

Maharishi University of Management & Technology, Bilaspur(Chhattisgarh)



**FACULTY OF COMPUTER SCIENCE &
INFORMATION TECHNOLOGY (CSIT)**

Diploma in Computer Applications (D.C.A)

SYLLABUS

2021

Syllabus

w.e.f. Session 2021

DCA SEMESTER – I

S.No.	Paper Code	Paper No.	Name of the Paper	Marks
1.	DCA101	I	Fundamental of Computer and Information Technology	100
2.	DCA102	II	PC Packages	100
3.	DCA103	III	Programming Methodology and C Programming	100
4.	DCA104	IV	Desk Top Publishing (DTP)	100
5.	DCA105	V	Maharishi Vedic Science	100
6.	DCA106	VI	Practical – DCA102,DCA103 & DCA104	100

DCA SEMESTER – II

S.No.	Paper Code	Paper No.	Name of the Paper	Marks
1.	DCA107	I	Internet and Web Page Designing	100
2.	DCA108	II	Programming in Visual Basic	100
3.	DCA109	III	DBMS using MS Access	100
4.	DCA110	IV	Computerized Accounting	100
5.	DCA111	V	Practical – DCA107,DCA108, DCA109 & DCA110	100
6.	DCA112	VI	Project	100

Paper Code: DCA101

Paper: I

FUNDAMENTALS OF COMPUTER AND INFORMATION TECHNOLOGY

UNIT – I

Introduction to computer and information technology : History of development of computers, computer system concept, characteristics, capabilities and limitation, types of computer analog, digital, hybrid, general, special purpose, micro, mainframe, super, generation of computer, personal computer (PCs)- IBM Pcs, characteristics, PC/PCXT/PCAT- configurations, Pentium and Newer PCs specification and main characteristics, types of PCs- Desktop, Laptop, Notebook, Palmtop, Workstation etc, their characteristics.

Computer Organization and Working: Basic component of a computer system- control unit, ALU, INPUT/Output function and characteristics, memory–RAM, ROM, EPROM, PROM and other types of memory.

UNIT - II

Input Devices: Keyboard, Mouse, Trackball, Joysticks, Digitizing tablet, Scanner, Digital Camera, MICR, OCT, OMR, BAR-CODE Reader, Voice Recognition, Light Pen and Touch Screen.

Output Devices: Monitor – characteristics and types of monitor – digital, analog size, resolution, refresh rate, Interlaced/ Non Interlaced, Dot Pitch, Video Standard- VGA, SVGA, XGA etc, Printer - Daisy wheel, Dot Matrix, Inkjet, Laser, line printer, plotter, sound card and speakers.

UNIT – III

Storage Devices : Storage Fundamental – Primary VS Secondary, Data Storage and Retrieval method – Sequential, Direct and Index Sequential, Various Storage Devices – Magnetic Tape, Magnetic disks, Cartridge Tape, data drives, hard disk drives, floppy (Winchester disks), Disks, Optical Disks, CD, VCD, CD-R, CD-RW, ZIP Drive.

Computer Software: Need types of software – system software, application software, system software-operating system, utility program, programming Language, assemblers, compiler and interpreter.

UNIT - IV

Operating System : Function types – Batch, Single, Multiprogramming, Multiprocessing, Programming languages- Machine, Assembly, High Level and 4GL. Merit and Demerits of Programming Languages.

Disk Operating System (Dos) Introduction History & version of Dos basic – physics structure of disk name, Fat, File & directory structure and naming rules, booting process, Dos system files. Dos command: 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 file in Dos.

Number System : Data representation in computer, number system of computer- Binary, Octal, Hexa -Representation & their conversion, coding system- ASCII, BCD, EBCDIC etc.

UNIT – V

Data Communication and Networks : Communication channels – twisted, coaxial, fiber, optic. Types of Network – LAN, WAN, MAN etc, Topologies of LAN – Ring, BUS, STAR, MESH and TREE topologies, components of LAN – media, NIC, NOS, Bridge, HUB, Routers Repeater and Gateway.

Computer virus: Virus working principles, types of viruses, virus detection and prevention, viruses on network. Use of communication and IT daily life.

An Introduction : Modern Science and Vedic Science, Unified field based computer Science.

Text & Reference Books-

1. Learning Windows 98 step by step by Rajeev Mathur, BPB Publication.
2. Learning Word 97 for Window by Rajeev Mathur, BPB Publication.
3. Learning Excel 97 for Window by Rajeev Mathur, BPB Publication.
4. A First Course in Computer by Sanjay Saxena, Vikas Publishing House New Delhi.
5. Microsoft Office 2000 by A. Mansoor by Pragya Publication.
6. Office 97 Interactive Course by Greg Perry. Tec media.
7. Microsoft Office 2000 by A. Mansoor by Pragya Publications.

Paper Code: DCA102

Paper: II:

PC Packages

UNIT – I

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 window, editing text selecting, inserting, delete, moving text, previewing document, printing document – Print a document from the standard toolbars, print a document from the menu, shrinking a document to fit a page, reduce the number of pages by one, formatting document: paragraph format, Aligning text and Paragraph, Border and shading, header and footer, multiple columns.

UNIT – II

Word – processing: Advanced Feature 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 Wizard and Templates, handling graphic, tables insert and modification, converting of tables. Converting a word document into various formats like – Text, Rich Text Format, Word Perfect, HTML etc.

UNIT – III

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 a existing worksheet, toolbars and menus, keyboard shortcut, working with single and multiple worksheet, coping, renaming, moving between work books, working with formulas & cell referencing – Auto sum, Coping formulas, absolute & relative addressing, working with range – creating editing and selecting range, formatting of worksheet – Auto format, changing – alignment, character styles, column width, data format, border & colors, currency sign.

UNIT – IV

Worksheet: MS- Excel : Previewing & Printing Worksheet- Page setting, print titles, Adjusting margins, page break, header and footer, graphs and chart- using wizard, various chart types, formatting grid lines & legends, previewing & printing chart, database – creation, sorting, query * filtering a database, function – database, date and times, math's & Trigonometry, statistical, Text and logical function, creating and using macros, multiple worksheet – concept creating and using.

UNIT – V

MS Power Point: Introduction and area of use, working with MS Power Point, creating a new presentation working with presentation, using wizards, slides & different views, deleting coping slides, working with notes, handout, columns and list, adding graphics, sound and movies to a slide, working with power point objects designing and presentation of a slide show, printing and presentation, notes, Handouts with print options.

Outlook Express: Setup E-mail account with outlook, sending and receiving mail through outlook, concepts of CC, BCC, forwarding mail, draft message, formatting E-mail message , Concept of MIME protocol, attaching files and items into messages, inserting hyperlink using outlook editor and using send and receive group mails, opening received message, opening message with attachment, replying to mail forward message flagging for further action, setting email options, managing contacts with outlook, setting up multiple email account on single machine.

Reference Books:

1. Window XP Complete Reference, BPB Publication
2. MS Office XP Complete BPB Publication
3. IT Tools and Applications Pragma Publications

Paper Code: DCA103

Paper: III

PROGRAMMING METHODOLOGY AND C PROGRAMMING

UNIT – I

Program Concept, Characteristics of Programming, Various Stages in Program Development, Algorithms, Flow Charts, Programming Techniques – Top Down, Bottom Up, Modular, Structured, Features, Merits, Demerits and Their Comparative Study, Programming Logic – Simple, Branching, Looping, Recursion, Programming Testing & Debugging.

UNIT - II

Introduction to C Language, C Language Standards, Features of C, Structure of C Program, Introduction to C Compilers, Creating and Compiler C Programs, IDE, Features of Turbo C Compiler. Keywords, Identifiers, Variables, Constants, Scope and Life of Variables, Local and Global Variable, Data Types, Expressions. Operators – Arithmetic, Logical, Relational, Conditional and Bit Wise Operators, Precedence and Associability of Operators, Type Conversion. Basic Input / Output Library Functions, Character Input/Output getch(), getchar(), getcher(), putchar(). Formatted Input/Output – printf() and scanf(), Mathematical & Character Functions.

UNIT – III

Declaration Statement, Conditional Statement – if Statement, if else Statement, Nesting of it... else Statement, else if Ladder, The?: Operator, switch Statement. Iteration Statement – for Loop, while Loop, do-while Loop. Jump statements: break, continue, goto, exit(). Arrays – Concept of Single and Multi Dimensional Arrays Strings : Declaration, Initialization, Functions.

UNIT – IV

The Need of C Functions, User Defined and Library Function, Prototype of Functions, Prototype of main (). Function, Calling of Function, Function Arguments, Argument Passing: Call By Value and Call By Reference, Return Values, Nesting of Function, Recursion, Array as Function Argument, Command Line Arguments, Storage Class Specified – Auto, Extern, Static, Register.

UNIT – V

Defining Structure, Declaration of Structure Variable, Type def. Accessing Structure Members, Nested Structures, Array of Structure, Structure Assignment, Structure as Function Argument, Function that Return Structure, Union.

Text & Reference Books:

- Balaguruswamy, “Programming C”, TMH Publication.
- Gottfried Schaums outline series, “Programming with C”, TMH Publication.
- Mahapatra, “Thinking in C”, (PHI) Publications
- Anurag Seetha, “Introduction to computers and information technology”. Rain Prasad & sons, Bhopal
- S.K. Basandra, “Computers Today”. Galgotia Publication.
- Peter Juliff “Program Design” PHI Publication.



Paper Code: DCA104

Paper: IV:

DESK TOP PUBLISHING (DTP)

UNIT – I

Introduction to DTP> Definition, Importance, Characteristics. Use of DTP in publishing & Newspaper Printing. Various DTP Software. Bit stream & vector graphics. Printers _ Dot Matrix, Inkjet and Laser. Introduction to offset printing technology. Typography – history, element, selection of fonts, point use of blank spaces and dashes, white spaces, various breaks, Good designing and Easy readability. Different Measurement used in DTP printing.

UNIT – II

Introduction to Adobe Page Maker. Why Page Maker popular in publication. Toolbox, Styles, Menus, Templates. Page Orientation & Page Setup. Importing & Text block. Spell Check & find & Replace. Working with text and graphics. Columns & gutters. Different Page Layouts. Master page, page Numbering. Auto flow. Story Editor & Layout view. Attribute setting, Alignments, grids, and Guides etc. Tab Setting.

UNIT – III

Import & Export of files Styles & Palettes. Using colors, Fonts: Post script font, true types fonts, bit stream & vector fonts. Column Balancing, Breaks. I Reverse Text. Reverse Command. Printing Options. Placing Text Graphic. Picture Editing. Bullets. Masking. Window & Orphan Lines. Text Warpping. Drop Caps. Control Palette Clips & Image Files. OLE & Embedding. Plugging. Tables Editors. Filters, Layer, PDF Files. Header & Footers. Key Board Control. Linking. Mathematics equation. Printing Options. Frame Options.

UNIT – IV

Photoshop – History & introduction, the file menu, the tools, Drawing lines & shapes. Inserting picture and shapes, filling colors, text effects, working with layers, filters. Creating design patterns, Photoshop presentation – static & dynamic presentation. WEB & WEB GALLERY using internet explorer in photo in photo shop. Creating animations using image ready, creating animations & presentations. Tips and tricks in Photoshop.

UNIT – V

Corel draw – An overview, menus and tools. Drawing – lines, shapes. Inserting-pictures, objects, tables, templates. Adding special effects, Exporting drawings, outlining & filling objects , inserting symbols & Clip arts. Working in Corel draw presentation – adjusting the position,

resizing, positioning, merging, color shades & shadows. Working with advanced effects, special interactive effects. Creating – business cards, pamphlets, banners, news papers, books. Shortcut key in Corel draw.



Paper Code: DCA105

Paper: V

Maharishi Vedic Science

UNIT - I

Meaning & importance of Guru Pujan.

Meaning of meditation, Mann, Intelligence, Chitta, Ego, Thought.

UNIT - II

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

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

Maharishiji's effect on Society, Environment, Behaviour and Moral Values.

UNIT - III

Maharishi's Yoga, Transcendental Meditation- a general Introduction, Types of Speech, TM Sidhi Programme, Principle of Yoga Asanas and their Concept.

Meaning of "Yogastha Kuru Karmani" and "Gyanam Chetanayaam Nihitam".

UNIT - IV

Introduction : Maharishi Vedic Management.

Fundamental elements of Vedic Management – Totality

Introduction to Absolute theory of Maharishi Government.

UNIT - V

Theory of Ayurved.

Vedic Management and Leadership.

Reference Books:

1. Maharishi Sandesh Part I and II.

2. Chetna Vigyan by His Holiness Maharishi Mahesh Yogi Ji.

3. Dhyani Shailey by Brahmachari Dr. Girish Jii.

Paper Code: DCA106

Paper: VI:

Practical –DCA102, DCA103 and DCA104

Paper Code: DCA107

Paper: I

INTERNET & WEB PAGE DESIGNING

UNIT – I

Internet: Evolution, Protocols, Concept, Internet Vs Intranet, growth of Internet, ISP Connectivity, Dial-up, leased line, VSAT etc, URIs, Domain names, Portals, Application.

E-Mail: Concept, POP and Web Based E-mail, merit, address basics of sending & Receiving, E-mail protocols, mailing list and free E-mail services.

UNIT – II

File transfer Protocols, Telnet & chatting: Data Transmission Protocols, Client/ Server Architecture & its Characteristics, FTP & Its usages telnet Concept, Remote Logging, Protocols, Terminal Emulation Message Board, Internet chatting – voice chat, text chat.

UNIT – III

World Wide Web (WWW): History, Working, Web Browser, its function, Concept of Search Engine, Searching the web HTTP, URLS, Web Server, Web Protocols.

UNIT - IV

Web Publishing: Concept, Domain name Registration, space on Host Server for web site, HTML, Design tools, HTML editor, Image editor, issues in web site creation & maintenance, FTP software for upload web site.

UNIT – V

HTML: Concept of Hypertext, Version of HTML, Element of HTML, syntax, head & body section Building HTML document, Inserting Text, Image, Hyperlinks, Background and color controls, different HTML tag, Tables, Tables layout and presentation use of size & Attributes, List types and its tags.

Text & Reference Books :-

1. Level Madul M. 1.2 Internet & Web page Designing by Y.K. Jain, BPB Publication.
2. Internet for Dummies – Pustak Mahal, New Delhi
3. Internet & E-Commerce A. Mansoor & Anrag Seetha, Pragya Publication.

Paper Code: DCA108

Paper: II

PROGRAMMING IN VISUAL BASIC

UNIT – I

Integrated Development Environment of Visual Basic : Integrated Development Environment of VB, User Interface Designing, Basic of Event Driven Programming. From – designing, showing & hiding.

UNIT – II

Visual Basic Language: Data types, variable & Constant, arrays, dynamic array, array as function, collections, procedures, arguments passing, function return values.

Control flow statements: if – then – else, select case, looping statement: Do-loop, for-next, While-Wend, Nested Control Structure, Exit stmt.

UNIT – III

Building Blocks of Visual Basic: Basic Active X Control & Their Use – Textbox, list box, combo-box, scrollbar, slider & fire controls.

Graphic controls, Image Handling in VB, Coordinate System, Graphic method- Text Drawing, Lines & shape, filling shape and grid methods.

UNIT – IV

Components of visual Basic: Menu editor: pull down and pop-up menus, Multiple Document interface-parent & Child form & Methods.

UNIT – V

Database Programming with VB: Database programming with VB – Data Control – Method, Properties, Connectivity With database.

Ref. Books:-

Beginner's Guide to V.B. 6 by Reeta Sahoo

V.B. By Pragya Publication

Paper Code: DCA109

Paper: III

DBMS USING MS ACCESS

UNIT – I

Introduction To Database System Purpose of Database System, View Of Data, Characteristics of Database Approach, Architecture for a Database System, Advantages and Disadvantages of DBMS, Database Users and Administrator, Database Design and ER Model, Data Model Classification. Why use a Relational Database.

UNIT – II

Introduction to MS Access. Create a Table in MS Access Data Types, Field Properties, Fields: names, types, properties-default values, format, caption, validation rules Data Entry, Add record, delete record and edit text, Sort, find/replace, filter/select, rearrange columns, freeze columns. Edit a Tables – Copy, delete, import, modify table structure, find, replace.

UNIT – III

Add a relationship, set a rule for Referential Integrity, change the join type, delete a relationship, save relationship Queries & Filter – difference between queries and filter, filter using multiple fields, Create Query with one table, find record with select query, find duplicate record with query, find unmatched record with query, run query, save and change query.

UNIT – IV

Introduction to Forms Types of Basic Forms: Columnar, Tabular, Datasheet, Main/ Sub-forms, add headers and footers, add fields to form, add text to form use label option button, check box, combo box, list box Forms Wizard, Create Template, Navigation between forms.

UNIT – V

Introduction to Reports, Types of Basic Reports: Single Column, Tabular Report Groups/ Total, Single table report, multi table report preview report print report, Creating Report and Labels, Wizard.

Text & Reference Books:-

- MS Office XP Complete BPB Publication ISBN 8 1 – 7656-564-4
- MS Access Fast & Easy By Faithe Wempen PHI

Paper Code: DCA110

Paper: IV

COMPUTERISED ACCOUNTING

UNIT – I

Basic Concept of Accounting Financial Statements, Financial, Statements, Analysis, Cost Centre, Basic Concept of Inventory, Tally Configuration & INI setup, Data Directory & Folder, Configuration, Single & Multiple User Tally Screen Components, Mouse/ Keyboard Convention & Key, Combination switching between screen areas, Quitting Tally. Maintaining Company data Create/ Alter /Select/ Load/ Close a Company, Chart of Account, Company Features, Configuration.

UNIT – II

Create, Alter & display Groups, Ledgers, All accounting voucher types and transactions, create and Alter new Voucher types, Item and Account Invoice Transaction, Excise Invoice, Export Invoice, Transaction using Bill-wise detail create, Alter & Display Cost Center and Cost Categories, Cost centre & cost Category allocation in voucher entry, Creating Cost centre Class, Invoice entry in a Class situation, Create, Alter & Delete Foreign Currencies, Voucher entry using foreign currency Bank reconciliation. Interest calculation using simple & advance parameter, Interest calculation on outstanding balance & on invoices, Use of voucher class, adjustment of interest, Creation of voucher class Invoices entry in a class situation.

UNIT – III

Create , Alter & delete Budgets for groups, Ledger & cost center, Defining Credit Limit & Credit period, Display Budget & Variances, Create Alter & Delete a scenario. Enabling Job Costing in Tally, Master creation & configuration for job coasting, creation of voucher types & Voucher class for stock Transaction, Creation of Transfer journal for transfer of stock between godowns, Consumption journal Transaction, Payment Voucher, Go down summary Report, Job Works Analysis, Material consumption summary, Report Like balance sheet, profit & loss account Ration analysis, Trial Balance Account books Like cash/bank books, All Ledger Group summary & Voucher, Sales, Purchase & Journal Registers, Cost Centre & Category summary, cost centre breakup, ledger & group breaker, outstanding receivables & payables, interest receivable & payable, statistics, cash & fund flow, day books, list of Accounts, Reversing journals, optional voucher, post-dates vouchers.

UNIT – IV

Create, Alter & Display Stock Group and Stock Item, Stock item behavior using costing and market valuation method, other behavior like treating all sales as new manufacture, treating all purchase as consumed, treating all rejection inward as scrap, ignoring negative balances, treating difference due to physical counting, Create Alter & Display stock categories, Create, Alter, Display simple & Compound units of measures, stock item using alternate units, Defining standard cost & selling prices, Defining Rate of duty, Defining MRP, Create, Alter & Display Godown, Allocation of item to the Godowns, All Inventory Voucher types and transaction, Inventory detail in accounting voucher. Defining re-order Level, Transaction using tracking number, Use of batch –wise detail in accounting voucher. Additional cost detail in voucher, creating Bill of material, Cost estimation, creation prices list & defining Prices levels, invoices using Prices List, Zero valued entries, Transaction in case of Different actual & billed quantities. Report Like Stocks summary, Inventory books like stock item, Group summary, Stock transfer, physical stock register, Movement analysis, stock group & item analysis stock category analysis, Ageing analysis, sales order & Purchase order books, Statement of inventory related to Godowns, categories, stocks query, Reorder status, Purchase & sales order summary, Purchases & sales bill pending, exception report stocks & Ledger, overdue receivables & payables memorandum voucher, optional voucher, post – dated voucher, reversing journals.

UNIT – V

Cheque Printing Common Printing options, Different printing formats, Multi-Account printing, Dynamic Report specific options. Creating Group company, Use of Tally vault, Using security control & defining different security Levels, Use of Tally Audit, Backs – Up & Restore, splitting company data, Export & Import of data, ODBC compliance, use of E-Mail, Internet publishing Upload, Web browser & Online help, Rewrite data.

Paper Code: DCA111

Paper: V

Practical – DCA107, DCA108, DCA109 and DCA110

Paper Code: DCA112

Paper: VI

Project Work

