**SARDAR PATEL UNIVERSITY**
**THIRD SEMESTER**
**SUBJECT: STATISTICS**
**COURSE CODE: US03ESTA04**
**(BIOSTATISTICS-I)**
**(FOR BIOSCIENCE STUDENTS)**
**(EFFECTIVE FROM JUNE , 2013)**

**Course credit: 2**

**No. of lectures per week: 2**

**All units carry equal Weightage**

**Weightage: Internal – 30%, External – 70%**

**Note: Simple/Scientific calculator is allowed for calculation.**

**Unit-I Collection and Presentation of data**
- ➢ **Variables used in biology**
- ➢ **Collection and tabulation of quantitative and qualitative data**
- ➢ **Diagrammatic representation of data**
  - ➢ **Bar Diagram : Simple, Sub-divided (Component), Percentage, Multiple**
  - ➢ **Pie Chart**
- ➢ **Graphical representation of data**
  - ➢ **Histogram**
  - ➢ **Frequency polygon**
  - ➢ **Frequency curves**

**Unit-II Analysis of Quantitative data-I**
- ➢ **Measures of central tendency**
  - ➢ **Mean**
  - ➢ **Median**
  - ➢ **Mode**
  - ➢ **Partition values**
  - ➢ **Applications in the field of bioscience**

**Unit-III Analysis of Quantitative data-II**
- ➢ **Measure of dispersion**
  - ➢ **Range**
  - ➢ **Quartile deviation (Q.D)**
  - ➢ **Standard deviation (S.D)**
  - ➢ **Coefficient of Variation (C.V)**
- ➢ **Skewness**
  - ➢ **Karl-Pearson's coefficient of skewness**
  - ➢ **Bowley's coefficient of skewness**

**Unit-IV Introduction to probability**
- ➢ **Basic concepts of probability**
- ➢ **Various definitions of probabilities**

- ➢ **Laws of probabilities and Examples**
- ➢ **Discrete Probability Distributions: Binomial, Poisson and Examples**

**References:**

- **(i)** **Mathematical Statistics by S.C. Gupta**
- **(ii)** **Methods in Biostatistics by B. K. Mahajan**
- **(iii)** **Statistics by D. C. Sancheti and V. K. Kapoor**
- **(iv)** **Biostatistics: A foundation for analysis in the health sciences by Wayne W. Daniel**