

(v)TRADE : COMPUTER SCIENCE

PAPER-I

COMPUTER FUNDAMENTALS

THEORY

Time : 2 hrs

Theory : 30 Marks

CCE : 10 Marks

Practical : 50 Marks

Total : 90 Marks

Introduction to Computers

Historical evolution of computers, Generations of computers, Classification of computers - based on size, processor, Usefulness of Computers. Applications of computers, Block Diagram along with its components and characteristics, function of CPU and major functional parts of CPU. State the relevance of speed and word length for CPU Performance, Recognize the current family of CPUs used in Computers,

Data Representation

Definition Of Information, difference between data and information ,importance of Binary Number System, various number systems, Conversion from Decimal to Binary, Conversion from Binary to Decimal, binary number into hexadecimal number, hexadecimal number into binary number System, Data Representation within Computer - Bits, Bytes, Kilobytes, Gigabytes, Terabytes, Petabytes, Memory, Primary memory - RAM, ROM, Secondary memory with respect to structure and file organization - Hard disk, CD-R,CD-RW, DVD, Zip Drive, Pen Drive, Memory Card.

Input/ Output Devices

Input Devices - Keyboards, Mouse, Touch Screen, Scanner, Joystick, Microphone, Web Camera, Digitizer, OMR, MICR, Bar Code Reader.

Output Devices - VDU, Printers (Dot Matrix Printer, Inkjet Printer, Laser Printer), Plotter, Speaker.

Operating Systems

DOS & Windows Operating Systems, Hardware and Software, Introduction and need of operating system, Types of operating system, DOS operating system, Types of DOS Commands, operating system as a resource manager; BIOS; System utilities - Editor, Loader, Linker, File Manager. Concept of GUI and CUI standards. Directories and files , wild cards, autoexec.bat, config.sys.

MS-Window Latest Version

Introduction to Windows, features of Window desktop, components of Window, Installing/ Removing Windows Application, Control Panel, System Settings, method of starting a program using start button, Understand maximize, minimize, restore down and close button, uses of file and folder, method of viewing the contents of hard disk drive using explore option, control panel,disk

defragmentation installation and un installation of the application software.

Backup and Restore, Disk Defragmentation, System Restore, Connecting to a Network, Using Media Player, Photos and Movies, Common Complaints with Windows and their Fixes, Upgrading Windows.

Internet

What is Internet, Connection Methods, Types of Connections, role of the modem in accessing the internet, installation procedure of a modem using control panel, purpose of web browser software, LAN, MAN, WAN, Topology, Internet, Intranet, Extranet, internet service provider and its relevance, Internet Configuration, Browsers - Microsoft Internet Explorer, Netscape Navigator, Google Chrome, Opera, Internet Applications - Voice Mail, Chatting, Discussion Forums, Newsgroup, Entertainment, Information searching, Online education, e-Governance, search engines, social network sites, internet security, Firewall, Cloud Computing and its services, IP address and its format, MAC Address, DNS.

e-mail

What is e-mail? Advantages and Disadvantages, Sending and Receiving Messages, Checking Mail, Reading Mail, Replying Mail.

COMPUTER FUNDAMENTALS

Time: 3 hrs

PRACTICAL

Marks : 50

- Familiarization with Computer System and its peripheral devices
- Installation of latest version of windows.
- Practice of internal and external commands of DOS.
- Working practice on windows operating system : creating file, folder. Copying, moving, deleting file, folder
- Installing and uninstalling of new software using control panel.
- Installation and uninstallation of new hardware drivers using control panel.
- Disk defragmentation using system tool
- Procedure of disk partition and its operation (Shrinking, Extending, Delete, Format).
- Changing resolution, colour, appearances, and screensaver option of the display.
- Changing System Date and Time.
- User Account creation and its feature on Windows Operating System.
- Email Account creation, reading, writing and sending emails with attachments.
- Internet browsing using browsers.
- Using of Search Engine to get information from internet

THEORY

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Fundamental of C Programming

History of C, Structure of a C Program, Writing and executing the first C program, Data types - int, float, char, double, void, Constant and Variables, Variable Declaration - integer, real/float, character, logical variable, string variable, Constants.

Operators and Expressions

Arithmetic operators, Relational operators, Logical operators, Expressions, Bit operation, ? operator, & operator, *operator, Type casting, type conversion

Decision Making and Looping Statements

Introduction, decision making with IF – statement, IF – Else and Nested IF, Ladder if-else, Loop: While, do-while, for, Break, Continue, goto and switch statements

Arrays and Functions

Introduction to Arrays, Arrays Declaration, One and Two Dimensional Arrays, Manipulating array elements, Single and Multidimensional Array, Arrays of characters, Introduction to functions, Global and Local Variables, Function Declaration, Function Call and Return, Types of Functions, Standard functions, Parameters and Parameter Passing, Call - by value/reference, recursive function, function with array, Passing an array to function, Introduction of Strings, String declaration and definition, String Related function i.e. strlen, strcpy, strcmp

Structured Programming

Declaration of structures, Accessing structure members, Structure Initialization, array of structure variable, Pointer to a structures, Union, Declaration of Union, Control structures, Break and Continue, Exit () function, Go to and Label.

Pointers

Introduction to pointers, Static and dynamic memory allocation, Address operator and pointers, Declaring and initializing pointers, Single pointer, Pointers to an array

Basic I/O

File Handling, Basics of File Handling, opening and closing of File, reading and writing character from a file, File Assessing Functions - fopen, fclose, putc, getc, fprintf, C pre-processor, # decline, # include, # undef, # Conditional Compilation Directives - #if, #else, #elif, #endif, #ifdef and #ifndef, C Standard Library and Header Files - stdio.h, ctype.h, string.h, stdlib.h, time.h etc, Standard Library Functions, String Functions, Mathematical Functions, Variable Argument, List Functions, Utility Functions, Character Class Test Functions.

PROGRAMMING IN C

Time: 3 hrs

PRACTICAL

Marks : 50

- Programming exercises on executing and editing a C program.
- Programming exercises on defining variables and assigning values to variables.
- Programming exercises on arithmetic, logical and relational operators.
- Programming exercises on arithmetic expressions and their evaluation.
- Programming exercises on formatting input/output using printf and scanf and their return type values.
- Programming exercises using if statement, using if – Else.
- Programming exercises on switch statement, while and do – while statement, for – statement.
- Simple programs using functions and recursive function.
- Programs on one-dimensional array, two-dimensional array.
- Programs for concatenation two strings together, comparing two strings.
- Simple programs using pointers, using structures, using union.
- Simple programs for File Handling

Paper-III

Time : 2 hrs.

Basic of Web Designing

**THEORY
Syllabus**

**Theory : 30 Marks
CCE : 10 Marks
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Web Design Principles:

Basic principles involved in developing a web site - Planning process, Five Golden rules of web designing, Designing navigation bar, Page design, Home Page Layout, Design Concept.

Basics in Web Design

Brief History of Internet, What is World Wide Web, Why create a web site, Web Standards, Audience requirement.

Introduction to HTML

What is HTML, HTML Documents, Basic structure of an HTML document, Creating an HTML document, Mark up Tags, Heading-Paragraphs, Line Breaks, HTML Tags.

Elements of HTML

Introduction to elements of HTML, Working with Text, Working with Lists, Tables and Frames, Working with Hyperlinks, Images and Multimedia, Working with Forms and controls.

Introduction to Cascading Style Sheets(CSS)

Concept of CSS, Creating Style Sheet, CSS Properties, CSS Styling - Background, Text Format, Controlling Fonts, Working with block elements and objects, Working with Lists and Tables, CSS Id and Class.

Introduction to Web Publishing or Hosting

Creating the Web Site, Saving the site, Working on the web site, Creating web site structure, Creating Titles for web pages, Themes - Publishing web sites

Practical Syllabus:

- Acquaintance with elements, Tags and basic structure of HTML files.
- Develop the concept of basic and advanced text formatting.
- Practice the use of multimedia components in HTML documents.
- Designing of webpage-Document Layout, Working with List, Working with Tables.
- Practice Hyper linking, Designing of webpage-Working with Frames,Forms and Controls.
- Prepare creating style sheet, CSS properties, Background, Text,Font and styling etc.
- Working with List, HTML elements box, Positioning and Block properties in CSS.
- Designing with cascading style sheet-Internal and External style sheet.