

---

# Scheme-4 Reactor-2

*Part-1, Case-1*

*tend = 6 sec  
k1 = 100, k2 = 10*

*NBt/NAt = 1.31326*

*Exponent a = 0.5  
Exponent b = 1.5  
Exponent c = 0.5  
Exponent d = 1.5*

*WA = 200  
WB = 65.6628  
NBt = 3.50201  
Vt = 2.13283  
Tot.Solv. = 2  
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.25029  
CB0 = 1.64196*

*Total input = 265.663 kg  
Total output = 265.664 kg*

*Chemical Balance Error = 0.000862032 kg (% 3.24483e-06)*

*Solver: Explicit Runge-Kutta (4,5) Variable step (Dormand-Prince Pair)  
Error tolerance: 0.1%*

*Final Concentrations with Step Size limited to 0.0001*

*CA (final) = 0.0125111  
CB (final) = 2.63361e-08  
CR (final) = 0.833611  
CS (final) = 0.404172*

*CA @ 3.0s = 0.0125111  
CB @ 3.0s = 5.44648e-08  
CR @ 3.0s = 0.833611  
CS @ 3.0s = 0.404172*

*Final Concentrations with Step Size limited to 0.001*

*CA (final) = 0.0125096  
CB (final) = 1.14311e-06  
CR (final) = 0.833615  
CS (final) = 0.40417*

