	Project Work	
	कुलTotal	16 Credits

First Semester

DCA-01   Fundamentals of Computer

Unit – I   Introduction to Computer
- History of development of computers
- Computer system concepts
- Characteristics
- Capabilities and limitations
- Generations of computers.
- Basic components of a computer system – Control Unit, ALU, I/ O Devices, memory – RAM, ROM, EPROM, PROM, Flash Memory and other types of memory.

Unit – II 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, CD, VCD, CD-R, CD-RW, Zip Drive, DVD, SVCD.

Unit – III   Computer Software
- Types of Software – System software, Application software, Utility Software, Demoware, Shareware, Freeware, Firmware, Free Software.
- Operating Systems – Functions, Types – Batch Processing, Single User, Multi User, Multi-programming, Multi-Tasking.
- Programming languages – Machine, Assembly, High Level, 4 GL.
- Data representation in computers.
- Number System of computers – Binary, Octal, Hexa Decimal – Representation & their conversion.
- Coding System – ASCII, BCD, and EBCDIC etc.
- Computer Viruses

Reference Book:

1 Sinha, P.K.(2007). *Computer Fundamentals*. New Delhi: BPB Publications.
2. Mukhi, Vijay (2008).*Working with UNIX*. New Delhi: BPB Publications.
3. Rajaraman, V. (2014). *Fundamental of Computer*. New Delhi: Prentice Hall India Pvt. Limited.
4. Rajoriya, Sheetanshu (2013). *Computer Fundamentals*. Indore: Kamal Prakashan.

DCA-02 Operating System and Application Program

Unit – I   Disk Operating System (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.
Basic DOS Commands
•   Internal – DIR, MD, CD, RD, Copy, DEL, REN, VOL, DATE, TIME, CLS, PATH, TYPE etc.
•   External – CHKDSK, PRINT, DISKCOPY, DOSKEY, MOVE, LABEL, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTRIB, HELP, SYS etc.
•   Executable V/s Non executable files in DOS

Unit –II   Windows
•   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.

Unit – III   Linux
•   Introduction, History & Versions of Linux
Linux basics
•   Physical structure of disk, drive name, FAT, file & directory structure and naming rules, booting process, Linux system files.
Basic Linux Commands
•   Internal – LS, Make Directory, CD, CP,MB, DEL, REN, DATE, TIME, CLEAR, etc.
•   Executable V/s Non executable files in Linux

Unit –IV Microsoft Office (MS Word, Excel, Power Point)

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.

Worksheet: MS Excel
•   Worksheet basics
•   Creating worksheet, entering data into worksheet, heading information, data, text, dates, Cell formatting values, saving & protecting worksheet.
•   Opening and moving around in an existing worksheet
•   Toolbars and Menus, keyboard shortcuts

- Working with single and multiple workbook – coping, renaming, moving, adding and deleting, coping entries and moving between workbooks
- Working with formulas & cell referencing.
- Autosum
- Coping formulas
- Absolute & Relative addressing
- Working with ranges – creating, editing and selecting ranges, sorting.
- Formatting of worksheet – Auto format, changing – alignment, character styles, column width, date format, borders &colours, currency signs.
- 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.

Presentation Graphics: MS Power Point
- Features and various versions
- Creating presentation using Slide master and template in various colour scheme
- Working with different views and menus of power point
- Working with slides – Make new slide, move, copy, delete, duplicate, lay outing of slide, zoom in or out of a slide.
- Editing and formatting text: Alignment, editing, inserting, deleting, selecting, formatting of text, find and replace text.
- Bullets, footer, paragraph formatting, spell checking.
- Printing presentation – Print slides, notes, handouts and outlines.
- Inserting Objects – Drawing and inserting objects using Clip Art's pictures and charts.
- Custom Animation – slide transition effects and other animation effects.
- Presenting the show – making stand alone presentation

Reference:

1. Mansoor, A. *I.T. Tools and Applications*. Matura : Pragya Publications .
2. Norton, Peter (2000.). *Peter Norton Complete Guide to Linux*. New Delhi : Techmedia Publications .
3. Dubey, Manoj (2013). *P C Packages*. Indore : Kamal Prakashan.

DCA-03 Programming Language

Unit – I   C Language : Introduction
• 	Introduction
• 	C Character Set , Constants, Variables and Key words

Unit – II   Decision and Control Structure
• 	if ,if-elses, forms of if-elses statement
• 	Operator
• 	Types of Loops
• 	Case and Switch

Unit –III Arrays and Functions
• 	Arrays
• 	C Functions – Call by values and Call by reference

Reference:

1 Balaguruswami, E. (2008). *Programming with C*. New Delhi : Tata McGraw Hill.
 2 Kernighan,Brian W. & Ritchie, Dennis M. (1988). *The C Programming Language ANSI C*.Prentice Hall PTR
3 Singh, Minakshi & Singh,VishnuPriya .*C Programming*. Delhi : Asian Publisher .
4 Jain, Abhinav. *The Ocean of C*. Indore : Nakoda Publishers & Printers. (7th Edition)

DCA-04   Practical on C Programming

Each candidate will present a small program with the help of C Programming. Evaluation will be done on the basis of written program, Practical presentation on Computer and Viva.

DCA-05   Practical on Application Program

Each candidate will present a small program with the help of Application Program each. Evaluation will be done on the basis of written program, Practical presentation on Computer and Viva.

Second Semester

DCA -06 Data Base Management System

Unit–I Data Base Management System
- Introduction to Database and RDBMS -Database Concepts- So What is Database? Manual Database System, Comparison between a manual and, Computerized Database System, Common DBMS, Introduction to Microsoft Access, Features of Access, Starting Access, Access Terminology, Exiting Access, Microsoft Access Hardware & Software Requirements
- Designing a Database- About designing a database, Steps in designing a database, Creating a Database- Creating a Database using blank database, Creating a Database using Database Wizard, Opening a existing database

Unit –II Data Base Tables
- Tables- Introduction to Tables, Different Ways of creating a table, Guidelines   for   naming   fields, controls and objects, Creating a table by entering data in a datasheet, Create a table using the Table Wizard, Working with Tables
- Designing a Table- Create a table from scratch using Design view, Field/Variable name Conventions,About the Data types, Setting Primary Keys, Field Properties - Field Size, Format, Decimal Places, Input Mask, Caption, Default Value, Data Validation, Required, Allow Zero Length, Indexed, Sorting and Filtering Data.
- Modifying the Table Design - To insert the field within the table, Rename a field name in a table, Deleting Fields, Moving Fields, Changing a Field Size, Saving a Table, Working with Tables in Datasheet View - Viewing the Table in Datasheet view, Adding Records, Sizing the Columns, Navigating the Datasheet - Using the navigation Buttons, Using the Go To Menu, Finding a Specific Value - Using Wildcards, Editing And Deleting Records, Undoing Edits, Cutting, Copying and Pasting Data ,Sorting and Filtering Data in a Datasheet - Quick-Sort Feature ,Filter By Selection.
- Relationship - Relationship in a Database, How to relationship work, Types of Mapping in Relationships, Define Relationships.

Unit–III Query Basics and SQL
- Query Basics- What is a Query? Usage of Queries, Types of Queries, Steps for Creating a Query, The Design View, Working With Fields, Changing the order of Fields, Removing a Field, Inserting a Field, Hiding Fields, Sorting in Query. Perform Calculation in a Query, Creating a Query, Query by Criteria, Examples of select query, Example of Cross Tab query, Creating Cross Tab Query, Working with Action Queries, Creating Make Table Query, Creating Append Query, Creating Delete Query, Creating Update Query, Setting Query Properties.
- Working with SQL

Unit – IV Report
- Report, Introduction, Parts of a Report, Creating a Report, Creating a Columnar Report with Auto Report, Tabular Auto report, Creating Reports with Wizards, Examples of Report

Reference :

1. Microsoft Access 2013 by Joyce Cox and Joan Lambert Published by Microsoft Press
2. Web Link
   (http://www.pdfiles.com/pdf/files/English/Software/Microsoft_Access_2013_Step_By_Step.pdf)

3. Bayross, Ivan. *Mastering Database Technologies*. New Delhi : BPB Publications.
4. Majumdar, Arun K & Bahttacharya, P. (2008). *Database Management System*. New Delhi : Tata McGraw Hills Publishing Company Limited.
5. Maheshwari, Sharad & Jain, S.(2007). *Database Management System*. New Delhi : firewall Media.
6. Bansal, V& Bhatia, A.B.(2015). Database Management System. New Delhi : Narosa Publishing House.
7. Silberschatz, A. , *Korth*, *H. F.* & Sudarshan, S.(2006). *Database System Concepts*., New Delhi : McGraw Hill.

DCA -07 Visual Basics (VB)

Unit- 1 Introduction to Visual Basics Controls
- VB Interface
- Tool Box
- Object Browser Control
- Input Box
- Message Box
- Project Explore
- Standard Control
- Common Dialogue Control

Unit-2 Data Types
- Types of Variables
- Variable declaration
- Array

Unit-3 VB Function and Sub Routine
- Sub routine and functions
- Adding, Removing forms
- Uses of Input Box
- Properties Window
- Debugging

Unit-4 Connectivity with Data Base and Report
- Looping
- Data Controls
- Data Bound Controls
- Data Grids
- Data Reports

Reference :
1 Jerke, Noel (1998). Visual Basic 6.0 The complete Reference. New Delhi : Tata McGraw Hill Publishing Company Limited.
2 Smilly, John(2001). *Visual Basic Database* .New Delhi : Firewall Media.
3 Mauer, Lowell. Visual Basic 6.0 (Hindi). New Delhi: B.P.B. Publisher
4 Naik, Nitin K.(2013). *Basics of Visual Basic*. Indore : Kamal Prakashan.

DCA-08Internet and Web Page Designing

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, Basic of Sending & Receiving, E-mail Protocols, Mailing List, and Free E-mail services, FTP.

Unit – II   World Wide Web (WWW)
*   History, Working, Web Browsers, Its functions, Concept of Search Engines. Searching the Web, HTTP, URLs, Web Servers, Web Protocols.

Unit – III   Web Publishing
*   Concepts, Domain name Registration, Space on Host Server for Web site, HTML, Design tools, HTML editors, Image editors, Issues on Web site creations & Maintenance, FTP software for upload web site.

Unit – IV   HTML
*   Concepts of Hypertext, Versions of HTML, Elements of HTML syntax, Head & Body Sections, Building HTML documents, Inserting texts, Images, Hyperlinks, Backgrounds and Colour controls, Different HTML tags, Table layout and presentation, Use of font size & Attributes, List types and its tags.

Reference :

1 Pawel, Thomas A(2010). *HTML Complete Reference*. New Delhi: Tata McGraw Hill.
2 BPB.Web & Graphics .New Delhi: B.P.B Publisher.
3 Singh, Minakshi & Singh,VishnuPriya. Web Designing Course. Delhi : Asian Publisher .
4 Naik, Nitin K.(2014). *Internet Web Technology E- Commerce*. Indore : Kamal Prakashan.

DCA-09 Project Work

All the students must submit a project with the help of applications given below :
1. C Language
2. Visual Basics and DBMS
3. HTML