
**MATLAB AND PRO-II APPLICATIONS IN CHEMICAL
ENGINEERING****Course Code: 13CH2109****L P C**
0 3 2

The source code in the form of m file should be attached with the results.

- 1) Simulation of a boundary value problem: Tubular reactor with axial diffusion.
- 2) Simulation of a delay differential equation: CSTR with recycle.
- 3) Control system design for a non Isothermal CSTR.
- 4) Dynamics of a bioreactor exhibiting multiple steady states.
- 5) Non linear regression: fitting a catalytic rate model.
- 6) Dynamics of a binary distillation column.
- 7) Dynamics of a reactor separator coupled networks.
- 8) Non Linear regression using Genetic Algorithms.
- 9) Constrained optimization problem using general MATLAB: Optimization of the dimensions of a fin.
- 10) Constrained optimization using Genetic Algorithms.
- 11) Simulation of a catalytic fluidized bed.
- 12) Simulation of a Propane-Propylene splitter distillation column.
- 13) Simulating distillation column with side trays, multi feed column, interstage heaters and non ideal trays.
- 14) Absorbers design.
- 15) Absorbers with reboilers and condensers simulation.
- 16) Simulation of LLE columns.
- 17) Simulating interconnected distillation columns.
- 18) Carrying out case studies in PRO II.
- 19) Overwriting the databank by regressing VLE obtained from experimental data.
- 20) Simulating a Pressure Swing Distillation column.
- 21) Tray sizing.
