List of Notations

\( R_j \) - Reliability of stage \( j \), \( 0 < R_j < 1 \)
\( r_j \) - Reliability of each component in stage \( j \), \( 0 < r_j < 1 \)
\( \chi_j \) - Total number of units in stage \( j \)
\( C_j \) - Cost coefficient of each units in stage \( j \)
\( W_j \) - Weight coefficient of each Components in stage \( j \)
\( V_j \) - Volume coefficient of each Components in stage \( j \)
\( J \) - Subscript varies from 1 to \( n \)
\( R_s \) - System Reliability
\( \lambda_1 \) - Lagrangean multiplier for cost
\( \lambda_2 \) - Lagrangean multiplier for Weight
\( \lambda_3 \) - Lagrangean multiplier for Volume
\( C_o \) - Allowable System cost
\( W_o \) - Allowable System Weight
\( V_o \) - Allowable System Volume
\( \Pi, \Sigma \) - Product, Sum over domain
\( L \) - Lagrangean multiplier
\( a_j \) - Scaling factor for stage \( j \) used in function 2
\( b_j \) - Shaping factor for stage \( j \) used in function 1,2,3
\( c_j \) - Constant used in function 1,2,3
\( d_j \) - Constant used in function 1,3
\( P_j \) - Constant used in weight function of function 1,2,3
\( q_j \) - Constant used in weight function of function 1,2,3
$l_j$ - Constant used in volume function of function 1

$k_j$ - Constant used in Volume function of function 1

$u_j$ - Constant used in Volume function of function 2,3

$v_j$ - Constant used in Volume function of function 2,3

$F$ = Lagrangean function

$r_{j,\text{min}}$ - Minimum reliability in function 4

$r_{j,\text{max}}$ = Maximum reliability in function 4

$f_j$ = Feasibility factor of cost function of function 4

$g_j$ - Feasibility factor of weight function of function 4

$h_j$ - Feasibility factor of volume function of function 4