SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Bioinformatics)
Semester: II
Syllabus with effect from: December - 2010

Paper Code: PS02CMBI02	Total Credit: 4
Title Of Paper: Principles of Mathematics & Biostatistics	

Unit	Description in Detail	Weightage (%)
	Logic. [Logic operators AND, OR, conjunction, disjunction, conditional and bi-conditional operators, well-formed formulas, equivalence and implication, normal and principal normal forms, Truth tables] *Graphs*. [Definition of graphs and diagraphs, Application of graphs- seven bridges problem, Four colour problem, travelling salesman problem etc. Connected graphs and algorithms, Euler graphs and conditions for Euler graphs. Matrix representation of graphs] *Trees & their Properties*. [Binary tree and its uses, Spanning trees, Fundamental Circuits.] *Definition and Scope of Biostatistics*: Variable in biology, collection, classification and tabulation of data. Graphical and diagrammatic representation, histogram, frequency polygon, frequency curve. *Descriptive statistics*: Measures of central tendency- Mean (arithmetic, harmonic and geometric), median and mode. *Measures of dispersion*-standard deviation and standard errors. *Elements of probability theory*. Probability distributions-binomial, Poisson and normal distribution. Correlation coefficient, Simple linear regression, probit and logit analysis. *Basic idea of significance test*. Statistical hypothesis, types of errors, level of significance, student's t, chi-square, goodness of fit and F tests.	