SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107
An Autonomous Institution
Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF MANAGEMENT STUDIES

COURSE NAME : 19BA106 FUNDAMENTALS OF DATA ANALYSIS

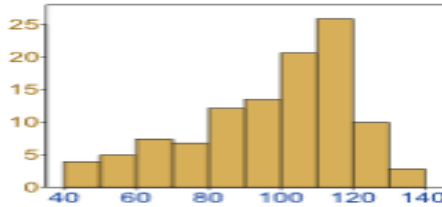## I YEAR /I SEMESTER

Unit 2 – SAMPLING AND ESTIMATION

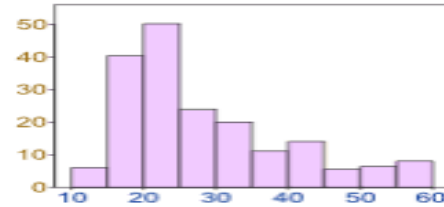**Topic 2: FDA –** Properties of the Normal Distribution

Normal Distribution

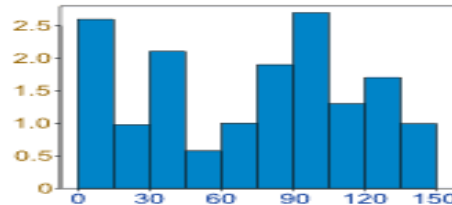➢Data can be "distributed" (spread out) in different ways.

It can be spread out more on the left
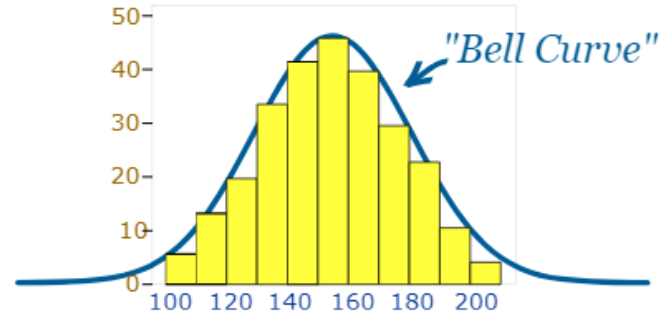
Or more on the right

Or it can be all jumbled up

Normal Distribution

➤ But there are many cases where the data tends to be around a central value with no bias left or right, and it gets close to a "Normal Distribution" like this

A Normal Distribution

The "Bell Curve" is a Normal Distribution.
And the yellow histogram shows some data that follows it closely, but not perfectly (which is usual).

Normal Distribution
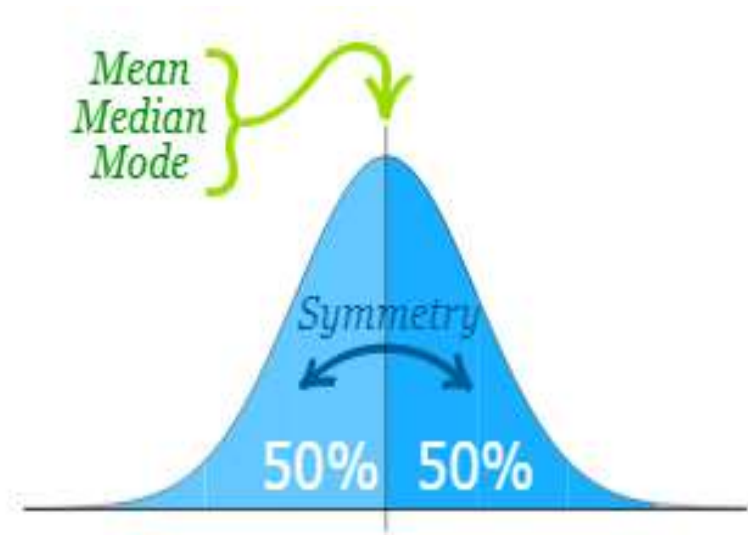
Many things closely follow a Normal Distribution:

➢heights of people

➢size of things produced by machines

➢errors in measurements

➢blood pressure

➢marks on a test

We say the data is "normally distributed" When
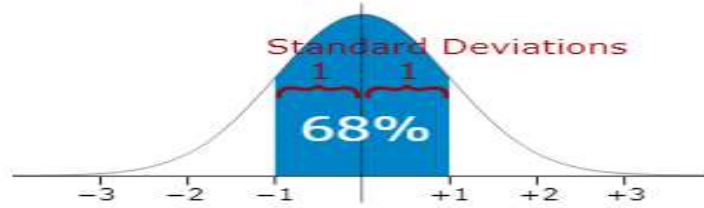
The **Normal Distribution** has:

➤ mean = median = mode

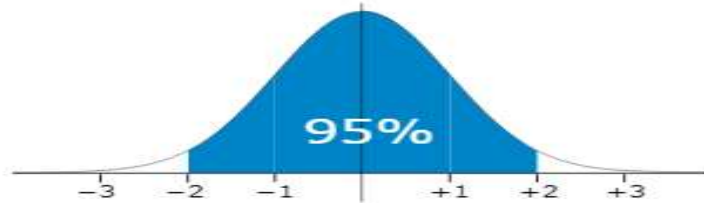➤ symmetry about the centre 50% of values less than the mean and 50% greater than the mean
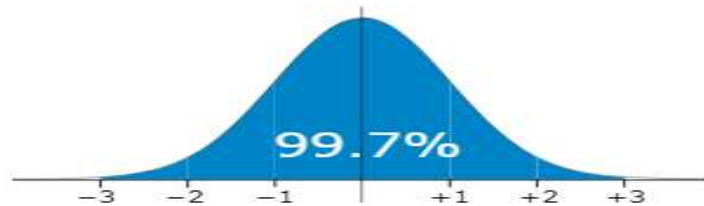
Empirical rule

When we calculate the standard deviation we find that generally:

68% of values are within
1 standard deviation of the mean

95% of values are within
2 standard deviations of the mean

99.7% of values are within
3 standard deviations of the mean

RECAP

QUESTIONS???

THANK YOU