Summary

In the presented thesis, the distributional properties of the order statistics along with the concomitants of the Pareto distribution are studied.

Chapter 1 contains a brief introduction of the order statistics along with its uses. The properties of the order statistics are briefly stated. The concomitants of the order statistics are re-visited along with its uses. Some description about the Pareto distribution and the hypergeometric function is discussed in the first chapter.

In chapter 2, literature review has been discussed about the work done in the field of order statistics especially in concomitants of the order statistics and the Pareto distribution. .

Chapter 3 comprises the derivations of the order statistics of the Pareto distribution along with the derivations of its raw moments, the joint distribution of two order statistics, conditional distribution, estimation of the parameter and the empirical study of the mean and variance of the order statistics of the Pareto distribution is carried out. From the empirical study it can be seen that the mean and variance of the Pareto distribution increases monotonically as the value of r increases.

Chapter 4, contains the derivation of the concomitants of the bivarite Pareto distribution.