solution of its compound

(A) Chlorine (B) Bromine

(C) Aluminium (D) Calcium

116. The effective component of bleaching powder is ..... of calcium

(A) Chlorine (B) Bromine

(C) Aluminium (D) Calcium

117. $Na_2S_2O_3 + I_2 \rightarrow$ Product is

(A) Na_2S (B) NaI

(C) $Na_2S_4O_6$ (D) S_2

118. Which of the following is prepared by electrolytic method

(A) Ca (B) Sn

(C) S (D) F_2

119. Beilstein test is used for

(A) N_2 (B) Cl

(C) Na (D) CO_2

120. Which one will liberate Br_2 from *KBr*

(A) I_2 (B) SO_2

(C) *HI* (D) Cl_2

121. When iodine reacts with NaF, NaBr and NaCl

(A) It gives mixture of F_2, Cl_2 and Br_2

(B) It gives chlorine

(C) It gives bromine

(D) None of these

122. Which is the strongest of the following acids
(A) $HClO_4$ (B) H_2SO_4
(C) HCl (D) HNO_3

123. Hydrogen has a tendency to gain one electron to acquire helium configuration. In this respect it resembles
(A) Halogens (B) Actinides
(C) Transition elements (D) Alkali metals

124. What is the product obtained in the reaction of $HgCl_2$ and $Hg(CN)_2$
(A) $(CN)_2$
(B) Addition compound $HgCl_2.Hg(CN)_2$
(C) $Hg(CN)Cl$
(D) $Hg[Hg(CN)_2Cl_2]$

125. The weakest acid *HX* (*X = F, Cl, Br, I*) is
(A) HF (B) *HCl*
(C) HBr (D) *HI*

126. Bleaching powder is obtained by passing chlorine on
(A) Lime stone (B) Quick lime
(C) Slaked lime (D) Pure lime

127. Chlorine is liberated, when we heat
(A) $KMnO_4 + NaCl$
(B) $K_2Cr_2O_7 + MnO_2$
(C) $Pb_2(NO_3)_4 + MnO_2$
(D) $K_2Cr_2O_7 + HCl$

128. Which of the following silver compounds finds maximum use in photography
(A) AgCl (B) AgBr
(C) AgI (D) $AgNO_3$

129. Which of the following halogen does not exhibit positive oxidation state in its compounds
(A) Cl (B) Br
(C) I (D) F

130. Acid strength of oxy acids of chlorine follows the order
(A) $HClO < HClO_2 < HClO_3 < HClO_4$
(B) $HClO_4 < HClO_3 < HClO_2 < HClO$
(C) $HClO_4 < HClO_3 < HClO < HClO_2$
(D) None of these

131. On heating $NaCl + K_2Cr_2O_7 + \text{conc.}\ H_2SO_4$, the gas comes out is
(A) O_2 (B) Cl_2
(C) $CrOCl_2$ (D) CrO_2Cl_2

132. Aqua regia is a mixture of
(A) $3HCl + 1HNO_3$
(B) $H_3PO_4 + H_2SO_4$
(C) $3HNO_3 + 1HCl$
(D) $HCl + CH_3COOH$

133. Unlike other halogens fluorine does not show higher oxidation states because
(A) It is highly electronegative
(B) It has no *d*-orbitals
(C) Its atomic radius is very small
(D) The F^- ion is stable and isoelectronic with neon

134. Which halogen does not show variable oxidation state
(A) F_2 (B) Cl_2
(C) Br_2 (D) I_2

135. To purify fluorine gas, fumes of *HF* are removed by
(A) Solid NaF (B) H_2 gas
(C) Solid KHF_2 (D) None of these

Noble gases

136. The noble gas which forms maximum number of compounds is
(A) Ar (B) He
(C) Xe (D) Ne

137. Which of the following gases exist more abundantly in nature than the others
(A) Helium (B) Neon
(C) Argon (D) Krypton

138. Which of the following is monoatomic
(A) Nitrogen (B) Fluorine
(C) Neon (D) Oxygen

139. Nuclear fusion produces
(A) Argon (B) Deuterium
(C) Helium (D) Krypton

140. Among the fluorides below, the one which does not exist is

(A) XeF_4 (B) HeF_4

(C) SF_4 (D) CF_4

141. Which one of the following noble gases is the least polarizable

(A) Xe (B) Ar

(C) Ne (D) He

142. Which one of the following noble gases is not found in the atmosphere

(A) Rn (B) Kr

(C) Ne (D) Ar

143. Helium is added to the oxygen supply used by deep sea divers because

(A) It is less soluble in blood than nitrogen at high pressure

(B) It is lighter than nitrogen

(C) It is readily miscible with oxygen

(D) It is less poisonous than nitrogen

144. Which of the following statements is not correct for a noble gas

(A) Ar is used in electric bulbs

(B) Kr is obtained during radioactive disintegration

(C) Half life of Rn is only 3.8 days

(D) He is used in producing very low temperature

145. Which one of the following configuration represents a noble gas

(A) $1s^2,\ 2s^2 2p^6,\ 3s^2$

(B) $1s^2,\ 2s^2 2p^6,\ 3s^1$

(C) $1s^2,\ 2s^2 2p^6$

(D) $1s^2,\ 2s^2 2p^6,\ 3s^2 3p^6,\ 4s^2$

146. Which of the following has zero valency

(A) Sodium (B) Beryllium

(C) Aluminium (D) Krypton

147. The forces acting between noble gas atoms are

(A) Vander Waals forces

(B) Ion-dipole forces

(C) London dispersion forces

(D) Magnetic forces

148. Which of the following is the correct sequence of the noble gases in their group in the periodic table

(A) *Ar, He, Kr, Ne, Rn, Xe*

(B) *He, Ar, Ne, Kr, Xe, Rn*

(C) *He, Ne, Ar, Kr, Xe, Rn*

(D) *He, Ne, Kr, Ar, Xe, Rn*

149. Which of the following represent nobel gas configuration

(A) $1s^2,\ 2s^2 2p^6,\ 3s^2 3p^6 3d^{10},\ 4s^2 4p^6 4d^{10},\ 5s^2 5p^6$

(B) $1s^2,\ 2s^2 2p^6,\ 3s^2 3p^6 3d^{10},\ 4s^2 4p^6 4d^{10} 4f^{14},\ 5s^2 5p^6 5d^1, 6s^2$

(C) $1s^2,\ 2s^2 sp^6,\ 3s^2 3p^6 3d^{10},\ 4s^2 4p^6 4d^{10},\ 5s^2 5p^6 5d^1,\ 6s^2$

(D) $1s^2,\ 2s^2 2p^6,\ 3s^2 3p^6 3d^{10},\ 4s^2 4p^6 4d^{10}$

150. XeF_6 on hydrolysis gives

(A) XeO_3 (B) XeO

(C) XeO_2 (D) Xe

151. Which of the following has sp^3 hybridization

(A) XeO_3 (B) BCl_3

(C) XeF_4 (D) BBr_3

152. Which element out of He, Ar, Kr, and Xe forms least number of compounds

(A) He (B) Ar

(C) Kr (D) Xe

153. Which of the following exhibits the weakest intermolecular forces

(A) *He* (B) *HCl*

(C) NH_3 (D) H_2O

154. Which of the following are formed by Xenon

(A) XeF_3 (B) XeF_4

(C) XeF_5 (D) XeF_6

155. Among the following molecule

(i) XeO_3 (ii) $XeOF_4$ (iii) XeF_6

Those 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)

156. Who among the following first prepared a stable compound of noble gas

(A) Rutherford (B) Rayleigh

(C) Ramsay (D) Neil Bartlett

157. The last member of inert gas elements is

(A) Helium (B) Neon

(C) Argon (D) Radon

158. Which of the following gas is/are called rare gas

(A) *Ne* (B) *He*

(C) *Kr* (D) All of these

159. 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

160. Which of the following inert gas liquifies easily

(A) *Kr* (B) *He*

(C) *Ne* (D) *Ar*