SUBJECT NO-CH62001, SUBJECT NAME- OPTIMIZATION TECHNIQUES IN PROCESS DESIGN

LTP- 3-1-0,CRD- 4

SYLLABUS :-

Prerequisite-noneIntroduction to optimization and its scope in chemical processes. Analytical methods: Objective function, single variable optimization, multivariable optimization without and with constraints. Linear programming: graphical, algebraic, simplex methods, duality. Numerical search methods: one dimensional search, unrestricted, exhaustive search methods, interpolation methods. Multidimensional search methods without and with constraints. Variational methods and their applications.Text Book:1.Optimization of Chemical Processes by T. F. Edgar, D. M. Himmelblau and L. S. Lasdon2.Introduction of Optimum Design by J. S. Arora3.Geometric Programming: Theory and applications by R. J. Duffin4.Dynamic Programming and the Calculus of Variations by S. E. Dreyfus.Reference Book:1.Optimization : Theory and Practice-G. S. G. Bevridge and R. S. Schechter2.Strategy of Process Engineering by D. F. Rudd and C. C. Watson3.A simplified algorithm to solve geometric programming problems using FORTRAN by M. Lepley4.Dynamic Programming by D. J. White