Bayesian survival estimator for Weibull distribution with censored data.

ABSTRACT

As the most useful distribution for modeling and analyzing life time data in the medical, paramedical and applied sciences among others, Weibull distribution stands out. Nowadays great attention has been given to Bayesian approach and is in contention with other estimation methods. This study explores and compares the performance of Maximum Likelihood and Bayesian using Jeffrey prior and the extension of Jeffrey prior information for estimating the survival function of Weibull distribution with right censored data. On the performance of these estimators with respect to the mean square error and mean percentage error, comparisons are made through simulation study. For all the varying sample size, several specific values of the scale parameter of the Weibull distribution and for the values given for the extension of Jeffrey prior, the estimate of survival function of maximum likelihood is the best compared to the others when the value of extension of Jeffrey prior is 0.4. But then, extension of Jeffrey prior result is the best compared to others when the value of extension of Jeffrey is 1.4. © 2011 Asian Network for Scientific Information.