CENTRE FOR CONTINUING EDUCATION KERALA

DIPLOMA IN COMPUTER APPLICATION
(DCA)
[approved vide GO(Ms)No.37/2012/P&ARDdated.16/7/2012]

SYLLABUS
(Duration – 6 Months)

CENTRE FOR CONTINUING EDUCATION KERALA
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DIPLOMA IN COMPUTER APPLICATION (DCA)

I. <u>INTRODUCTION</u>

Computer knowledge is essential in all types of jobs. It will give added waitage to the job seekers. This curriculum is framed so as to impart the theoretical and practical knowledge in computer application such as windows , Linux , word processing, spreadsheets, Presentation , Internet, Open Office, DBMS, Malayalam computing, etc.

The course Diploma in Computer Applications (DCA) of CCEK is approved by Government of Kerala vide GO(Ms)No.37/2012/P&ARD dated.16/7/2012 of the Personnel and Administrative Reforms Department, Government of Kerala as a qualification for appointments through Kerala PSC. Considering the vide spread demand for the course, CCEK proposes to offer the DCA course across the state by establishing new sub-centers among the Arts & Science Colleges.

II. <u>ELIGIBILITY FOR ADMISSION</u>

SSLC

III. <u>DURATION OF THE COURSE</u>

SIX months

IV. <u>MEDIUM OF INSTRUCTION</u>

The medium of instruction in all the theory and practical subjects shall be English & Malayalam.

V. <u>COURSE FEE</u>

The course fee is Rs. 6000/-

The fee can be collected in three equal installments at the discretion of the sub-centre.

VI. <u>EXAMINATION FEE</u>

Fee for registering regular examination –Rs.300/-

Fee for supplementary examination-Rs. 100/- per paper

Examination fee from the students will be collected by the sub-centre concerned and forwarded to the Director, CCEK by DD payable at Thiruvananthapuram in lumpsum with the details of the candidates registered for the examination.

VII. <u>EXAMINATION</u>

There will be an examination for theory and practical subjects as per the notification of the Director, C.C.E.K.

VIII. RULES AND REGULATIONS FOR EXAMINATION AND PROMOTION

1) Duration of the course is six months

2) The minimum qualification prescribed for admission is SSLC.

3) The examinations will be conducted by C.C.E.K.

4) Minimum attendance required for a candidate to register for the examination is 70%.

5) Shortage of attendance up to 15% can be condoned in deserving cases on payment of prescribed condensation fee of Rs.200/- on the recommendation of the course coordinator of the sub-centre. Condonation fee from the students will be collected by the sub-centre concerned and forwarded to the Director, CCEK by DD payable at Thiruvananthapuram in lumpsum with the details of the candidates registered for the examination.

6) No candidate will be allowed to register for examination in piecemeal. If in any case this happens, registration shall automatically be cancelled at any stage of the process of the examination. The Board of Examination has the discretionary power to relax the condition in exceptional cases, if found necessary.

7) Each candidate is entitled for three chances to pass the examination, including the regular with in a period of 2 Years after the registration for the first examination.

8) A minimum of 35% marks in theory and practical is required to pass in each subject

9) Supplementary examination fee of Rs. 100/- per paper will be charged subject to a maximum amount of Rs. 500/-

10) There will be 5 classifications of passed candidates in the following grading system.

35 to 50%	C
51 to 65 %	B
66 to 80%	B+
81 to 90%	A
91 to 100%	A+

11) The total marks shall be considered to classify the successful candidates.

12) Revaluation for theory papers is done on application addressed to the Director, C.C.E.K. within 15 days of the publication of the results, along with revaluation fee of Rs. 100/- per paper. In case CCEK decides to conduct the theory examination on-line, there will be no revaluation.

13) There will be no revaluation for practical.

14) Any other details not specifically mentioned herein will be decided by the Director, C.C.E.K. and decision will be final.

Subject Code	Subject Name	Theory Hours	Practical Hours	Internal Marks	End Exam		Total Marks
					Theory	Practical	
DC 01	Informatics	10	-	50	100	-	150
DC 02	MS Office and Internet	10	90	50	50	50	150
DC 03	Linux and Open Office	4	30	50	50	50	150
DC 04	PC Techniques	4	20	50	100	-	150
DC 05	Malayalam Computing	2	10	50	50	50	150
	Total	30	150	250	350	150	750

1. DC 01- INFORMATICS

Introduction To Information Technology

    Characteristics of Computers, Stored Program Concept

    History of Computers

    Evolution of Computer - Generations

    Computer classifications-Micro, Mini, Mainframe and Super Computers

    Microcomputers - Desktop PCs, Laptops, Palmtops and PDAs

Computer Organization

    CPU, Memory, I/O Devices- Block Diagram of a computer

    System components - Motherboards, Chip sets, Buses and Expansion Slots

    I/O Ports -Serial Port (RS-232), Parallel ports, USB, PS/2

    Microprocessors - Brief introduction to the Intel Family, Different Models of Intel Pentium IV and AMD Athlon/ Duron processors

    (characteristics - Number of bits, Speed, Memory Addressing, other features like Hyper Threading etc)

Memory

    Characteristics of Primary Memory and Secondary Memory

    Classification of Primary Memory

    ROM - EPROM, EEPROM

RAM- SRAM, DRAM, SDRAM, DDRAM, RDRAM

Cache Memory - L 1 ,L2 and L3 Cache

Secondary Memory

Sequential and Direct Access Storage Characteristics

Magnetic Tapes ,Magnetic Disks-

Floppy Disks-Hard disks

Optical Storage - CDROMs Different types of CDROMs CDR, CDR/W

CD-Drives - Speed of CD- Drives, CD Writers, DVDs - DVD - RlW, Blu-Ray Disk

Advanced Removable Storage Devices - Pen Drives, Zip Drives, Super disks

Input Devices

Keyboard - Different types of keyboards

Graphical Input - Mouse - Optical Mouse, Trackball, Track pad, Trackpoint,Joystick, Scanners, Optical Mark Readers, Barcode reader, Smart Cad Readers

Touch Screens, ATM, Web Cameras

Voice Input - Microphones

Output Devices

Computer Output - Soft Copy and Hard Copy

Monitor - CRT, LCD, TFT displays (Dimensions, Resolution, and comparison - overview only)

LCD Projectors

Printers- Impact and Non Impact printers

Dot matrix Printers, Thermal Printers, Inkjet and Laser Printers, Plotters, Computer Output

Microfilm

Audio Output - Speaker

Computer Software

Software Classification- System Software and Application Software

Operating Systems - Functions of as - Types of OS - Single User,

Multi-User, Multitasking, Real Time OS

Language Translators - Compilers and Interpreters

Programming Languages and Classification - Machine Language, Assembly Language, High Level Language and 4GLs (Comparative study of these languages)

Computer Viruses, Software Piracy, Free Software Philosophy

Information Technology

IT in communication ,Business, Governance, Medicine, Office Automation, and Health Care, Education, Science, Entertainment, Engineering Manufacturing. IT

Policy in the State

E-Commerce - Types of e-commerce, B2B,B2C,C2C,P2P,M-commerce.

On-line trading and Net-Banking

Ethical and Social Issues

Understanding ethical and social issues related to systems

A Model for Thinking About Ethical, Social, and Political Issues

Five Moral Dimensions of the Information Age

Key Technology Trends that Raise Ethical Issues

Ethics In An Information Society-Basic Concepts: Responsibility, Accountability, and Liability, Ethical Analysis-Candidate Ethical Principles

Professional Codes of Conduct

Some Real-World Ethical Dilemmas

The Moral Dimensions Of Information Systems-

Information Rights: Privacy and Freedom in the Internet Age,

Property Rights: Intellectual Property,

Accountability, Liability, and Control,

System Quality: Data Quality and System Errors

Quality of Life: Equity, Access, and Boundaries

Text Books:

Alexis Leon & Mathews Leon, Computers Today, Leon Viks Pub

Curtin, Foley, Sen. & Motrin , Tata Me Graw Hill Pub

IT Tools and Applications - Me Millan

References:

Peter Dyson, The PC User's essential accessible Pocket Dictionary, BPB

Ron White, How Computers Work (with CD) BPB New Delhi

Alexis & Mathew Leon, Fundamentals of Information Technology, Leon Vikas Pub

2. DC 02 - MS OFFICE AND INTERNET

Office Automation Basics

Concept of office

Nature of work in office

Meaning of office automation

Needs & future trends of Office Automation

Office system requirements

Document preparation

Document storage & retrieval

Integrated office systems

Disk Operating System:

Simple DOS Commands

Simple File Operations

Directory Related

Commands.

Windows XP/2000Nista/7

Introduction to Windows

Desktop, Taskbar, Start Menu, My Computer, Windows Explorer, Recycle Bin

Accessories- Calculator, Notepad, paint, WordPad.

Microsoft Word

Introduction to MS Office & MS Word

Introduction to MS Office Package

MS Word

Text Formatting Features

Paragraph, Change Case, Font, Tabs, Drop Cap, Bullets and Numbering,

Advanced Formatting Features

Boarders and Shading, Auto shape, Caption, Columns, Text Box, Footnote,

Tables and Drawing Features

Insert Table, Draw Table, Formula, Sort, Forms

Graphics - Word Art and Clip Art,

Tools - Mail Merge, Spelling and Grammar, Thesaurus, Autocorrect.

MS Excel

Worksheets, Cell, Cell Range Operations, Fill Series .Protecting

Worksheets

Functions- sum, average, if. Financial and statistical functions,

Mathematical functions.

Database Operations Sort, Filter - Auto filter and Advanced filter,

Subtotals, Table, Validation

Charts - Column, Pie, XY, Line, Scatter

MS Power point- Introduction

Slide Sorter

Slide Background

Slide Transition

Slide show

Front Alignment

Background

Action Buttons

Setup Show

Custom Animations.

Introduction to database system concepts

Database

Characteristics of Data in Database

DBMS-Advantage of DBMS

Different type of Database Systems

Introduction to Relational DBMS

RDBMS Terminology

Databases-Tables - Relations- Domains- Attributes -Tuples

Primary key- Foreign key

MS-Access

Introduction

Blank Database, Database Wizard

Database Window, Design View, Data Sheet View

Creating Tables in Design View

Field Properties , Primary key, Indexes

Record Manipulations' - Adding, Editing,

Deleting

Sorting and Filtering

Creating Query in Design View,

Query Wizard, Deleting Queries

Creating Form with Wizard

Creating Reports Using Wizard

Import and Export

INTERNET & EMAIL

Introduction to Internet Technology, Introduction to Internet Explorer, Concept of Websites and WebPages, Use my connection for dialing, Log on to Internet, Browsing/Surfing with the help of Internet- Explorer(File, Edit, View, Go Favorites, Toolbar), Closing Internet Explorer, Learning to use E-mailing, Read/Send mails through send & receive options, Working with Boxes (Inbox, Outbox, Sent box), Composing/Attaching a file, Using the Address book, Import/Export-message/address, Internet options, Working online, Open free E-mail IDs. Using search engine to find sites, Closing your Dial-up networking

connection.

<u>HTML</u>

Basic HTML tags, advanced HTML tags

Textbooks:

Microsoft Office XP Plain & Simple - Brown Resource - PHI

Microsoft Office XP Fast & Easy - Koers PHI

Faster Smarter Microsoft Office XP - Murray - PHI

<u>DC03 - LINUX AND OPEN OFFICE</u>

<u>Linux</u>

History and features of Linux, Linux Structure, File System of Linux, Hardware requirements of Linux, Various flavors of Linux, Linux Kernel, Login and Logout from Linux system, Linux command -Is, cat, cd, ,chmod, clear, cp., rmdir, wc, who, grep, write, mv, find, mkdir, more, date, vi Editor.

<u>Open office Writer</u>

Entering and Editing Text in a Writer Document, Formatting a Writer Document, Checking your spelling automatically using the AutoCorrect, Manually running the Spell checker, Finding Synonyms with the Thesaurus, Create Table, Table Formatting, Summing Table Rows and Columns, Finding items in a Document, Create and modify Headers and Footers ,Create and modify Page numbers ,Adding Graphics, Formatting a Picture, Resize a picture, Wrapping a picture around text, Adding borders and colours, Creating a Form Letters, Creating a Data Source, Reviewing the Mail Merge document, Addressing Mailing Labels

<u>OpenOffice.org</u>

System Requirements , Start of the programs , File management , Create a new Document, Save a document, Open a document, Close an active document, Send document by email, Export to PDF, Export to HRML, Importing from other documents, Information management, Text selection, Copy the information, Move information, Find and replace text , Browse through the document , Styles and templates , Type of styles, Create new styles , Modifying styles , Page breaks , Create and manage Templates, Print, Page margins, Size of the page, Page background, Headers, Footnotes , Print Preview.

<u>OpenOffice.org Writer</u>

Writer interface, Text input, Characters format, Font effects, Position, Background color, Paragraph formats, Paragraph, Alignment, Text flow, Bullets

and Numbering, Applying Bullets and Numbering, Change the type of numbering, Applying numbering, Styles of numbering , Outline numbering , Restart numbering , Stop numbering and Indent, Tabs and tables, Spacing, Tables, Delete column and lines, Column width, Alignment , Merge cells , Insert lines and columns , Borders , Calculate in a table , Number formats, Sort, table charts, Text boxes and images, Insert images, Insert external images, Size, Anchor, Position, Adjustment, Font work , Index, Index with default styles, Index with user styles, Index updates, Index links.

OpenOffice.org Calc

Calc features, Calc Interface, Data types, Create formulas, Lines and columns, Format, Numbers, Font, Font effects, Alignment, Border, Background, Height and weight cells , Merge/Split Cells , Functions , Statistical functions , Time and date statistical , Text function , Math function , Information function , Logical function , Chart, Data Types, XY axis, Object properties, Identifying cells, Absolute ranges, Assign range and names , Automatic range, Print ranges , Data ranges , Sheets, Change names , Add sheets, reference sheets, delete sheets, select multiple sheets, Database ranges, Auto filter, Sort, Subtotals, Consolidate, Workgroup, Notes, Versions, Protect cells, Validity.

OpenOffice.org Impress

Impress characteristics, Start Impress, Presentation Wizard, Drawing, Zoom, Lines, Rectangle , Freeform line filled , Polygon, Convert objects , Curves , Select objects , Copy objects, Delete objects, Flip objects, Arrange objects, Group objects, Export drawing, , Area Fills, Color, Gradient, Hatching, Bitmaps , Transfer settings, Images, Insert images, Filters, Graphics mode, Color, Transparency, Crop, Gallery, Glue points, Size and position, Rotate, Alignment, Text, Text to polygon, Text boxes, Slides, Insert, Clone, Rename, Delete slides, Format, Character, Paragraph, Textbox format , Slide effects , Slide transitions , Sounds , Automatic transition , Manual transition, Hyperlinks , From text, From images, Bitrnaps.

Linux OS Installation

Driver Installation

Package Installation

User Creation

Text Books:

Linux In Easy Steps - Mike Me Grath - DreamTech

Comdex Linux and Open Office Course Kit - Vikas Gupta – DreamTech

Greg Perry, SAMS Teach Yourself Open Office.org, SAMS Pub

References:
John Ray, 10 Minute Guide to Linux PHI

4. DC04 - PC TECHNIQUES

Parts of a PC

Main Unit/Cabinet, Power supply

Outside main unit - Front panel, switches and indicators, back panel, ports

Inside system unit - SMPS- signals and functions, connectors, POST, BIOS, Bootstrap

Motherboard- Processor, version, technology and speed

Identify ROM and BIOS Chips

Identifying Computer Expansion Slots

Identifying RAM and RAM Sockets

Input, output devices and drivers

Storage devices

Video Card Identification

BIOSIROM

Floppy Disk Drive

Hard Drive Identification

CD-ROM I DVD drive Identification

Windows OS Installation

Driver Installation

Changing File Views in Windows

Control Panel

User creation and rights

Hard Drive Preparation Using FDISK and FORMAT, DM utility

Troubleshooting

Install a Driver

Create a startup Disk

Windows XP/7 Operating System

Installation Demonstration of Windows XP/7

Using Simple File Sharing to Share Files

Internet Connection and Firewall

Using Windows XP/7 Start Menu and Windows Explorer

Application Software Installation

Ms Office, Tally, Data entry S/W, DTP S/W Etc

Transferring Computer Software

Floppy disks

USB flash drives

CD/DVD – Burning a CD/DVD

Maintaining Computer Software

Antivirus Installation

Cookies-cleaning out cookies

Cleaning out temporary internet files, Recycle bin

System tools – Disk Cleanup , Disk Defragmentation

Back up of user data

Updating operating system and web browser software

Computer Networks

Definition of Computer network–Classification–LAN,MAN,WAN and Internetwork, LAN Topologies

Protocols-Definition –TCP/IP, UDP, Application level protocols

HTTP, FTP, SMTP, NNTP, SNMP, DHCP, DNS (ideas only)

Connectivity Devices Repeater, Hub, Switch, Bridge, Router, Gateway, Firewall.

Modems-Dialup, Cable and Digital Modems.

5. DC 05 - MALAYALAM COMPUTING

Introduction-

Malayalam through computers, Unicode, IT and Malayalam, Language Computing, Importance of language computing, Free software and language computing, Malayalam and technology, Malayalam digital technology.

Enabling Malayalam in Linux and Windows. Downloading and installing Malayalam fonts.

Malayalam using transliteration.

Structure of Malayalam Keyboard, Overview of Malayalam characters, Typing on the Malayalam keyboard.

Malayalam word processing.