VEER NARMAD SOUTH GUJARAT UNIVERSITY

F.Y. Bsc.

COMPUTER SCIENCE

(2004)

Paper -I

Title: Fundamentals of Computer Architecture & Data base

1. Fundamentals of Computer
   - 1.1 Basic Computer Architecture (SISD, SIMD, MISD, MIMD), Block diagram Of Computer & functions of it.
   - 1.2 Types of Computers
   - 1.3 Primary memory, virtual memory, Secondary storage devices, I/O devices
   - 1.4 Other Peripherals of PC
   - 1.5 Buses, Interfaces
2. Number system
   - 2.1 Decimal, Binary, octal, hexadecimal
   - 2.2 Floating point and fixed point representation
   - 2.3 Arithmetic Operation of number system
3. Execution Process of CPU (Introduction of registers, Stack interrupt, IHR etc)
4. Operating system
   - 4.1 Importance of operating system
   - 4.2 Types of operating system
   - 4.3 Function of operating system
   - 4.4 Elements of operating system
   - 4.5 Single user operating system
     - 4.5.1 Loading process of OS
     - 4.5.2 BIOS, POST operation, Vector table, Device drivers, TSR program
     - 4.5.3 System files
     - 4.5.4 Configuration files
     - 4.5.5 Disk Architecture
     - 4.5.6 Internal & External commands
     - 4.5.7 Introduction to Windows and comparison with Dos
   - 4.6 Introduction to multi user Os & their basic commands. (Novell Netware & Unix)

FoxPro: -

Database Package:

1. OVERVIEW
   - 1.1 Databases, Record, Field
   - 1.2 Cabala ties and Limitations
   - 1.3 Getting started with the package

2.Operators, Command, Statements

3.Database & Array Handling

- 3.1 Creation

3.2 Modification
3.3 Processing

4.Generating Menu
4.1 POPUP Menu
4.2 BAR Menus
4.3 Pull Down Menus

5. Screen Handling
5.1 Generating Screen & Windows

6. Inbuilt functions, UDFs & Procedure
7. SET Command
8. REPORT & LABEL Generation
9.Handling Memo Field

REFERENCE BOOKS: -

1. Computer Fundamentals - 'Raja Raman' PHI
2. Advanced Ms-Dos - Ray duncon, McGraw Hill
3. Inside IBM PC - Peter Norton, PHI
4. DOS –User Manual
5. Computer System Architecture - M. Mano, PHI
6. Illustrated FoxPro 2.0 - Robert Granillo, BPB Publications
7. FoxPro 2.5 made simple - R. K. Taxali
8. FoxPro 2.5 the art of Visual Programming –Munkhis

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COMPUTER SCIENCE

Paper -II

Programming in C

1. Fundamentals of "C"

1.1 The Basics of "C"
Identifiers, key words, data types, declaration, reserved words
1.2 Operators and Expression
1.2.1 Arithmetic Operators
1.2.2 Unary Operators
1.2.3 Relational Operators
1.2.4 Assignment Operators
1.2.5 Conditional Operators
1.2.6 Bitwise Operators

2. Various Header Files and I/O Functions

3. Control Statements
While, do-while, for, if-else, switch, break, continue

4. Function

4.1 Library Functions
4.2 User Defined Functions
4.2.1 Definition and Accessing of a Function
4.2.2 Passing arguments to a function
4.2.3 Specifying argument Data type
4.2.4 Function Prototype
4.2.5 Recursion

5. Array
Array defintion, Processing an array, Passing array to function, Multidimensional array

6. Pointers

a. Pointer Fundamentals
b. Pointer Declaration
c. Passing Pointers to a function
d. Pointers and one Dimensional array
e. Pointers and Multidimensional array
f. Array of Pointer
g. Passing Functions to other functions

7. **Structures and Union**

a. Defining Structure
b. Processing a Structure
c. User Defined Data Type (typedef)
d. Structure and Pointer
e. Passing Structure to a function
f. Self Referential Structure
g. Unions

8. Files

8.1 Opening a file
8.2 Closing a file
8.3 Reading from a file
8.4 Writing to a file
8.5 Reading & Writing Structures
8.6 Random Accessing a file

9. Preprocessor

9.1 # And ## operator
9.2 Preprocessor Statements
9.3 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