SUMMARY

A Modified form of Khan and Baily(1988) Statistic has been studied. Its mean and variances has been calculated with different choices of constants A and B. A comparison between B-statistic, Modified B-statistic, and X^2-statistic has also been made.

Chapter # 1 gives a brief introduction of the goodness of fit statistics. Literature review of the work on Chi-square type goodness of fit test statistics has been carried out in Chapter # 2.

In Chapter # 3, mean and variance of modified B-statistic are calculated.

In Chapter # 4, 100,000 samples each of size $N = 20, 30, 50, 100, 500$ and 1000 are generated from binomial distribution with $k = 5, 10$ and $\theta = 0.30$, 0.40 and 0.50. The choices of constants A and B are made such that the mean and variance of B-statistic and modified B-statistic reduce to $O(N^{-2})$. The mean and variance of X^2-chi-square goodness of fit statistic, B-Khan and Baily(1988) goodness of fit statistic and modified –B goodness of fit statistic are obtained from 100,000 samples of each N and K . For each sample, θ is estimated by maximum likelihood method. Also the probabilities of each statistic greater than equal to Chi-square value at 0.001, 0.01 and 0.05 level of significance are calculated. At the end a comparison has been made between these statistics.