

Name: \_\_\_\_\_ Seat#: \_\_\_\_\_ Academic#: \_\_\_\_\_

1. (50 pts.) A random sample  $X_1, X_2, \dots, X_n$  follow Weibull  $(\alpha, \beta)$  with the cdf

$$F_X(x) = \begin{cases} 1 - e^{-(x/\beta)^\alpha}, & x \geq 0, \alpha > 0, \beta > 0 \\ 0, & x < 0, \end{cases} \quad (1)$$

How do we generate  $X_1, X_2, \dots, X_n$  via the inverse cdf logic given a random numbers  $U_1, U_2, \dots, U_n$ ?

2. (50 pts.) Write a code to record the arrival times for each item in two systems in Global Table, named "ArrivalTimes". Generate  $n = 20$  items and close the input in "Source". (Download two systems from Simulation Teaching platform)