PHARMACEUTICAL ANALYSIS – BP102T

UNIT: V ELECTRO ANALYTICAL METHOD OF ANALYSIS

CLASS:42

TOPIC: METHODS TO DETERMINE END POINT AND APPLICATIONS

Method of Detecting End Point :

When indicator method is not suitable, we use potentiometric method for determining end point

• A normal titration curve i.e. a plot of

• emf vs volume of titrant or

• pH vs volume of titrant

• First derivative curve i.e. a plot of ΔE/ Δv or ΔpH/ Δv vs volume of titrant

• Second derivative curve i.e. a plot of Δ2E/Δv2 or Δ2pH/Δv2 vs volume of titrant

• In a potentiometric titration, at the end point

• Rate of change of potential is maximum

Applications:

Acid-base titrations

• Redox titrations

• Diazotisation titrations

• Precipitation titrations

• Complexometric titrations

• Dead stop end point technique

Applications of Potentiometery

• Analysts make more potentiometric measurements than any other chemical instrumental measurement

• Manufacturers measure the pH of many consumer products

• Clinical laboratories determine blood gases as important indicators of disease states

• Industrial and municipal effluents are monitored continuously to determine pH and concentration of pollutants

• Oceanographers determine carbon dioxide and other related variables in sea water

• Also used in fundamental studies to determine equilibrium constants such as Ka, Kb

• Thousands of applications for potentiometric measurements are available