

CY-404 SEPARATION TECHNIQUES

Evaporation: Types of evaporators, jacketed, horizontal and vertical tube evaporators, force circulation evaporation, entrainment separators, multiple effect evaporators.

Distillation: Boiling and distillation, vapour liquid equilibria, azeotropic mixture, multi component systems, flash distillation, steam distillation, vacuum distillation, extractive distillation, batch and continuous distillation, fractional Distillation, equipment and working of rectifiers, use of packed column.

Extraction: Liquid equilibria, reflux and agitation, extraction equipment, continuous contact equipment, packed spray extractors, leaching, continuous leaching, counter current extraction.

Filtration: Theory of filtration, pressure and vacuum filtration, filter aids, principles of cake filtrations, cake filtration parameters, washing filter cake, centrifugal filtration, Nutsch and continuous filters.

Crystallization: Crystallization from aqueous, non-aqueous solutions and melts, factors affecting purity, fractional crystallization, super saturation, nucleation, crystal growth, factors accelerating growth, separation of crystals, contaminants and their removal, crystal hydrates and solvates, decomposition of crystals, deliquescence and hygroscopicity, efflorescence, dehydration, crystallization equipment