

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

F Y B.Sc(Computer Science) With Effect from : June 2010

Paper I Paper Name : Fundamentals of Computer architecture, Databases & web page designing

1 Computer Fundamentals

- 1.1 History, Characteristics and Generation of Computers
- 1.2 Classification of Hardware and Software
- 1.3 Basic knowledge about CPU, Control Unit, ALU (Concepts only)
- 1.4 Memory : Primary memory, secondary memory
- 1.5 Storage devices (HDD, CD-ROM, DVD)
- 1.6 I/O Devices: (key board, mouse, scanner, Plotter, OCR, OMR, CD-Drive, Joy stick)
- 1.7 Display Devices (VDU, LCD, Touch screen, TFT)
- 1.8 Types of printers: (Impact and non-Impact)

2 Number System

- 2.1 Decimal, Binary, Octal and Hexa
- 2.2 Conversion of numbers to other systems
- 2.3 Arithmetic operation of Binary Number System (Addition and Subtraction)

3. Operating system

- 3.1 What is operating system . Types of O.S.(Single User, Multi-User/ CUI – GUI)
- 3.2 Loading process of OS
- 3.3 BIOS,POST Operation, Vector table, device drivers, TSR programs
- 3.4 Systems files, configuration files
- 3.5 Disk architecture (FAT, FAT32,NTFS)
- 3.6 DOS internal commands and Equivalent UNIX commands

4. Introduction of Internet

- 4.1 What is internet? History of Internet
- 4.2 Introduction of Modem, Router and Gateway
- 4.3 Concepts of ISP, DNS Server, Browser, WWW, Webpage, Domain name and IP Address
- 4.4 Advantages of E-Mail, E-Mail address and mail boxes, working of e-mail
- 4.5 Concepts of Browser , Search Engine, Telnet, FTP, IRC(Internet Relay Chat)

5 HTML and its working:

- 5.1 Introduction to URL (Fragment Identifier, Relative URL)
- 5.2 History of HTML, SGML
- 5.3 Structuring Web-page, Paragraph and line break tags
- 5.4 Adding comments, Formatting text, Creating Lists (OL, UL)
- 5.5 Creating Definition Lists, Creating Hypertext links
- 5.6 Creating Link lists, inserting images and objects
- 5.7 Creating Image Links, Horizontal rules, Address Tags
- 5.8 Font sizes and colors, Background image, marquee tag
- 5.9 Tables, Frames and creating Forms.
- 5.10 concepts of uploading the web-site

6 Database and its concepts

6.1 Concept of Field, Record, Table and Database

6.2 Comparison between manual and File system

6.3 Need and Organization of Database (Physical, Conceptual, Logical)

6.4 Keys – Primary key, Foreign key, Composite Key

7 Working with MS-ACCESS – Basics and concepts

7.1 Working with data base & tables

7.2 Managing constraints & relationships

7.3 Create forms and reports

7.4 Using SQL Queries(Simple, join, subquery,view)

REFERENCE BOOKS:

- | | |
|--|--------------------------|
| 1. Computer Fundamentals | - V Rajaraman , PHI |
| 2. Advanced MS DOS | - Rayduncon, McGraw Hill |
| 3. Inside IBM PC | - Peter Norton, PHI |
| 4. Computer System Architecture | - Morris Mano |
| 5. HTML in 21 days | - SAMS publication |
| 6. Ms Access in 21 days | - SAMS Publication |
| 7. How to create Web Pages using HTML | - K Laudon, TMH |
| 8. Web Enabled commercial application
Development using HTML, DHTML | - Ivan Bayross , BPB |
| 9. Introduction to Internet | - Hantani, TMH |
| 10. The Internet | - Douglas E Comer |
| 11. Data Base Concepts | - Henry Korth |

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

**F Y B.Sc(Computer Science)
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Paper No.: II

Title: Programming in C

1. Programming Methodology
 - 1.1 Algorithm and flowchart
 - 1.2 Levels of programming languages
 - 1.3 Structured programming
 - 1.4 Compiler/Interpreter
 - 1.5 Program bugs and testing

2. **Fundamentals of “C”**
 - 2.1 The Basics of “C”

Identifiers, key words, data types, declaration, reserved words
 - 2.2 Operators and Expression
 - 2.3 Arithmetic Operators
 - 2.3.1 Unary Operators
 - 2.3.2 Relational Operators
 - 2.3.3 Assignment Operators
 - 2.3.4 Conditional Operators
 - 2.3.5 Bitwise Operators

- 3 **Various Header Files and I/O Functions**

4. **Control Statements**

While, do-while, for, if-else, switch, break, continue

5. **Function**
 - 5.1 Library Functions
 - 5.2 User Defined Functions
 - 5.2.1 Definition and Accessing of a Function
 - 5.2.2 Passing arguments to a function
 - 5.2.3 Specifying argument Data type
 - 5.2.4 Function Prototype
 - 5.2.5 Recursion

6. **Array**

Array definition, Processing an array, Passing array to function, Multidimensional array

7. **Pointers**
 - 7.1 Pointer Fundamentals
 - 7.2 Pointer Declaration
 - 7.3 Passing Pointers to a function
 - 7.4 Pointers and one Dimensional array
 - 7.5 Pointers and Multidimensional array
 - 7.6 Array of Pointer
 - 7.7 Passing Functions to other functions

8 Structures and Union

- 8.1 Defining Structure
- 8.2 Processing a Structure
- 8.3 User Defined Data Type (typedef)
- 8.4 Structure and Pointer
- 8.5 Passing Structure to a function
- 8.6 Self Referential Structure
- 8.7 Unions

9. Files

- 9.1 Opening a file & Closing a file
- 9.2 Reading from a file & Writing to a file
- 9.3 Reading & Writing Structures
- 9.4 Random Accessing a file

10. Preprocessor

- 10.1 # And ## operator
- 10.2 Preprocessor Statements
- 10.3 Macro Definitions

REFERENCE BOOKS:

1. "C Language Programming", By Gottfried, Tata McGraw Hill
2. Let Us C, - Yashwant Kenetkar
3. C Programming Language – Karnighan & Ritchie - TMH
4. 'C' Odyssey (6 volumes) – Vijay Mukhi - PHI
5. Programming in 'C' --- Stephan Kochan - CBS
6. Mastering Turbo C --- Kelly & Bootle - BPB
7. Mastering Turbo C --- Stan Kelly - BPB