

CY-404 SEPARATION TECHNIQUES

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

Distillation: Boiling and distillation, vapor liquid equilibria, azeotropic mixture, multicomponent systems, flash distillation, steam distillation, vacuum distillation, extractive distillation, batch and continuous distillation, fractional distillation, equipment and working 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 filtration, cake filtration parameters, washing filter cake, centrifugal filtration, Nutsch and continuous filters

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