

PAPER - III
THEORY OF SAMPLE SURVEYS AND VITAL
STATISTICS

Note: The question paper will be divided into three sections A, B and C as follows:

Section A: In this section, ten questions will be set taking two questions from each unit. Each question will be of short answer type not exceeding 20 words and will carry 1/2 mark. The candidate will be required to attempt all the questions (aggregating 5 marks).

Section B: In this section, ten questions will be set taking two questions from each unit. The answer of each will not exceed 250 words or two and a half page. Each question will be of 5 marks. The candidate will be required to attempt five questions in all taking one question from each unit (aggregating 25 marks).

Section C: In this section, four questions will be set, covering all the five units and whose answers not shall not exceed 500 words or five pages each. Each question may have sub parts in it and will carry 10 marks. The candidate will be required to attempt any two questions (aggregating 20 marks).

UNIT-I

Concepts of population and sample need for sampling.

The principle steps in a sample survey, concept of sampling and non-sampling errors, Advantages of sample survey over complete enumeration, Limitations

of sampling , types of sampling, basic principles of sampling design, procedures of selecting a random sample.

UNIT-II

Simple random sampling with and without replacement for variables and attributes. Stratified random sampling including allocation problems.

UNIT-III

Cluster and two-stage sampling (equal size clusters).

UNIT-IV

Ratio and Regression methods of estimation (expression's for bias only). Systematic sampling estimation of its mean and variance, comparison with SRS and stratified random sampling for a linear trend population.

UNIT-V

Vital Statistics : Uses, of vital statistics, methods of obtaining vital statistics.

Measurement of mortality crude death rate, specific death rates, standardized death rates. Life table, assumptions, description and construction of life table and its uses, Fertility, measurements of fertility, crude, general, specific and total fertility rates.

Measurements of population growth, gross and net reproduction rates.