81. (d) $\underset{\text{Conjugate acid}}{HS_2O_8^-} \rightleftharpoons H^+ + \underset{\text{Conjugatebase}}{S_2O_8^{--}}$

82. (b) PH_3donates electron pair to BCl_3.

83. (b) The conjugate base of weak acid is a strong base.

84. (d) $OH^- \rightarrow \underset{\text{Conjugatebase of} OH^-}{O^{2-} + H^+}$

85. (bd) Presence of lone pair of electron and they donate two electron pairs.

86. (a) *On increasing oxidation number Acidic strength increases.*

87. (d) H_3PO_4 is shows +5 maximum oxidation state.

88. (a) $C_2H_5^-$ is a strongest base.

89. (d) $NaOCl$ is a mixture of strong base and weak acid.

90. (c) NH_4OHgives minimum OH^-ion. So it is a weak base.

91. (a) Solution become acidic and methyl orange act on acidic *pH.*

92. (a) Larger is bond length, more is acidic nature (for halogen acids). *HF* bond length is small.

93. (a) $HCl$is accepting proton in *HF* medium and acts as weak base.

94. (d) Weak base

Explanation:
A strong acid ionizes almost completely.
Its conjugate base has very little tendency to accept a proton.
Therefore, it is a weak base.

95. (b) For oxoacids of the same element, the acidic strength increases with increase in the oxidation number of that element.

$$\overset{+1}{HClO} < \overset{+3}{HClO_2} < \overset{+5}{HClO_3} < \overset{+7}{HClO_4}$$

96. (c) Because their conjugate base and conjugate acids are strong.

97. (b) *HCl* is a strong acid and their conjugate base is a very weak base.

98. (c) Accepts a lone pair of electrons

Explanation:
Lewis Acid: Electron pair acceptor
Lewis Base: Electron pair donor
Examples of Lewis Acids:
BF_3, $AlCl_3$, Fe^{3+}, H^+

99. (a) Amphoteric acid

Explanation:
Amphoteric substances can act as both an acid and a base.
Water (H_2O) accepts H^+ to act as a base → H_3O^+
Donates H^+ to act as an acid → OH^-
Reaction examples:
As acid:
$H_2O \rightarrow H^+ + OH^-$
As base:
$H_2O + H^+ \rightarrow H_3O^+$

100. (c)$NH_3 \rightleftharpoons NH_2^- + H^+$