

---

# Scheme-8 Reactor-2

*Part-2, Case-7*

*tend = 100 sec  
k1 = 0.1, k2 = 0.01*

*NBt/NA<sub>t</sub> = 1.24784*

*Exponent a = 0.5  
Exponent b = 1.5  
Exponent c = 1  
Exponent d = 1*

*WA = 200  
WB = 62.3922  
NB<sub>t</sub> = 3.32758  
V<sub>t</sub> = 2.1312  
Tot.Solv. = 2  
Sola/(SolR+Sola) = 0.5*

*CA<sub>0</sub> = 1.25125  
CB<sub>0</sub> = 1.56137*

*Total input = 262.392 kg  
Total output = 262.393 kg*

*Chemical Balance Error = 0.000508631 kg (% 1.93844e-06)*

*Solver: Explicit Runge-Kutta (4,5) Variable step (Dormand-Prince Pair)  
Error tolerance: 0.01%*

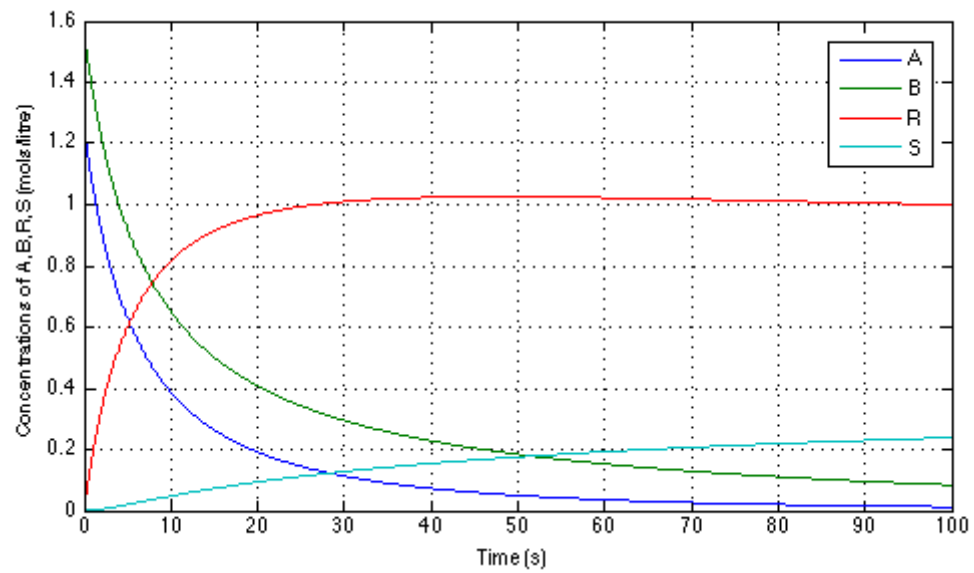
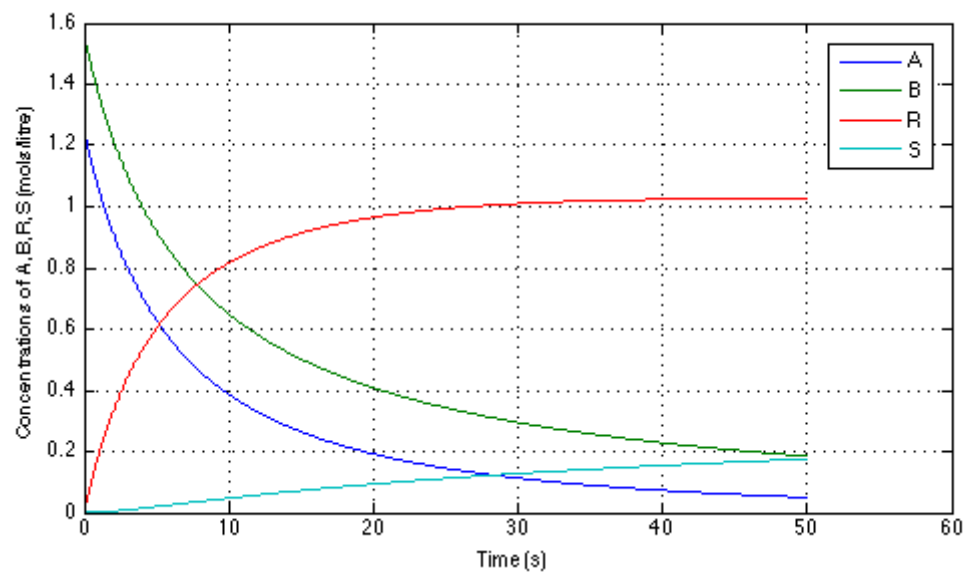
*Final Concentrations with Step Size limited to 0.0001*

*CA (final) = 0.0125162  
CB (final) = 0.0839723  
CR (final) = 1.00008  
CS (final) = 0.23866*

*CA @ 50.0s = 0.0500761  
CB @ 50.0s = 0.184765  
CR @ 50.0s = 1.02575  
CS @ 50.0s = 0.175427*

*Final Concentrations with Step Size limited to 0.001*

*CA (final) = 0.0125162  
CB (final) = 0.0839723  
CR (final) = 1.00008  
CS (final) = 0.23866*



Published with MATLAB® 7.12