Department of Statistics

Elementary Statistics (Minor Elective Paper – I)
U. G. First Year

Unit- I

Origin and meaning of statistics, general usages, Variables and Constants, Types of variables (discrete and Continuous), Types of Data, (Primary/ Secondary data).

Unit - II

Diagrammatic representation of data: line diagram, bar diagram, multiple bar diagram, Pie diagram, Graphical representation of frequency distribution by Histogram, frequency polygon, frequency curve.

Unit- III

Measures of central tendency: Arithmetic mean, median, mode, Partition values.

Unit - IV

Measures of dispersion: range, quartile, decile, quartile deviation, mean deviation, standard deviation.

Unit – V

Correlation, scatter diagram, Karl Pearson coefficient of correlation, concept of rank correlation.

Unit – VI

Curve fitting and principle of least squares: fitting of first degree curves.

Unit – VII

Basic concept of probability and related properties, Probability mass function, Probability density function.

Unit – VIII

Theory of moments, moment generating function and its properties.

References:

1. Goon, Gupta, Das Gupta   -   An outline of statistical theory (Vol. 2)
2. Goon, Gupta, Das Gupta   -   Fundamentals of Statistics (Vol. 2)
3. Gupta, S.C. and Kapoor, V.K   -   Fundamentals of applied Statistics.

Department of Statistics
Sampling and Applied Statistics (Minor Elective Paper – 2)
U.G. Second Year

Unit – I   Sampling: Meaning of sampling, sample, population, Introduction of Probability sampling, judgement sampling.

Unit - II   Probability sampling: Simple random sampling, Procedure of sample selection (with replacement and without replacement.

Unit - III Stratified sampling: Concept of homogeneous and heterogeneous Population Uses of stratified sampling, meaning of strata.

Unit - IV Concept of Systematic Sampling, Procedure of sample selection, its uses, merits and demerits.

Unit – V   Introduction of Index number and its uses, concept of base year, basic concept of price and quantity index number, problem involves in construction of index number.

Unit – VI Vital Statistics- Sources of vital statistics, uses of vital statistics, concept of crude birth and crude death rates.

Unit –VII Time Series: Definition of time series and its components, Trend, seasonal variation, cyclical variation, Random variation and uses of time series.

Unit – VIII Demand analysis- law of demand and supply, concept of price elasticity of demand and supply.

References:

1. Goon, Gupta, Das Gupta   -   An outline of statistical theory (Vol. 2)
2. Goon, Gupta, Das Gupta   -   Fundamentals of Statistics (Vol. 2)
3. Gupta, S.C. and Kapoor, V.K   -   Fundamentals of applied Statistics.