

Representation of Data

REPRESENTATION OF DATA

The first part of this lab course comprises Sessions 1 to 5 which will enable you to develop practical skills for classifying raw data as well as constructing diagrams or graphs in MS Excel 2007.

In Block 4 of MST-001 (Foundation in Mathematics and Statistics), you have learnt that it is difficult to comprehend and get information from raw data. So we need to classify raw data in tabular form to acquire information in much shorter period of time which helps in summarising the raw data. You have also learnt how to construct some commonly used diagrams for representing tabulated data, graphs for frequency distributions and time series data.

Session 1 serves as an introductory overview of Excel 2007. In this session, you will learn how to work with Excel 2007 by creating and formatting the spreadsheets. We shall explain how to use charts, built-in functions and the *Data Analysis ToolPak* in Excel 2007.

In **Session 2**, you will learn how to classify qualitative data on the basis of qualitative characteristics, i.e., attributes such as sex, region, religion, etc., using Excel 2007. This type of classification is known as qualitative classification. We shall also explain how to classify quantitative data by constructing discrete and continuous frequency distributions using Excel 2007 for discrete and continuous data, respectively.

We have explained that we can also represent tabulated data with the help of different kinds of commonly used diagrams. **Session 3** deals with the commonly used diagrams such as the simple bar diagram, multiple bar diagram, sub-divided bar diagram and pie diagram in Excel 2007 while the graphs used to represent the frequency distributions are discussed in **Session 4**.

In **Session 5**, we demonstrate the construction of graphs for time series data, such as line, range and band graphs using Excel 2007. We shall also consider the construction of box plot.

All sessions of this part have been designed in such a way that after successfully completing them, you will be able to classify qualitative as well as quantitative data, represent data diagrammatically or graphically using MS Excel 2007.

Before studying the lab sessions of Part A, we expect that you have studied Block 4 of the course MST-001 entitled Foundation in Mathematics and Statistics thoroughly. All concepts and formulae used there will be applied here.