

# DIPLOMA IN COMPUTER APPLICATION (DCA)

Maharishi Mahesh Yogi Vedic Vishwavidyalaya

## SCHEME FOR DIPLOMA IN COMPUTER APPLICATION

### SEMESTER - I

Subject Code	Nomenclature of Paper	Maxi. Marks
1 DCA-1	Maharishi Vedic Science-I	100
1 DCA- 2	Fundamental of Computer and Information Technology	100
1 DCA- 3	Application Programming in FoxPro	100
1 DCA- 4	PC- Package (Windows, MS WORD, EXCEL)	100
1 DCA – 5	Computer Lab -I	100

### SEMESTER – II

Subject Code	Nomenclature of Paper	Maxi. Marks
2 DCA-1	Maharishi Vedic Science-II	100
2 DCA- 2	Programming in Visual Basic	100
2 DCA- 3	Desk Top Publishing (PageMaker, Corel Draw, Photoshop)	100
2 DCA- 4	Internet and web page designing	100
2DCA – 5	Computer Lab-II	100
2DCA – 6	Project Work	100

# **DETAILED SYALLABUS:**

## **1 DCA-1 -Maharishi Vedic Science-I**

### **Unit-1**

- Meaning & importance of Guru Pujan.
- Meaning of Meditation, Mann, Intelligence, Chitta, Ego, Thought.

### **Unit-1I**

- Name of forty areas of Vedic Science and their expression in Human Physiology and characteristics of consciousness.

### **Unit-1II**

- Consciousness, types of consciousness, characteristics of higher stages of consciousness.

### **Unit-1V**

- Yogasana, Type of Yogasana (Surya Namaskar)

### **Unit-V**

- Transcendental Meditation-A general Introduction.
- TM-Siddhi Programme

### **Suggested Readings :**

- Chetna-His Holiness Maharishi Mahesh Yogijee
- Maharishi Sandesh- 1 and 2, II-His Holiness Maharishi Mahesh Yogijee
- Scientific Yog Ashanas-Dr. Satpal

# IDCA2 FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY

## UNIT - I

- **Introduction to Computer and Information Technology** : History of development of computers, Computer system concepts, Characteristics, Capabilities and limitations, Types of computers – Analog, Digital, Hybrid, General, Special Purpose, Micro, Mini, Mainframe, Super, Generations of computers, Personal Computer (PCs) – IBM PCs, characteristics, PC/PCXT/PCAT - configurations, Pentium and Newer PCs specifications and main characteristics, Types of PC's - Desktop, Laptop, Notebook, Palmtop, workstations etc. their characteristics.
- **Computer Organisations and Working** : Basic components of a computer system - Control unit, ALU, Input/Output functions and characteristics, memory - RAM, ROM, EPROM, PROM and other types of memory.

## UNIT - II

- **Input Devices** : Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen.
- **Output Devices** : Monitors – characteristics and types of monitor - Digital, Analog, Size, Resolution, Refresh Rate, Interlaced/ Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc., Printers - Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter, Sound Card and Speakers.
- **Storage Devices** : Storage fundamentals - Primary Vs Secondary, Data Storage and Retrieval methods – Sequential, Direct and Index Sequential., Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Data Drives, Hard Disk Drives, Floppy (Winchester Disk), Disks, Optical Disks, C.D., VCD, CD-R, CD-RW, Zip Drive.

## UNIT - III

- **Computer Softwares** : Need, Types of software - System software, Application software, System Software - Operating System, Utility Program, Programming languages, Assemblers, Compilers and Interpreter.
- **Operating Systems** : Functions, Types-Batch, Single, Multiprogramming, Multiprocessing, Programming languages - Machine, Assembly, High Level, 4GL, their merits and demerits.
- **Application Software** : Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, characteristics, Uses and examples and area of applications of each of them.
- **Number System** : Data representation in computers, Number System of computers- Binary, Octal, Hexa - Representation & their conversion. Coding System - ASCII, BCD, EBCDIC etc.

## UNIT - IV

- **Computer Virus** : Virus working principles, Types of viruses, Virus detection and prevention, Viruses on network.
- **Data Communication and Networks** : Analog and Digital Signals, Modulations - Amplitude Modular (AM), Frequency Modulation (FM), Phase Modulation (PM), Communication Process, Direction of Transmissions Flow - Simplex, Half Duplex, Full Duplex, Communication software, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber, Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of Connections - Dialup, Leased Lines, ISDN, Types of Network - LAN, WAN, MAN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN - Media, NIC, Nos, Bridges, HUB, Routers Repeater and Gateways, Use of Communication in daily life.

## UNIT - V

- **Disk Operating Systems (DOS)** : Introduction, History & versions of DOS, DOS basics- Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, DOS system files, DOS commands, Internal- DIR, MD, CD, RD, COPY, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc., External - CHKDSK, XCOPY, PRINT, DISKCOPY, DISKCOMP, DOSKEY, TREE, MOVE, LABEL, APPEND, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc., Executable V/s Non executable files in DOS., Executable V/s Non executable files in DOS.

### Text & Reference Books:-

1. Learning Window 98 stp by step by Rajeev Mathur, BPB Publication.
2. Learning Word 97 for Windows by Rajeev Mathur, BPB Publication.
3. Learning Excel 97 for Windows by Rajeev Mathur, BPB Publication.
4. A First Course in Computers by Sanjay Saxena, Vikas Publishing House New Delhi.
5. Microsoft office 97 by Gini Courier and Annette Marquis, BTB Publications.
6. Office 97 Interactive Course by Greg Perry, Techmedia.
7. Microsoft Office 2000 by A. Mansoor by Pragma Publications.

# **1DCA – 3 –Application Programming in FOXPRO**

## **UNIT-I**

*FOXPRO - THE RDBMS FOR PC* FoxPro - Versions, features, requirement of Hardware and Software  
FoxPro - Menu System, Working with FoxPro Creating Database File Some common operations on data- CREATE,LIST,APPEND, CLOSE, QUIT ,FoxPro - Data Types *VIEWING AND EDITING DATA* Data Displaying and Monitoring Commands - DISPLAY, LIST,LOCATE, EDIT, CHANGE, BROWSE, REPLACE, DELETE,RECALL, PACK (All Commands with various Options)*MODIFY STRUCTURE, MEMO FIELD AND FILE UTILITIES* -File utilities in FoxPro - DISPLAY DIRECTORY, COPY, DELETE, RENAME.

## **UNIT-II**

*SORTING AND INDEXING OF DATABASE FILES*:Sorting & Indexing Concept Sort Commands - Single & Multiple Key Advantage & Disadvantages of Sort ,Indexing Vs Sorting, Single & Multiple Key, Indexing, FIND, SEEK, Rushmore Technology, *PRINTING REPORTS AND LABELS*, FoxPro Report - its creation, features & Utilities, review, Printing Custom Report, grouping & Subgrouping. FoxPro Label - Designing & Printing

## **UNIT-III**

*MEMORY VARIABLES, DATE & TIME FUNCTIONS AND KEYBOARD MACROS*:

Memory Variables - Creation and Uses, Simple Vs Array ,Saving and Restoring Memory Variables,,?/?/?/?/? Commands, Time & Date Functions and Commands, Date Arithmetic,Converting Defining Function Keys Keyboard Macros - Creating and Using ,*MATHEMATICAL COMMANDS AND FUNCTIONS* :Arithmetic Operations, Mathematical Functions, Mathematical Commands, Statistical Functions.

## **UNIT - IV**

*PROGRAMMING WITH FOXPRO*:

Concepts of FoxPro commands file, Modify Commands ,Conditioning , Branching and Looping within Program files with Do-While Enddo, If - Endif, Scan-Endscan, For - Endfor, Docase-Endcase, Text - Endtext, Executing Commands from other command files, Macro Substitution

*ERROR CONDITIONS AND PROGRAM DEBUGGING AIDS*:Common Error MessagesDebugging techniques and commands

## **UNIT-V**

*MULTIPLE DATA FILES*:Concept of Multiple Database Files - Using multiple database files

Relationing the database - SET RELATION, UPDATE, APPEND FROM,COPY TO, JOIN, Relation Query by Example and SQL

*CUSTOM SCREENS & USER DEFINE FUNCTIONS & OTHER TOOLS*:

Create Custom Screen with @, @\_GET, @\_EDIT, \_SAY\_GET\_READ,Creating Box & Lines, User Define Functions, Custom Screen ,Designing and their Use, FoxDoc for documentation

## **TEXT & REFERENCE BOOKS :**

Foxpro Made Simple by R.K.Taxali, BPB Publications

Mastering Foxpro 2.5 BPB Publications

Foxpro 2.6 for Dummies - Pustak Mahal

Foxpro, A. Mansoor, Gaurav Sharma, Pragya Publications.

# **IDCA 4 PC PACKAGES (WINDOWS 95/98, WORD, EXCEL)**

## **UNIT - I**

- **Windows 95/98** : Windows concepts, Features, Windows Structure, Desktop, Taskbar, Start Menu, My Computer, Recycle Bin., **Windows Accessories** : Calculator, Notepad, Paint, WordPad, Character map., **Windows Explorer** : Creating folders and other Explorer facilities., **Entertainment** : CD Player, DVD Player, Media Player, Sound Recorder, Volume Control., **Managing Hardware & Software** - Installation of Hardware & Software, Using Scanner., **Communication** : Dial-up Networking, Hyper Terminal, Phone Dialer, **Sharing Information between Programs**- Understanding OLE, Embed/Link Using Cut and Paste, Embed/Link Using Insert Object, Manage Embedded/Linked Object

## **UNIT - II**

- **Word Processing : MS-Word** : Introduction to Word Processing, Introduction to MS Word : features, Creating, Saving and Opening documents in Word, Interface, Toolbars, Ruler, Menus, Keyboard Shortcut., **Editing a Document** - Moving, Scrolling in a document, Opening Multi document windows, Editing Text Selecting, Inserting, deleting, moving text., **Previewing documents, Printing documents** - Print a document from the standard toolbar, Print a document from the menu, Shrinking a document to fit a page, Reduce the number of pages by one, **Formatting Documents** : Paragraph formats, Aligning Text and Paragraph, Borders and shading, headers and footers, multiple columns.

## **UNIT - III**

- **Word Processing : Advanced Features of MS-Word** : Find and Replace, Checking the grammar and spelling, Formatting via find and replace, Using the Thesaurus, Using Auto Correct, Auto Complete and Auto Text, word count, Hyphenating, Mail merge, mailing labels Wizards and Templates, Handling Graphics, Table insert and Modification, Converting of Tables, Converting a word document into various formats like - Text, Rich Text Format, WordPerfect, HTML etc.

## **UNIT - IV**

- **Worksheet : MS-Excel** : Worksheet basics, Creating worksheet, entering data into worksheet, heading information, data, text, dates, alphanumeric, values, saving & quitting worksheet, Opening and moving around in an existing worksheet, Toolbars and Menus, keyboard shortcuts, Working with single and multiple workbook - coping, renaming, moving between workbooks., **Working with formulas & cell referencing**- Autosum, Coping formulas, Absolute & Relative addressing, **Working with ranges** - creating, editing and selecting ranges, **Formatting of worksheet** - Auto format, changing-alignment, character styles, column width, date format, borders & colours, currency sign,

## **UNIT-V**

- **Worksheet : MS-Excel** :

**Previewing & Printing worksheet** - Page setting, Print titles, Adjusting margins, Page break, headers and footers, **Graphs and charts** - using wizards, various charts type, formatting grid lines & legends, previewing & printing charts, **Database** - creation, sorting, query & filtering a database, **Functions** - Database, Data and Time, Maths & Trigonometry, Statistical, Text and Logical functions, Creating and Using Macros, **Multiple worksheets** - concepts, Creating and Using.

### **Text & Reference Books:-**

1. Learning Window 98 step by step by Rajeev Mathur, BPB Publication.
2. Learning Word 97 for Windows by Rajeev Mathur, BPB Publication.
3. Learning Excel 97 for Windows by Rajeev Mathur, BPB Publication.
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5. Microsoft office 97 by Gini Courier and Annette Marquis, BTB Publications.
6. Office 97 Interactive Course by Greg Perry, Techmedia.
7. Microsoft Office 2000 by A. Mansoor by Pragya Publications.

