

ABSTRACT

Acceptance sampling plans are used to accept or reject the submitted lot on the basis of random sample taken from the lot. This sampling procedure is used to test the item one by one. In practice, testers accommodating a multiple number of items at a same time are used to save cost and time. In this situation, group a sampling is used more efficiently. The basic purpose of group acceptance sampling plan is that it can reduce the cost and time of the experiment than the single acceptance sampling plans. Therefore, the objective of this study is to propose the group acceptance sampling plans based on truncated life tests are discussed from two point approach. In this approach, a group acceptance sampling plan is designed for a truncated life test when a multiple number of items as a group can be tested simultaneously in a tester. Group acceptance sampling plans under the truncated life test are designed for lifetime percentiles when the lifetime of a product follows the generalized log-logistic distribution and the Bun type XII distribution. The design parameters such as the number of groups and the acceptance number are determined by satisfying the consumer's risk and producer's risk at the specified quality levels, while the number of testers and the termination time are specified. The tables of both distributions are discussed with different shape parameters. The comparison between 10 and 50 percentile are discussed by using graph. The comparisons between the distributions are given using the percentiles life of the products and also compare the number of groups from the 10 and the 50 percentile. Further, the proposed plan is discussed over the total failure plan in terms of group size required. The results are discussed with real life industrial examples. The extensive tables are given to explain the procedure developed under generalized log-logistic distribution and the Burr type XII distribution.