

81. (d) $\text{HS}_2\text{O}_8^- \rightleftharpoons \text{H}^+ + \text{S}_2\text{O}_8^{--}$
 Conjugate acid Conjugate base
82. (b) PH_3 donates electron pair to BCl_3 .
83. (b) The conjugate base of weak acid is a strong base.
84. (d) $\text{OH}^- \rightarrow \text{O}^{2-} + \text{H}^+$
 Conjugate base of OH^-
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 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_4OH gives minimum OH^- ion. So it is a weak base.
91. (a) Solution becomes acidic and methyl orange acts 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:

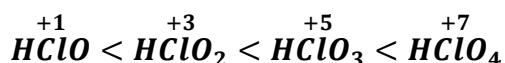
A strong acid ionizes almost completely.

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.



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 $\rightarrow H_3O^+$

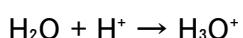
Donates H^+ to act as an acid $\rightarrow OH^-$

Reaction examples:

As acid:



As base:



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



