- Overview of the classification of separation techniques
- Separation by precipitation
  - Separation based on Ksp values
  - Separation based on controlling the concentration of the precipitating agent
  - Separation based on controlling the pH of the solution, Complex ion formation
  - Organic precipitants
- Separation by Electrolysis
  - Electrolytic deposition, Controlled potential separation, Stripping electrolysis
- Solvent Extraction
  - Theory and Types and Extraction techniques
  - Extraction of organic compounds
  - cExtraction of Metal ions
  - Craig counter current process
  - Derivation of distribution curves
  - Application of the Craig Techniques
- Ion Exchange Process
  - Theory of ion exchange equilibria
  - Exchange resin
  - Ion exchange capacity
  - Effect of pH a separation of organic compounds
  - Effect of neutral salt
  - Complexing agents
  - Application of ion exchange process

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