**The pH Scale**

**Rather than write hydronium ion concentration in molarity, it’s more convenient to express them in a logarithmic scale known as the pH scale.**

**pH: comes from the French phrase “puissance d’ hydrogene” (means : power of hydrogen) and refers to the power of 10 (the exponent used to express the molar H3O+ concentration.**

**The pH of a solution is defined as the negative base -10 logarithm (log) of the molar hydronium ion concentration.**

**pH = -log[H3O+] or**

**[H3O+] = antilog (-pH) = 10-pH**

**Thus, an acidic solution having [H3O+] = 10-2 M has a pH of 2.**

**pOH of a solution can be calculated using the concentration of [OH-].**

**pOH = -log [OH-]**

**The pH of an acid or a base can be calculated using:**

**pH + pOH = 14.00.**