



## I. SYLLABUS

Subject Code	Subject Name	Theory Hours / Week	Practical Hours/ Week	Internal Marks	End Exam		Total Marks
					Theory	Practical	
DC 01	Informatics	2	-	50	100	-	150
DC 02	MS Office and Internet	1	1	50	50	50	150
DC 03	Linux and Open Office	1	1	50	50	50	150
DC 04	PC Techniques	2	-	50	100	-	150
DC 05	Malayalam Computing	1	1	50	50	50	150
<b>Total</b>		<b>7</b>	<b>3</b>	<b>250</b>	<b>350</b>	<b>150</b>	<b>750</b>

# **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 -  
RW, 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

Borders 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.

## **HTML**

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

## **DC03 - LINUX AND OPEN OFFICE**

### **Linux**

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 -ls, cat, cd, ,chmod, clear, cp., rmdir, wc, who, grep, write, mv, find, mkdir, more, date, vi Editor.

### **Open office Writer**

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

## **OpenOffice.org**

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.

## **OpenOffice.org Writer**

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  
BIOS/ROM  
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.