Applications of Nernst Equation

The Nernst equation can be used to calculate the following:

* Single electrode reduction or oxidation potential at any conditions.
* Standard electrode potential
* Comparing the relative ability as a reductive or oxidative agent.
* Finding the feasibility of combining such single electrodes to produce an electric potential
* Emf of an electrochemical cell.
* Unknown ion concentrations.
* The pH of solutions and solubility of sparingly soluble salts can be measured with the help of the Nernst equation.

Applications of Gibbs-Helmholtz equation

The Gibbs-Helmholtz equation has the following applications.

* From a given value of Gibbs free energy at constant pressure, it can be used to calculate the overall enthalpy of a reaction and its variation with temperature.

* It can be used to calculate the Gibbs free energy of a process that takes place at temperature other than 298 K.

* It can be used to calculate the influence of temperature changes on the equilibrium constant.

* It can be used to assess a reactions spontaneity.