

**COMPUTER AND ITS APPLICATION IN BIOLOGY**

**UNIT I**

Introduction to computers: Classification of digital computer systems – Anatomy of a digital computer – Computer architecture.

**UNIT II**

Number system – Operating system - Memory organization: Basic memory cell, RAM, ROM, DRAM, main memory, auxiliary memory, associative memory, cache memory, virtual memory – Input Output devices.

**UNIT III**

Computer software: Languages – Source and Object program – Translators – Utilities and Packages – Applications of BASIC, FORTRAN, COBAL, PASCAL, C.PROLOG, LOGO and PL/1.

**UNIT IV**

Uses of Computers in Biology - Structural and functional analysis of Biological macromolecules (Proteins, DNA and RNA) - Transfer of Information in biological systems - Digital nature of biological information - representation of biological molecules as strings of symbols.

**UNIT V**

Information Retrieval: Information systems, Internet basics, Information access, LAN, WAN, WWW, NICNET, ERNET, VSNL, ISDN.

**Reference Books:**

1. M.M. Mano, *Computer Systems Architecture*, PHI, 1994
2. Leon A., and Leon M. *Fundamentals of Information Technology*, Leon Tech world 1999.
3. Dennis P.Curting, Kin Foley, Knal Sen, Cathleon Movin, *Information Technology – The Breaking wave* – Tata McGraw Hill Pub. 1999
4. Pierre Baldi and Soren Brunak, *Bioinformatics: The machine learning approach*, MIT press 1998.
5. Henry Korth Abraham and Silberschay – *Database Systems concepts*, Tata McGraw Hill Publication.
6. Hwang K., Briggs E. *Computer Architecture and parallel processing*, McGraw Hill, 1987.
7. C.J.Date , *Introduction to Data base systems*, Addison Wesley.