

Database Management System in Biology

Unit I:

Use of statistics in biology. Measures of central tendency – mean, median, mode. Measure of dispersion – standard deviation – standard error. Correlation coefficient, probability.

Unit II:

Marginal, conditional distributions- continuous and discrete distributions, analysis, regression, - T test, chi square test, binomial, normal and exponential distribution. Biostat programme.

Unit III:

Null hypothesis, level of significance, test of significance for mean / different.

Unit IV:

Curve fitting – least square method – finite differences – difference operators – newton's forward and backward formula. Basics of the application of SPSS 7.5 window software package.

Unit V:

Nucleotide sequence databases, NCBI, Genbank, EMBL, DDBJ, Protein sequence data bank SWISSPROT PDB, SCOP, CATH DALI, Metabolic Pathways databases KEGG & BRENDA.

Suggested Readings :

1. Fundamentals of Database Systems – Third Edition – Ramez Elmasin – Shamkant B. Navathe. 2001.
2. Database Management Systems – Alexis Leon & Mathew Leon – Vikas Publishing, New Delhi 2002.
3. Bioinformatics by Baxevanis & Onlette.