2022-23

DIPLOMA IN COMPUTER APPLICATION
(DCA)

GURUKUL

EDUCATIONAL AND

RESEARCH INSTITUTE

Subject and Syllabus

Syllabus

DIPLOMA IN COMPUTER APPLICATION (DCA)

Duration:-1 year

664 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, Multiprogramming, 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

665 OPERATING SYSTEM AND APPLICATION PROGRAM

Unit – I Disk Operating System (DOS)

- History Introduction & 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

666PROGRAMMING LANGUAGE

Unit – I C Language : Introduction

- Introduction
- C Character Set , Constants, Variables and Key words

Unit – II Decision and Control Structure

- 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

667 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.

668 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.

669 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 DatabaseCreating 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