

BA FIRST YEAR

Course Name	Theory Marks	Practical Marks	Total Marks
Introduction to Information Technology	50	-	50
Operating Systems - Windows 98	50	50	100

BA SECOND YEAR

Course Name	Theory Marks	Practical Marks	Total Marks
Programming language using C	50	50	100
MS-Office	50	-	50

BA THIRD YEAR

Course Name	Theory Marks	Practical Marks	Total Marks
Computer Organization	50	-	50
DBMS Concepts using MS-Access	50	50	100

Note: There will be one practical examination in BA II year covering contents of both the papers.

INTRODUCTION TO INFORMATION TECHNOLOGY

Unit 1: Information Concept and Processing: concepts of data, data type, information, need for information, evolution of information processing, elements of computer processing systems: classification of computers, Hardware- CPU, storage devices and media. Software- systems and application.

Unit 2: Programming languages: Machine language, assembly languages, high level languages, fourth generation languages, compilers, interpreters, General concepts of OOPS (Object oriented programming) .

Unit 3: Operating Systems: Concept and functions of Operating System, Batch processing, Multiprogramming, Real time, time sharing, distributed systems.
DOS: Functions of DOS, structure booting, internal and external commands.

Unit 4: Computer network and Communication: Communication system elements, Communication modes: simplex, half duplex and full duplex, circuit switching and packet switching
Network: Goals and applications, LAN, MAN, WAN, network topology.

Unit 5: Application of IT and Internet: Application of IT in business, education, industry, home and training, entertainment, science and engineering and medicine. Internet, World Wide Web (WWW), Domain names, e-mail, e-commerce, Web Browsers.

References :

1. "Computer Fundamentals" by P.K. Sinha
- 2 . Sanders. D.H. " Computers Today" McGraw Hill, 1988.
3. S. Jaiswal, "Information Technology Today", Galgotia Pub., New Delhi, 1999.

Operating System Windows-98

Unit 1: Operating system and its concepts, functions, Batch, Spooling, Multiprogramming, Time-sharing, Real time systems, Distributed systems, Personal computers, Parallel systems. Process: Process concept, Process scheduling, operation on process, Co-operating process, Threads.

Unit 2: Overview : Features of Win 98, starting Windows, controlling programs and documents, starting Windows after technical problem occurs, shutting down Windows, Basic elements of Windows 98 interface, Using the mouse, keyboards, menus, dialog box, task bar ,changing and setting properties, working with application, Understanding help file.

Unit 3: Working with files and folders
Choosing a navigation style, customizing other folder options, two views of Windows. Explorer, navigating through explorer hierarchy, changing the way a folder's contents appear, customizing explorers appearance, managing files and folders, using shortcuts.

Unit 4: Advanced File Management Techniques:
Associating files with programs, finding files, working with long file names, using explorer with shared resources on a network, managing file from MS-DOS prompt, Windows 98 and local media, understanding disk partition, using FDISK, formatting disk.

Unit 5: Working with applications:
Understanding the data sharing capabilities of windows 98, using the windows clipboard, viewing and changing clipboard data, exchanging data between windows and DOS, using embedded objects, printing, using windows Accessories, using Notepad and WordPad.

References:

- 1."Operating System" by Silberchatz and Galvin.
- 2."Using Windows 98" by Ed Bott and Ron person(PHI)

PROGRAMMING LANGUAGE USING C

Unit 1:Fundamentals of C Programming : History of C; structure of a C program, Data types, Constants & Variables Operators & expressions; Control Constructs – if-else, for, while, do-while; Case statement; Arrays; Formatted and unformatted I/O; Type modifiers & storage classes; Ternary operator; Type conversion & type casting; Priority & associativity of operators.

Unit 2:Modular Programming: functions; Arguments; Return value; Parameter passing –call by value, call by reference; Return statement; Scope visibility and life-time rules for various types of variable, static variable; Calling a function ; Recursion – basics, comparison with iteration, tail recursion, when to avoid recursion examples.

Unit 3:Advanced Programming techniques : Special constructs- break, continue, exit , goto & level; pointers- & and * operator , pointer expression , pointer arithmetic, dynamic memory management functions like malloc(), calloc() , free() ;string() ; pointer v/s array ; pointer to pointer , array of pointer and its limitations ; function returning pointer , pointer to function , function as parameter .

Unit 4:Structure-basic, declaration, membership operator ,pointer to structure , referential operator, self referential structure , structure within structure , array in structure, array of structure; Union –basic, declaration, enumerated data type; Typedef; command line arguments

Unit 5:Miscellaneous Features : File handling and related functions , printf and scanf family C preprocessor- basics, #include, #define, #undef. Conditional compilation directive like #if, #else, #elseif, #endif,#ifdef; and #ifndef; variable argument list functions.

References :

1. The C Programming Language - B.W. Kernighan & D.M. Ritchie
2. The Sprit of C - Cooper, Mullish
3. Kanetkar Y : Let us C
4. Kanetkar Y : Pointers in C
5. An introduction to C programming – Amit Saxena, Anamaya Publishers, New Delhi

MS-Office

Unit 1: Overview of office components, common office tools and techniques, sharing information with MS-Office.

WORD: Starting Word, Parts of Word Window: Menus, Toolbars , Standard Toolbar, Formatting Toolbar. Creating, previewing and printing the documents, Formatting document: auto format, format paragraph, line spacing, margins and gutters, borders and shading, page breaks , Working with header, footer and footnotes, setting tabs, Creating and working with tables.

Unit 2: Working with Graphics:

Drawing objects, text in drawing, rotating and flipping objects, object filling, inserting frames and framing objects, captions.

Templates, Wizard. Bullet: bulleting paragraphs, changing styles, spelling checker, table of contents, creating an index, find and replace, sort. Bookmarks- defining, displaying and hiding, deleting, going to a bookmark. Macro, Mail merge.

Excel

Unit 3: Excel features, spreadsheet, parts of a worksheet, creating and editing worksheets, checking spelling, entering and formatting numbers, dates formulas, referencing cells, order of evaluation in formulas, copying entries, auto fill, protecting and unprotecting documents and cells. Moving, copying cell, sorting cell data, inserting rows and columns, deleting parts of worksheet, hanging column, row width and font size, centering text, inserting and removing page breaks, hiding rows and columns, splitting windows, view multiple windows.

Unit 4: Function: Parts of function, function wizard, category of functions, chart parts, creation of charts, resizing, moving, rotating, printing charts, Data map. Working with Graphics in Excel

Macros- creation, running, Assigning macros to buttons, Database concepts and terms, creating an Excel database, working with data forms, filtering, sorting Excel database.

Unit 5: Powerpoint:

PowerPoint terminology, Views, creating presentations using Wizard and design templates. Masters, adding slides, editing and moving text, spell checking, finding and replacing text, formatting text , aligning text.

Reference:

1. "Working in Microsoft Office"- Ron Mansfield(TM)

COMPUTER ORGANIZATION

Unit 1:Component of computer system, number system, binary, octal, hexadecimal conversion, 1's compliment and 2's compliment, binary arithmetic – addition, subtraction character codes (ASCII, EBCDIC). Error detection and correction codes.

Unit 2: Boolean Algebra - Representation of values and complement, AND, OR, NOT operators, d'morgan's theorem, simplifying expressions, truth table, logic gate : AND, OR, NOT, NAND, NOR, XOR, XNOR and karnaugh map method, combination logic design.

Unit 3:Flip flops-clocked RS, D, JK flip flops. Counters - Ripple, Synchronous, Ring Counters. Registers - Buffer, Controlled Buffer Register. Addressing Techniques - Direct, Immediate, Indirect Addressing.

Unit 4:Control Unit - Its purpose, instruction word, instruction cycle.I/O devices – Printers: Dot matrix, Electro magnetic, Thermal, Laser, CRT's, Keyboards.

Unit 5:Memory- Main, Ram, Static & Dynamic, ROM, EPROM, cache memory, Auxiliary storage : floppy disk, introduction to microprocessor, interfacing buses, bus formats address, data and control.

References:

- 1) Digital computer fundamental-Thomas C Bartee
- 2) Computer system architecture-M.M Mano
- 3) Computer fundamentals (architecture & organization) B.Ram.

DBMS Concepts using Ms Access

Unit 1 : Concept of DBMS , advantages , various views of data , data independence , schema & sub –schema , data models , database languages , database administrator & user , data dictionary , overall system architecture. E-R models, mapping constraints , Keys: primary ,candidate ,super Key ,Foreign key .

Unit 2 : Access Concepts & terms : database tables ,relational databases , records , fields , controls & objects , queries & dynasets, forms, reports ,properties , wizards , macros , Access requirements , starting & quitting access , the access workspace & tool, views .

Unit 3 : Creating database & tables with & without wizard , field name , data types & properties , adding & deleting fields in fields , renaming fields & their caption , resizing fields , freezing columns , primary key field & indexing fields.

Unit 4 : Form: Form wizard , saving & modifying forms : Entering & Editing data , Finding , sorting & displaying data , queries & dynasets , creating & using select queries , using wild cards in queries , reformatting dynasets.

Unit 5 : Reports : Creating reports, previewing reports, printing reports, modifying, saving. Relational databases – definition, purpose, creation, viewing, deleting. Expressions , Macros.

References:

1. Working in MS- Office –“Ron Mansfield” (TMH)
2. Complete Reference Access 2002- “Virginia Anderson” (TMH)
3. Database Management System- “Silberchatz, Korth”