

# **Skill Enhancement Course (SEC): DATA ANALYSIS**

## **Course Description:**

This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

## **Course Outline:**

1. Sources of data. Population census versus sample surveys. Random sampling. Univariate frequency distributions. Measures of central tendency: mean, median and mode; correlation
2. Introduction to probability theory. Notions of random experiment, sample space, event, probability of an event. Conditional probability. Independence of events. Random variables and probability distributions. Binomial and normal distributions.
3. Estimation of population parameters from sample data. Unbiased estimators for population mean and variance.
4. Basics of index numbers: price and quantity index numbers.

## **Readings:**

1. P.H. Karmel and M. Polasek (1978), *Applied Statistics for Economists*, 4th edition, Pitman.
2. M.R. Spiegel (2003), *Theory and Problems of Probability and Statistics* (Schaum Series).