Chapter 11   Quartiles and Percentiles

Suggested Approach

The emphasis is on teaching the cumulative frequency diagram and the box-and-whisker plot to analyse and interpret these diagrams. Teachers may prepare a variety of such diagrams beforehand for class discussion. Questions could be asked about what information is conveyed by the diagrams.

To introduce the idea of spread of data, students may be asked to compare two sets of data with the same mean and median but with a different spread. They should realise that, apart from describing a data set by a measure of central tendency, there is a need to have a measure of the spread of data.

Different types of measures of spread can be discussed and illustrated with some daily life examples. Students could be encouraged to discuss the advantages and disadvantages of each type of measure.

11.1   Cumulative Frequency Diagrams

Students may be asked to prepare a cumulative frequency table and draw a cumulative frequency curve from a frequency table. Teachers may guide them to discuss what conclusions can be drawn from a cumulative frequency curve. Students have to observe the title, the legends and the scales on both axes of a cumulative frequency curve.

11.2   Range, Quartiles, Interquartile Range And Percentiles

Students should be reminded that the definitions of range and quartiles are different for ungrouped data and grouped data. They are required to find the quartiles and percentiles of a distribution from its cumulative frequency curve. Some students may have the wrong notion that $\frac{N}{4}$ is the lower quartile.

11.3   Box-And-Whisker Plots

Students should note the general appearance of a box-and-whisker plot. They should understand its use in displaying the characteristics of a data set. They are expected to compare two different data sets using box-and-whisker plots.