

## **ABSTRACT**

A study of the Ratio Type Estimators in Three Phase Sampling has been carried in this thesis in order to obtain some suitable estimators in three-phase sampling for which the mean square errors are minimized. Two new estimator are proposed in this thesis and mean square errors for both new proposed estimators have also been derived.

Firstly, Chapter 1 comprises of the basic definitions related sampling concept, double sampling and multi-phase sampling. Estimators related to single- phase, two-phase and three-phase already developed in this context has also given in this chapter.

A brief note on the review of literature about the history of double sampling and different estimators related to this and its progress is given in chapter 2.

Two new ratio-type estimators in three phase sampling are proposed in chapter3. In the first Ratio-type estimator introduced two variables while in the second Ratio-type estimator three variables are introduced. Mean Square Errors for both new proposed estimators have also been derived in this chapter.

Empirical study for the purpose of comparison of new proposed estimators with the already existing estimators have been carried out in Chapter 4.