MBH-503: BIOSTATISTICS & BIOINFORMATICS   (52 h)

Unit I   **(13 h)**

Introduction to basic statistics, Types of data, primary and secondary Collection and Classification of Data, tabulation, Types of Numerical Data, Frequency Distribution, Population and Sampling, Representation of Data. Line chart, Bar diagramme, Pie chart, Histograms, Frequency Polygons.

Unit II   **(13 h)**

Measures of Central Tendencies, mean, median, mode Measures of Dispersion, Standard Deviation, Coefficient of Variation, Probability, Tests of Significance, ANOVA.BINOMIAL, POISSON, NORMAL DISTRIBUTION. Tests of significance: normal, t, F tests, chi square test, goodness of fit, statistical packages.

Unit III   **(13 h)**

Basics of Computer, Spread Sheet Application, Data Storing, Generating Charts / Graphs and other features, Molecular Modelling, Presentation tools, Basics of Internet, Search Engines, Citation Search, H Index, Literature Search Techniques, Statistical Data Analysis using Computer and Software, TOOLPAK, COSTAT,SPSS, Sequence Analysis, Homology, Analogy, BLAST, EMBL,GENEBANK, FASTA,

Unit IV   **(13 h)**

INTRODUCTION TO BIOINFORMATICS: Search engines, molecular modelling, phylogeny, Genomics and Proteomics, Protein Structure Prediction, Molecular Modelling and Docking, Computer Aided Drug Designing.