Reliability of Technical Systems
Tutorial #7 (Dependent Failure)
Due: November 16th, 2010

Assume a 3oo4 (3 out of 4) system with identical components.

Q1) Calculate the failure likelihood Q_S of the system, while the failure likelihood of the components is given $q_i = 0.01$, $i = 1, 2, 3, 4$.

Q2) Determine system failure likelihood $Q_{S;DF}$. Please take into account dependent failures with the help of the β-factor-model (β = 10%). The observed failures of the components lead to the failure likelihood $q_j = 0.01$, $j = 1, 2, 3, 4$.