

**MB-10****OPTION (G). BIOINFORMATICS, COMPUTER APPLICATION & BIOSTATISTICS****Max. Marks - 80**

<b>Units</b>	<b>Topics</b>
I	Bioinformatics - Objectives and scope of bioinformatics, Data-base searchcreation, Preparation and management, Use of currently important databases in bioinformatics, Modern strategies of literature search, Significance of keywords in Literature search, use of e.mail and internet and retrieving information on biotechnology.
II	1) Introduction to computer fundamentals, permanent storage of number systems, decimal to binary and vice-versa; binary coded decimal number; 2) MS - DOS, MS - WORD, MS - EXCEL 3) Application of computer in biostatistical problems. 4) RDBMS, Definition of relational database, basic SQL prompts; retrieval sorting indexing and merging; Programming logic & techniques, Alaoirithm. flowcharts. 5) Computer in biology: Sequence data bases; sequence analysis of proteins and nucleic acids, structure prediction, simple molecular modelling, sample graph plotting.
III	Networking of computer, need and advantages, overview of Indian network such as NICNET, INFLIBNET, Detailed study of Internet. Computer oriented numerical methods, solution of simple algebraic and transcendetal equations, solution of linear simultaneous equation, Numerical integration.
IV	Partial fraction, theory of quadratic equations, permutation and combination, Binomial theorem, Finite and infinite series, Determinant. Differential and integral calculus - Theory and rules, methods of differentiation and integration, Definite integral, Simple differential equation.
V	Basic statistical concepts: Population and samples, classification, summarization and presentation of data, Frequency distribution, Measures of location and dispersion, correlation and regression, probability models, Normal and Nonnormal distributions, normalising transformation and test of inference, Analysis of variance.