



महर्षि महेश योगी वैदिक विश्वविद्यालय

Directorate of Distance Education

Detailed Syllabus

ADVANCED DIPLOMA IN COMPUTER APPLICATION (ADCA)

Duration: One Year

S. No.	Paper Code	Paper
1	1DADCA1	Fundamentals of Maharishi Vedic Science (Maharishi Vedic Science – I)
2	1DADCA2	Fundamentals of Computer and Information Technology
3	1DADCA3	FoxPro Programming
4	1DADCA4	PC Package
5	1DADCA5	Financial Accounting with Tally
6	1DADCA6	OOPS and Programming with C++
7	1DADCA7	Internet and E- Commerce
8	1DADCA8	Introduction to ASP.NET & C#
9	1DADCA9	Practical - Tally & Programming in FoxPro and Programming in C++ & Programming with .net
10	1DADCA10	Project Work



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1DADCA1	FUNDAMENTALS OF MAHARISHI VEDIC SCIENCE (MAHARISHI VEDIC SCIENCE – I)
UNIT-1	Meaning & Importance of Guru Pujan. Meaning of meditation, Mann, Intelligence, Chita, 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.
UNIT-III	Maharishi's Yoga, Transcendental Meditation- a general Introduction, Types of Speech, TM Sidhi Programme, Principle of Yoga Asanas and their Concept.
UNIT-IV	Introduction: Maharishi Vedic Management. Fundamental elements of Vedic Management –Totality Management of Science and Art .
UNIT-V	Vedic Management and Leadership. The Idea Leadership is based upon the Totality of Employee's Style

Suggested Readings

- Chetna –His Holiness Maharishi Mahesh Yogijee
- Maharishi Sandesh -1and 2 , II-His Holiness Maharishi Mahesh Yogijee
- Scientific Yoga Ashanas –Dr.Satpal.
- Dhyan Shailly by Brahmchari Dr. Girish Ji



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1DADCA2	FUNDAMENTAL OF COMPUTER AND INFORMATION TECHNOLOGY
UNIT-I	<p>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.</p> <p>Computer Organizations 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.</p>
UNIT-II	<p>Input Devices: Keyboard, Mouse, Trackball, Joysticks, Digitizing tablet, Scanner, Digital Camera, MICR, OCR, OMR, BAR-CODE Reader, Voice Recognition, Light Pen, and Touch Screen.</p> <p>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.</p> <p>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.</p>
UNIT-III	<p>Computer Software: Need, types of software –system software, application software, system software-operating system, utility program, programming Language, assemblers, compiler and interpreter.</p> <p>Operating System: Function, types –batch, single, Multiprogramming, Multiprocessing.</p> <p>Programming languages- Machine, Assembly High Level, 4GL, their merit and demerits.</p> <p>Application Software: Word –processing, spreadsheet, presentation graphics, data base management software, characteristics, user and example and area of application of each of them.</p> <p>Number System: Data representation in computer, number system of computer –Binary, Octal, Hexa-Representation & their conversion, coding system –ASCII, BCD, EBCDIC etc.</p>
UNIT-IV	<p>Data Communication and Networks: communication channels –twister , coaxial , fiber , optic .Types of Networks –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 Gateway .</p>
UNIT-V	<p>Computer virus: Virus working principles, types of viruses, virus detection and prevention, viruses on networks. Use of communication and IT in daily life.</p>

Text & Reference Books

- Learning Window 98 step by step by Rajeev Mathur , BPB Publication.
- Learning Word 97 for Window by Rajeev Mathur , BPB Publication,
- Learning Excel 97 for Window by Rajeev Mathur , BPB Publication.
- A First Course in Computer by Sanjay Saxena , Vikas Publishing House New Delhi.
- Microsoft Office 2000 by A. Mansoor by Pragya Publications.



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1DADCA3	FOX PRO PROGRAMMING
UNIT-I	FOXPRO- The RDBMS for PC FoxPro – Version , features, requirement of hardware and Software FoxPro- Menu System , Working with FoxPro ,Creating Database File Some common operation on data CREATE,LIST,APPEND,CLOSE,QUIT, FoxPro – Data types Viewing and editing data displaying and monitoring command – Display , List , Locate ,Edit ,Change, Brower , Replace , Delete ,Recall, Pack(All Command with various Option) Modify Structure , Memo Field Utilities –File Utilities in FoxPro – Display Directory , Copy, Delete , Rename.
UNIT-II	Sorting and Indexing of Date Base files : sorting & Indexing ,Concept Sort Command – Single & Multiple Key Advantage & Disadvantage of Sort , Indexing vs Sorting , single & Multiple Key ,Indexing , find seek, Rushmore Technology, Printing report and labels , FoxPro report –its creation , features & utilities , review , Printing Custom Report grouping & Sub grouping . FoxPro Label- Designing & Printing.
UNIT-III	Memory Variables, Date & Time Function and keyboard macros: Memory variables – creation and uses, simple vs array , saving and restoring Memory Variable „?/?/?/? command, time & date function and command , Date Arithmetic ,Converting defining function Keyboard Macros – Creating and using, Mathematical Command and Function : Arithmetic operation , Mathematical function , mathematical Command , Statistical Function.
UNIT-IV	Programming with FoxPro: Concept of FoxPro command file , modify command , conditioning ,branching and looping within program files with do-while End do, If- Endif, Scan –Endscan, for Endfor ,Do case –Endcase , Text- Endtext ,Executing command from other command files, macro substitution Error condition and program debugging aids common error Message, Debugging technique and commands.
UNIT-V	MULTIPLE DATA FILES : concept of Multiple Database files – using multiple database files Relationing the database – SET RELATION, UPDATE,APPEND FROM,COPYTO ,JOIN ,relation Query by Example and SQL Custom Screens & user Define Function & Other tools:Create custom screen with @ , @-GET, @_EDIT,_SAY_GET_READ,Creating box & Lines , user Define Function , Custom Screen , Designing and their use, Fodor for documentation.

Ref Books:

- Foxpro made Simple by R.K. Taxali, BPB Publication.
- FoxPro Pragma Publication



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1DADCA4	PC PACKAGE
UNIT-I	Word-processing : MS-Word : Introduction to word processing , introduction to ms –word : features , creating ,saving and opening document 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 MSWord: 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 an 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 , date format , border & colors , currency sign.
UNIT-IV	Worksheet : MS-Excel: Previewing & Printing Worksheet- Page setting , print titles ,Adjusting margins , page break , headers and footer, graphs and chart – using wizard , various chart types , formatting grid lines & legends , previewing & printing charts , database – creation , sorting , query & filtering a database , function – database , date and times , maths & Trigonometry , statistical , Text and logical function , creating and using macros , multiple worksheet – concept , creating and using.
UNIT-V	MS PowerPoint: introduction and area of use, working with MS Powerpoint, creating a new presentation working with presentation, using wizards, slides& different views, deleting coping slides, working with notes , handout, coloms 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 out look, 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 accounts on single machine

Reference Books:

- Window XP Complete Reference , BPB Publication
- MS Office XP Complete BPB Publication
- IT Tools and Applications Pragya Publications



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1DADCA5	FINANCIAL ACCOUNTING WITH TALLY
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 Budgets & variances , Create Alter &Delete a scenario . Enabling Job Costing in Tally Master creation &configuration for job costing , 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 Ratio 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 behaviour using costing and market valuation method , other behaviour 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 , creating 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 stocks 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.

Ref. Books

Implementing Tally 6.3 by Nadhani: BPB Publication, ISBN

BPB Tally 6.3 by BPB Editorial Board (Hindi) BPB, Financial Accounting with Tally Pragya Publication



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1DADCA6	OOPS & PROGRAMMING WITH C++
UNIT-I	PRINCIPLES OF OBJECT-ORIENTED PROGRAMMING: Object-Oriented Programming Paradigm, Basic Concepts of Object- Oriented Programming, Benefits of OOPs, Object-Oriented Languages, Applications of OOP, C++ Statements, Class, Structure of C++, Program, Creating the Source File, Compiling and Linking.
UNIT-II	TOKENS, EXPRESSIONS AND CONTROL STRUCTURES: Introduction Tokens, Keywords, Identifiers, Basic Data types, User Defined Data Types, Derived Data Types, Symbolic Constants, Type Compatibility, Declaration of Variables, Dynamic Initialization of Variables, Reference Variables, Operators in C++, Scope Resolution Operator, Member Dereferencing Operators, Manipulators, Type Cast Operator, Expressions and Implicit Conversions, Operator Precedence, Control Structures.
UNIT-III	CLASSES AND OBJECTS: Specifying a class, Defining Member Function, making an Outside Function Inline, Nesting of Member function, private member function, Arrays within a class, Memory Allocation for Objects, Static Data Member, Static Member Functions, Arrays of Objects, Object as Function Arguments. CONSTRUCTORS AND DESTRUCTORS: Introduction, Constructors, parameterized Constructors, Multiple Constructors with Default Arguments, Dynamic Initialization of Objects, Copy Constructors, Dynamic Constructors and Destructor. FUNCTIONS IN C++: The Main Function, Function Prototyping, call by Reference, Return by reference, Inline Functions, Default Argument, Const. Arguments ,Function Overloading, Friend and Virtual Function.
UNIT-IV	OPERATOR OVERLOADING AND TYPE CONVERSIONS: Introduction, Defining Operator Overloading, Overloading Unary Operators, Overloading Binary Operators Using Friends, Manipulation of strings using operators, Rules for Overloading Operators, Type conversions.
UNIT-V	INHERITANCE: EXTENDING CLASSES: Introduction, Defining Derived Classes, Single Inheritance Making a Private Member Inheritable, Multilevel Inheritance, Multiple Inheritance ,Hierarchical Inheritance, Hybrid Inheritance. POINTERS. VIRTUAL FUNCTIONS AND POLYIMORPHISM: Compile time Polymorphism, run time polymorphism, Pointers to Objects, This Pointer, Pointers to Derived Classes, Virtual Functions, Pure Virtual Functions.

TEXT & REFERENCE BOOKS

Object Oriented Programming with C++ by E. Balaguruswami. TMH Publications ISBN 0-07-462038-x

Object Oriented Programming in C++ by Nabajyoti Barakati SAMS PHI Pvt. Ltd.

Insights into OOPS & C++. Rajeshwar Shukla, Pragya Publications .



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1DADCA7	INTERNET & E-COMMERCE
UNIT-I	Internet- evolution, Protocols, Interface Concepts, Internet Vs Intranet, Growth of Internet, ISP. Connectivity- Dial Up, Leased Line, VSAT etc., URLs, Domain names, Portals. Application E-MAIL- Concepts, POP and WEB Based E-mail, merits, address, Basics of Sending & Receiving E-mail Protocols, Mailing List, Free E-mail. INTERNET protocols- 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-II	World Wide Web (WWW) – History, working, Web Browser, its function, Concept of search engines, Searching of web, HTTP, URLs, Web Servers, Web Protocols, Web Publishing- Concepts, Domain name, Registration, Space of host Server for web site, HTML, Design tools, HTML Editors, Image Editors, issues in web site creations & Maintenance, FTP software for upload web site
UNIT-III	HTML- Concepts of Hypertext, Versions of HTML, Elements of HTML, syntax, Head & Body Sections, Building HTML documents , Inserting texts, Images, Hyperlinks, Backgrounds and Color controls, Different HTML tags, Table layout and presentation, Use of font size & Attributes, List types and its tags, Use of Frames and Forms in web pages. Introduction to WYSIWYG Design tools for HTML, Overview of MS FrontPage, Macromedia Dream weaver, and other popular HTML editors, Designing web sites using MS FrontPage .
UNIT-IV	JavaScript Overview, syntax & conventions, Variables, Expressions, Branching & Looping statements, Functions, Arrays, Objects, Events & Document Object Model- onClick, onMouse Over, onSubmit, onFocus, onChange, onBlur, onLoad, onUnload, Alerts, Prompts & Confirms.
UNIT-V	E- commerce : An introduction, Concepts, Advantages and disadvantages, Technology in E-Commerce, Internet & E-business, Applications, Feasibility & various constraints, E-transition challenges for Indian corporate. Electronic Payment System: Introduction, Type of Electronic Payment Systems, Digital Token-Based Electronic Payment Systems, Smart Card and Electronic Payment Systems, Credit Card Based Electronic Payment Systems, Risk and Electronic Payment Systems.

TEXT & Reference Books:

Internet and Web Design Made Easier By A. Mansoor. Pargya Publications.. Matura

O Level Module – M 1.2- Internet & Web page designing by V.K. Jain- BPB Publications,

E-Commerce An Indian Perspective (Second Edition)-By P.T. Joseph, S.J. Presentice-Hall of India

Internet for Everyone- Alexis Leon and Mathews Leon, Vikas Publishing House Pvt. Ltd. New Delhi



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1DADCA8	INTRODUCTION TO ASP . NET & C#
UNIT –I	Overview of ASP.NET framework, Understanding ASP.NET Controls, Applications Web servers, installation of WS. Web forms, web form controls -server controls, client controls, web forms & HTML, Adding controls to a web form ,Buttons, Text Box, Labels, Checkbox, Radio Buttons, List Box, etc. Running a web Application, creating a multiform web project.
UNIT-II	Form Validation: Client side validation, server Side validation, Validation Controls: Required Field Comparison Range. Calendar control, Ad rotator Control, Internet Explorer Control. State management- View state, Session state, Application state.
UNIT –III	Architecture of ADO.NET, Connected and Disconnected Database, Create Connection using ADO.NET Object Model, Connection Class, Command Class, Data Adapter Class, Dataset Class. Display data on data bound Controls and Data Grid. Database Accessing on web applications: Data Binding concept with web, creating data grid, Binding standard web server controls. Display data on web form using Data bound controls.
UNIT-IV	Writing datasets to XML, Reading datasets with XML. Web services: Introduction, Remote method call using XML, SOAP, web service description language, building & consuming a web service, Web Application deployment.
UNIT –V	Overview of C#, C# and .NET, similarities & differences from JAVA, Structure of C# program. Language features: Type system, boxing and unboxing, flow controls, Classes, interfaces, Serialization, Delegates, Reflection.

REFERENCE BOOKS

- VB.NET BLACK BOOK BY STEVEN HOLZNER DREAMIECH
- ASP.NET UNLEASHED
- C# PROGRAMMING WROX PUBLICATION
- C# PROGRAMMING BLACK BOOK BY MAN TELLES