

PG semester II

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Principles and uses of analytical instruments -

pH meter - Principles, parts, procedure, types, uses and examples

A unit of measure that measures the acid acidity or alkalinity of a solution using a logarithmic scale with seven as neutral, which to lower values are more acidic and higher are more alkaline is known as pH.

The pH equals negative log₁₀ of the hydrogen ion concentration (C) given in moles per liter (C).

$$pH = -\log_{10} [H^+]$$

where $[H^+]$ = the solution's hydrogen ion concentration, expressed in moles per liter. In an aqueous solution hydrogen ion concentration, expressed in moles per liter. In an aqueous and hydroxy⁻ ion concentration is constant,

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and the pH is equal to the negative logarithm of the concentration of hydrogen ions.

A pH meter is a statistical tool that monitors the hydrogen ion activity in water based solutions determining its acidity or alkalinity represented as pH it measures P^H on a scale of 0 to 14. The Proportion of hydrogen ions (H^+) to hydroxyl ions (OH^-) (OH^-) determined a substance's pH value. If the concentration of $[H^+]$ exceeds that of $[OH^-]$ the substance is acidic. The pH level is below 7. The substance is neutral if the concentration of (H^+) and (OH^-) are equal. ~~The~~ The pH value is 7. The substance is basic if the $[H^+]$ concentration is lesser than the OH^- . The pH level is higher than 7.

pH monitoring is crucial in the areas like the manufacture of specific foods, the culture medium, chemical solutions, soil quality control etc. pH is an strong indicator of pollution in water and its quality.