

**Syllabus for Bioinformatics (BIF) Course for B.Sc programme under semester scheme
Course:- Bio-informatics (BIF) (Credits: Theory-4, Practicals-2)**

Semester IV: Course Title: Biostatistics

UNIT-I

UNIT-I

Introduction to Biostatistics: Concept of sample and population. Different sampling strategies and types. Mean, Mode Median, Variance, Standard deviation. Types of data, Collection of data, Primary and secondary data, Classification and graphical representation of statistical data. Measures of Skewness and Kurtosis.

UNIT-II

Basics of Probability, Permutation and Combination; Probability Distribution: Basics of Binomial, Poisson and Normal distributions and their application in biology.

UNIT-III

Methods of sampling, confidence level critical region, testing of hypothesis and standard error, large sample test and small sample test.

UNIT-IV

Problems on test of significance, t-test, Chi-square test for goodness of fit and analysis of variance.

PRACTICALS

1. Based on graphical Representation.
2. Based on measures of central tendency & Dispersion.
3. Based on Distributions – Binomial, Poisson, Normal
4. Based on t, F, Z and Chi-Square.

REFERENCES

- Intuitive Biostatistics: A Nonmathematical Guide to Statistical Thinking - Harvey Motulsky
- Principles of biostatistics - Marcello Pagano
- Biostatistics: A Foundation for Analysis in the Health Sciences - Chad Lee Cross and Wayne W. Daniel
- Medical Biostatistics - Abhaya Indrayan

