

RELIABILITY TEST PLANS BASED ON BURR DISTRIBUTION FROM TRUNCATED LIFE TESTS

Dr. T.B. RAMKUMAR

Department of Statistics, St. Thomas College, Thrissur, Kerala, India

Email: rktmidhuna@gmail.com

SAJANA O.K

MSc Statistics (2009-2011), St. Thomas College, Thrissur, Kerala, India

Email: sajana.kunjunni@gmail.com

ABSTRACT

In this paper, four parameter Burr distribution is considered as a life-testing model. The problem of acceptance sampling when the life test is truncated at a pre-assigned time is discussed with a known shape and scale parameters. For various acceptance number, various confidence level and various values of ratio of the fixed experimental time to the specified mean life, the minimum sample size necessary to assure a specified mean life time worked out. The operating characteristic functions of the sampling plans are obtained. Producer's risk is also discussed. A table for the ratio of true mean life to a specified means that ensures acceptance with a pre-assigned probability is provided. And finally we compare minimum sample size necessary to assert the average life to a given values specified average life.

KEYWORDS : Reliability test plans, Four parameter Burr distribution, Consumer's risk, Producer's risk, Operating characteristic function, Truncated life test.