Abstract

In this thesis, some new types of ratio-type and product type of trigonometric estimators by using trigonometric estimators are developed for the population mean in simple random sampling. The expressions mean square error (MSE) and bias along with efficiency conditions are calculated and then empirical study has been done for the proposed estimators. We discussed the basic procedure and the types of simple random sampling (SRS), its advantages and disadvantages and also give some brief introduction about the trigonometric functions. We also discussed some existing ratio-type, product-type and exponential-type estimators for the population mean in simple random sampling (SRS) to approximate the parameter of interest variables by using one supplementary (auxiliary) variable. The comparative study of efficiencies of proposed estimators with some of the given existing estimators is discussed by using the numerical example.