APPLICATIONS OF COMPUTERS IN POLYMERS

Unit I: Introduction to Computers & Word Processing

Introduction, application of computers, generations of computers, classification of computers – hardware and Software components – Input unit, Output unit, ALU, Memory unit, Control unit, CPU, Microprocessor, Micro, Mini, Supercomputers – machine languages, assembly languages, high level languages – system software, application software – assembler, compiler, operating system – Type of memory – primary memory, secondary memory-RAM, ROM – hard disc, compact disc – input devices, output devices. Introduction to MS office packages (Word, Excel, Power Point and Access.)

Unit II: Computer Programming

Computer programming: Constants, variables, bits, bytes, binary and ASCII formats, arithmetic expressions, hierarchy of operations, inbuilt functions. Elements of the BASIC language. BASIC keywords and commands. Logical and relative operators. Strings and graphics. Compiled versus interpreted languages. Debugging. Simple programs using these concepts. Matrix addition and multiplication. Statistical analysis

Unit III: Introduction to C Programming

Introduction - Characteristics of C-language – Structure of a program header files, main Statements, Compound statements, Data types – Keyword and variables, assignment operators, arithmetic operators, expressions, precedence of operators, order of evaluation – Relational and logical operators – Input /Output statements - Control sequences – Escape sequences – Branching statements, if, if-else, switch – looping statements while, do, for statements.

Unit IV: Arrays and Functions

Arrays – declaration, processing, searching, sorting –multi dimensional arrays- matrix manipulations, character strings, string declaration, input/output functions gets (), puts (), User defined functions – library functions – structure of functions, calling functions, argument passing, void functions – mathematical and string library functions – math.h, stdio.h, string.h Writing programs.
C-Graphics – Resolution – Graphics functions – initgraph (), setcolor (), setbkcolor (), putpixel (), Line (), circle (), rectangle (), out text (), outtextxy ()
Internet evolution, Getting connected to internet, applications of LAN, WAN - Internet, modem.

Reference Books:
1. Brian w. Kernigham and Dennys M. Ripchie - The 'C' programming Language PHI.
2. Hughes J. K. and Michton J. I. - A structured approach to Programming PHI.
3. Gottfried.B Theory and problems Programming with C TMH.
4. E. Balaguruswamy Programming ANSI C TMH.
5. Ashok.N.Kamathene," Computer Programming", Pearson Education (India).
6. P.K.Sinha, - "Computer Fundamentals".
7. Fundamentals of Computers by V Rajaraman, IV Edition, PHI Publications