Acids and Bases

81. The conjugate acid of $S_2O_8^{2-}$ is
(a) $H_2S_2O_8$ (b) H_2SO_4
(c) HSO_4^- (d) $HS_2O_8^-$

82. In the reaction $BCl_3 + PH_3 \rightarrow Cl_3B - PH_3$, Lewis base is
(a) BCl_3
(b) PH_3
(c) $Cl_3B - PH_3$
(d) None of these

83. Which of the following statement is true
(a) The conjugate base of a strong acid is a strong base
(b) The conjugate base of a weak acid is a strong base
(c) The conjugate base of a weak acid is a weak base
(d) The base and its conjugate acid react to form a neutral solution

84. What is the conjugate base of
(a) O_2 (b) H_2O
(c) O^- (d) O^{2-}

85. Which of the following is a Lewis base
(a) CH_4
(b) C_2H_5OH
(c) Acetone
(d) Secondary amine

86. The correct order of acid strength is
(a) $HClO < HClO_2 < HClO_3 < HClO_4$
(b) $HClO_4 < HClO < HClO_2 < HClO_3$
(c) $HClO_2 < HClO_3 < HClO_4 < HClO$
(d) $HClO_4 < HClO_3 < HClO_2 < HClO$

87. The strongest acid is
(a) H_3AsO_4 (b) H_3AsO_3
(c) H_3PO_3 (d) H_3PO_4

88. Which of the following is the strongest base
(a) $C_2H_5^-$ (b) $C_2H_5COO^-$
(c) $C_2H_5O^-$ (d) OH^-

89. The aqueous solution of which one of the following is basic
(a) $HOCl$ (b) $NaHSO_4$
(c) NH_4NO_3 (d) $NaOCl$

90. Which of the following is the weakest base
(a) $NaOH$ (b) $Ca(OH)_2$
(c) NH_4OH (d) KOH

91. The suitable indicator for strong acid and weak base is
(a) Methyl orange
(b) Methyl red
(c) Phenol red
(d) Phenolphthalein

92. Among the following acids, the weakest one is

(a) HF (b) HCl
(c) HBr (d) HI

93. The compound *HCl* behaves as …. in the reaction, $HCl + HF \rightarrow H_2^+Cl + F^-$
(a) Weak base (b) Weak acid
(c) Strong base (d) Strong acid

94. The conjugate base of a strong acid is a
(a) Strong base
(b) Strong acid
(c) Weak acid
(d) Weak base

95. Which among the following is strongest acid
(a) *H*(*ClO*)O_2 (b) *H*(*ClO*)O_3
(c) *H*(*ClO*)*O* (d) *H*(*ClO*)

96. In the reaction $2H_2O \rightleftarrows H_3O^+ + OH^-$, water is**]**
(a) A weak base
(b) A weak acid
(c) Both a weak acid and a weak base
(d) Neither an acid nor a base

97. In the reaction $HCl + H_2O \rightleftharpoons H_3O^+ + Cl^-$
(a) H_2O is the conjugate base of HCl acid
(b) Cl^- is the conjugate base of HClacid
(c) $Cl^-$is the conjugate acid of H_2O base
(d) H_3O^+ is the conjugate base of HCl

98. According to Lewis concept, an acid is a substance which
(a) Accepts protons
(b) Donates protons
(c) Accepts a lone pair of electrons
(d) Donates a lone pair of electrons

99. Water is a
(a) Amphoteric acid
(b) Aprotic solvent
(c) Protophobic solvent
(d) None of these

100. Conjugate base of NH_3 is
(a) $NH_4^{\oplus}$ (b) $NH_2^{\oplus}$
(c) NH_2^{o} (d) N_2