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# Scheme-5 Reactor-1

*Part-1, Case-2*

*ta = 600 sec, tm = 600 sec  
k1 = 100, k2 = 10*

*NBt/NAt = 1.66371*

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

*WA = 200  
WB = 83.1856  
NBt = 4.43657  
Vt = 2.14159  
Vat = 1.04159  
Tot.Solv. = 2  
SolA/(SolR+SolA) = 0.5*

*NA0 = 2.66667  
NB0 = 0*

*Total input = 283.186 kg  
Total output = 283.187 kg*

*Chemical Balance Error = 0.00172323 kg (% 6.08515e-06)*

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

*Final Concentrations with Step Size limited to 0.01*

*NA (final) = 0.0266666  
NB (final) = -8.43391e-08  
NR (final) = 0.843438  
NS (final) = 1.79656*

*Final Concentrations with Step Size limited to 0.1*

*NA (final) = 0.0266662  
NB (final) = -1.1815e-07  
NR (final) = 0.843431  
NS (final) = 1.79657*

*Time when NB (final) < 0: 1.83841e-05s*

