

ACETC

Authorized
Computer Education and
Training Centre



**Course
Syllabus**



SOFTWARE TRAINING AND DEVELOPMENT CENTRE

प्रगत संगणन विकास केंद्र
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING
Thiruvananthapuram

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I. Post Graduate Diploma in Computer Applications (PGDCA)

Duration : 1 Year FULL TIME
Eligibility : Degree / Equivalent
Course Fee : Rs.15,000/-

SEMESTER I (Six Months)

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
PGD 101	MS Office	60	60	75
PGD 102	Computer Organization	45		100
PGD 103	Programming in C	60	60	75
PGD 104	Object Oriented Programming Using C++	60	60	75
PGD 105	Operating Systems	50		100
PGD 106	Software Engineering Concepts	60		100
PGD 107	DBMS using mySQL	80	40	75
PGD 101L	Software Lab I (MS Office)			25
PGD 103L	Software Lab II (C)			25
PGD 104L	Software Lab III (C++)			25
PGD 107L	Software Lab IV (mySQL)			25
Total		415	220	700

Number of Hours for Theory	415
Number of Hours for Practical	220
Number of Hours for Examination and other Activities	85
Total Hours in the Semester	720
Number of Working Hours in a Day	6
Total Working Days in the Semester	120

PGD 101 - MS Office

Number of Hours : 120 (Theory 60; Practical 60)
Number of Units : 14

Unit 1 - Introduction to Computers

Generations of Computers, Classification of Computers, Computer Applications, Input and Output, Memory, Representation of Information, Hardware and Software, Peripheral Devices, Generations of Languages

Unit 2 - Using DOS

Disk Operating System, Directory Commands, File Management Commands, Disk Management Commands, External Commands, Utility Commands, Simple Batch files, Configuring the System

Unit 3 - Using Windows Operating System

Introduction, User Interface, Files and Folders, Working in Explorer, File operations, Recycle Bin, Starting a Program, Shortcuts, Shutting Down, Windows Accessories, Control Panel, Network Neighbourhood

Unit 4 - Word Processing

Introduction to MS Word, Word Processor Basics, Opening, Editing And Printing Documents, Text Formatting, Page Formatting, Paragraphs, Finding and Replacing Text

Unit 5 - Inserting Various Objects

Symbols and Pictures, Page Numbering, Headers and Footers, Date & Time, Word Art, Clip Art, Comment, Text Boxes, Creating tables, Inserting Newspaper Columns

Unit 6 - Mail Merging

Creating Master Document, Data Source, Creating Mailing Labels and Envelopes, Templates and Wizards

Unit 7 – Malayalam Computing

Unit 8 - Spreadsheet Package

Introduction to Worksheet, MS Excel, Entering Data, Data Types, Cell Addressing, Auto Fill, Auto Complete, Value Formatting, Inserting Rows and Columns, Manipulating Sheets

Unit 9 - Mathematical Computations

Using Functions, Formula and Ranges, Working with Charts and Graphs

Unit 10 - Database Management in Excel

Setting up a Database, Sorting, Executing Database Functions, Filtering Records

Unit 11 - Tools for Analysis

What-if Analysis Tools, Data Analysis Tools, Creating and Using Macros, Printing Worksheets

Unit 12 - Database Management Using Access

Introduction to Database Management, Relational Databases, Primary Key, Creating Tables, Field Types, Validations, Input Formats, Defining Relations

Unit 13 - Table Operations, Querying

Updating Tables, Sorting, Defining and Executing Queries, Types of Queries, Selection Query, Action Queries, Append Query, Make Table Query, Setting Criterion

Unit 14 - Customized Input and Output

Creating Input Forms, Adding Navigation and Operation Controls, Creating Reports, Executing Data Aggregate Functions

PGD 102 - Computer Organization

Number of Hours : 45 (Theory – 45; Practical - 0)
Number of Units : 7

Unit 1 - Introduction and Background

Evolution of Computers, Stored Program Concept and Von Neumann Architecture, Information Representation and Codes (Data Types, Complements, Addition and Subtraction of Binary Numbers, Fixed Point and Floating Point Representation, Other Binary Codes, Error Detection Codes), Building Blocks of Computers: Combinational Blocks (Gates, Multiplexes, Decoders, Encoders, etc.), Sequential Building Blocks (Flip-Flops, Registers, Counters, Random Access Memory, etc.)

Unit 2 - Register Transfer Language and Micro-operations

Register Transfer Language, Concept of Bus, Bus and Memory Transfer, Arithmetic Micro Operations, Logical and Shift Micro Operations

Unit 3 - Architecture of a Simple Processor

A Simple Computer Organization, Computer Registers, Computer Instructions, Timing and Control, Instruction Cycle, Program Interrupts, Design of Basic Computer

Unit 4 - CPU organization

Addressing Modes, Instruction Formats, CPU Organization with Large Registers, Stacks and handling of Interrupts and Subroutines, Instruction Pipelining: Stages, Hazards and Methods to Remove Hazards

Unit 5 - Arithmetic Algorithms

Addition and Subtraction for Signed Magnitude and 2's Complement Numbers, Multiplication Algorithms: Signed Magnitude Multiplication, Signed 2's Complement Multiplication Booth's Algorithm, Integer Division, Floating Point Representations and Arithmetic Algorithms

Unit 6 - I/O Organization

Input–Output Interface, Asynchronous Data Transfer (Strobe Based Communication, Handshake Based Communication), Modes of Transfer (Programmed I/O, Interrupt Initiated I/O), Priority Interrupts, DMA Based Transfer

Unit 7- Memory Organization

Memory Hierarchy, Main Memory, Auxiliary Memory, Associative Memory, Cache Memory Organization, Virtual Memory Organization

PGD 103 - Programming in C

Number of Hours : 120 (Theory – 60; Practical – 60)
Number of Units : 4

Unit 1 - Introduction to Problem Solving & C Programming

Overview of C-Introduction, History of C, Importance of C, Sample C Programs, Programming Style Executing a C Program-, Introduction, Constants, Variables and Data Types, Character Set, Comments, Line Comment, Block Comment, Data Types, Declarations, Variables, Constants, Operators in C, Arithmetic Operators, Relational Operators, Logical Operators, Hierarchy of Operations, Left to Right Operations, Right to Left Operations, Control Structures in C- Decision Making Statements, *if---else* Statement, *switch---case* Statement, Looping Statements, *for* Statement, *while* Statement, *do---while* Statement, Nested Loops

Unit 2 - Arrays and Functions

Arrays in C, Concept, One-Dimensional Array, Array Processing, Searching, Sorting, Merging, Multi Dimensional Arrays, Two-Dimensional Arrays, Matrix Manipulation, Modular Programming
Concept- Functions: Introduction, C Library Functions, User Defined Function, Function Declaration. Function Prototype, Function Definition, Scope Rules for Variables, Local Variables. Global Variables, Storage Classes, Automatic, *Static*, *Extern*, *Register*, Parameter Passing Mechanisms, Introduction, Call by Value, Call by Reference. Recursive Functions, Passing Arrays as Function Arguments

Unit 3 - Advanced Programming

Pointers- Introduction, Uses, Pointers and Arrays, Arrays of Pointers, Pointers to Functions, Functions Returning Pointers,

Strings- String representation in C, String Manipulations using Functions

Structures- Introduction, Declaration, Array of Structures, Arrays Within Structures, Nested Structures, Pointers to Structures, Structures as Function Arguments, Unions, Declaration, Union Versus Structures, Enumerated Data Types, *typedef*

Unit 4 - File Handling Features

File Pointers, Defining File Pointers, Opening and Closing a File, File Functions, *putc()*, *getc()*, *fread()*, *fwrite()*, *fscanf()*, *fprintf()*, File Creation and Modification, Command line Arguments, C Preprocessor, Header Files, Graphics Functions

PGD 104 - Object Oriented Programming Using C++

Number of Hours : 120(Theory – 60; Practical – 60)

Number of Units : 12

Unit 1 - Principles of Object Oriented Programming (OOP)

Basic Concepts of OOP (Comparison of Procedural Programming and OOP, Advantage of OOP, OOP Languages), Definitions (Class, Objects, Concept of Inheritance and Encapsulation, Operator Overloading, Dynamic Binding)

Overview of OOP using C++ (Basic Program Construction: Main Functions, Program Statements, Class Declaration, Comments), C++ Compilation.

Unit 2 - Elements of C++ Language

Tokens and Identifiers (Character Set and Symbols, Keywords, C++ Identifiers), Variables and Constant (Integers & Characters, Constant and Symbolic Constant, Dynamic Initialisation of Variables, Reference Variable, Enumerated Variables), Data Types (Basic Data Types, Arrays and Strings, User Defined Data Type)

Operators (Arithmetic, Relational, Operators & Precedence, Logical Operators, Manipulators, Type Conversion and Type Cast Operators, Console I/O: *cin*, *cout* objects)

Control Statements (The *if* Statement, *If-else*; *else if*; *switch* Statements, Loops: *for* and *while-do* Statements, *break*, *continue*, *go to*)

Unit 3 – Functions

Simple Functions (Declaration of Functions, Calling Functions, Function Definitions), Passing Arguments and Returning Values (Passing Constants and Variables, Passing by Value, Return Statement, void Functions, Passing and Returning Structure Variables), Reference Variables, Overloaded Functions, Inline Functions, Default Arguments, Return by Reference

Unit 4 - Classes and Objects

Declaration of Classes and Objects in C++ (Class Definition, Declaration Members, Object as data types), Objects as Function Arguments, Array of objects, Returning object from function, Structures and classes

Unit 5 - Constructors and Destructors

Constructors (Basic Constructor, Parameterised constructor, Constructors with default arguments), Dynamic Initialisation of Objects, Copy Constructors, Dynamic Constructors, Destructors,
Constraints on Constructor and Destructor

Unit 6 - Operator Overloading

Overloading Unary Operator (Operator Keyword, Arguments and return values Limitations of Increment Operator), Overloading Binary Operator (Arithmetic Operator, Examples, Multiple Overloading), Comparison Operator & Arithmetic Assignment, Type Conversion (Conversion between Basic type, Conversion between Object and Basic type, Conversion between Object of different classes), Constraint on Type Conversion

Unit 7 - Derived Class and Inheritance

Derived Class and Base Class (Definition of Derived Class, Accessing the Base Class Members, protected Access Specifier), Derived Class Constructor, Overriding Member Functions, Class Hierarchies (Abstract Base Class, Constructor and Member Functions), Inheritance (Public and Private Inheritance, Access Combinations and Usage of Access Specifiers), Multiple Inheritance (Member Function in Multiple Inheritance, Constructors in Multiple Inheritance, Ambiguity in Multiple Inheritance), Hierarchical inheritance, multilevel inheritance, multipath inheritance(virtual base class)

Unit 8 – Pointers

Introduction to pointers (The address of Operator & Pointer Variables, Accessing the Variable pointed to, Pointer to void), Pointer and Arrays, Pointer and Functions (Passing Simple Variables, Passing Arrays), Pointer to String (Pointer to String Constant, Strings as Function Argument, Arrays of Pointer to Strings), Memory Management (*new* & *delete* operators), Pointer of objects, Pointer to pointer.

Unit 9 - Virtual Functions

Virtual Function and Polymorphism, Friend Functions, Static Functions, Comparison of Macros and Inline Functions

Unit 10 – Streams

Stream Classes, Stream Manipulators, String and Character Stream Classes, Object I/O, File Streams, Disk I/O with Member Functions

Unit 11 – Templates

Generic Classes And Functions, Function Templates, Class Templates

Unit 12 - Exception handling

Use of Exception Handling, *try* Block, *catch* Handler, *throw* Statement, Exception Specification.

PGD 105 - Operating Systems

Number of Hours : 50 (Theory – 50; Practical – 0)
Number of Units : 5

Unit 1- Introduction to Operating Systems

Definition and Necessity, Evolution and Types, Concepts, Processors, Computing Environments, Structure, Hardware Organization and Architecture, Design Trends and Implementations

Unit 2 - Processor and Memory Management

Process and States, Context Switching, Scheduling and Synchronization, Interprocess Communication, Concurrent Processes, Threads, Critical Regions, Recovery Prevention and Solutions of Dead Locks, Interprocess Communication for Multi-Threaded and Multiple CPU Systems, Memory System, Types and Organization, Cache Memory, Allocation Techniques, Partitioning, Static, Dynamic and Augmentation Paging, Swapping, Virtual Memory

Unit 3 - Input/Output and File Systems

I/O Devices, Controllers and Channels, Bus Structures, I/O Techniques, Programmed, Interrupt Driven and DMA, I/O Subsystem Layers, Graphic Support Devices, Multimedia Systems, File Systems Concepts, General Hierarchical Models of File System, Files and Directories, Allocation and Storage Issues, Connectivity, Access Control and Security

Unit 4 - Processor systems

Single CPU and Multiple CPU Systems, Types and Needs of Multiprocessing Systems, RISC Approach, Pipelining, Client Server Concepts, Distributed Systems, Networking and Services, Reliability Issues, Fault Tolerant Systems

Unit 5 - Case Studies, Performance Evaluation and Monitoring

MS DOS, WINDOWS and UNIX, Basic Design Principles, Concepts of Kernel, Shell, I/O and File System Handling, Application Interfaces, Parameters and Configuration Affection Performance, Benchmarking Procedures, Critical Evaluations, Testing Diagnostic Support Issues

PGD 106 - Software Engineering Concepts

Number of Hours : 60 (Theory – 60; Practical – 0)
Number of Units : 5

Unit 1 – Introduction

Definition of Software and Software Engineering, Software Engineering Paradigms, Software Development Life Cycle, Problems in Software Engineering, Software Projects, Time and Effort Distribution, Project Size Categories, Software Productivity Factors, Project Structure, Programming Teams

Unit 2 – Software Requirement Analysis

System Analysis, System Specifications, Requirement Analysis, Software Prototyping, Specifications, Structured Analysis, Object Oriented Analysis, Requirement Analysis, Data structure Oriented Methods, Specification Techniques

Unit 3 – Software Design

Data Flow Oriented Design, Object Oriented Design, Data Oriented Design

Unit 4 – Software Implementation and Testing

Programming Language Characteristics, Classifications, Coding style, Efficiency, Testing (White Box Testing, Basis Path Testing, Central Structure Testing, Black Box Testing), Testing of Real Time Systems/ Testing Strategies (Unit Testing, Integration Testing, Validation Testing, System Testing, Debugging Testing), Software Quality Assurance, Software Project Management, Software Metrics, Cost Estimation, Project Planning

Unit 5 – Software Maintenance and Case Tools

Software Maintenance, Maintainability, Maintenance Tasks, Side effects, Reverse Engineering and Re-engineering, Software Configuration Management, CASE TOOLS (Turbo Analyst), Building Blocks, Project Management Tools, Support Tools, Analysis And Design Tools, Programming Tools, Integration and Testing Tools, Maintenance Tools, I-CASE

PGD 107 - Database Management System using MySQL

Number of Hours : 120 (Theory – 80; Practical – 40)

Number of Units : 4

Unit 1 – Overview of Database Management

Data Information and Knowledge, File-Oriented Approach versus, Database-Oriented Approach to Data Management, Disadvantages of File-Oriented Approach, Data Independence, Database Administration Roles, DBMS Architecture, Different kinds of Database Users, Contents of Data Dictionary, Data Models

Unit 2 – Database Design

Entity Relationship Model as a Tool for Conceptual Design of Entities Attributes and Relationships, ER Diagram, Converting an E-R Model into Relational Scheme, Normalization Concepts in Logical Model, Definition of Relation, Properties of Relational Model, Concept of Keys, Fundamental Integrity Rules

Unit 3 – Structured Query Language

Introduction to MySQL, connecting to MySQL, Writing Basic SQL *SELECT* Statements, Restricting and Sorting Data, Single Row Functions, Displaying Data from Multiple Tables, Aggregating Data Using Group Functions, Subqueries, Manipulating Data, Creating and Managing Tables, Including Constraints, Creating Views, Other Database Objects, Controlling User Access.

Unit 4 – Stored Procedures

Introduction, Simple Stored procedures, Stored procedure variables, Stored procedure parameters- *in* and *out*, *if* statement, loops, Triggers

**SEMESTER II
(Six Months)**

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
PGD 201	Computer Networks and Data Communication	50		100
PGD 202	Programming in Java	70	60	75
PGD 203	Internet and Web Technologies	60	60	75
PGD 204	Data Structures through C	60	60	100
PGD 205	. Net Technologies (VB.Net, ASP.Net)	60	60	75
PGD 202L	Software Lab I (Java)			25
PGD 203L	Software Lab II (Web Technologies)			25
PGD 205L	Software Lab III (.NET)			25
	Seminar		10	
	Project and Viva Voce		90	
Total		300	340	500

Number of Hours for Theory	300
Number of Hours for Practical	340
Number of Hours for Examination and other Activities	80
Total Hours in the Semester	720
Number of Working Hours in a Day	6
Total Working Days in the Semester	120

PGD 201 - Computer Networks and Data Communication

Number of Hours : 50 (Theory – 50; Practical – 0)
Number of Units : 8

Unit 1 – Introduction

Communication System, Analog Data, Digital Data, Communication Channels, Synchronous and Asynchronous Data

Unit 2 - Transmission Media

Twin Wire, Coaxial Cable, Radio, VHF and Microwaves, Satellite Link, Optical Fibre

Unit 3 - Data Modems

Concept of Modulation, Amplitude Shift Keying (ASK), Frequency Shift Keying (FSK), Phase Shift Keying (PSK), Quadrature PSK, Differential PSK

Unit 4 - Multichannel Data Communication

Circuits, Channels and Concept of Multichannelling, PCM, Frequency Division Multiplexing, Time Division Multiplexing, CODECS

Unit 5 - Data Networks

Circuit Switching, Packet switching, PABX, Network Topologies

Unit 6 - Network Protocols

OSI Model, Data Link Protocols, Local Networks (Ethernet and Token Rings), X.25 Protocol, Satellite Networks, ISDN

Unit 7 - Fibre–Optic Communication

Optical source, Propagation in Fibre, Light Detector, FDDI – Fibre Distributed Data Interface

Unit 8 - Data Communication Systems

Facsimile (FAX), Satellite Communication, Digital Telephony

PGD 202 - Programming in Java

Number of Hours : 130 (Theory – 70; Practical – 60)
Number of Units : 8

Unit 1 – Introduction to Java

Introduction to Java, Salient Features, OOPs Principles (Encapsulation, Inheritance, Polymorphism), Java and C++, Applications Versus Applets.
Datatypes, variables, comments, structure of a Java program, type conversion, operators (arithmetic, relational, Boolean, conditional operator)
Control statements – *if else, switch, while, do while, for, for-each, break, continue*

Unit 2 – Classes and Objects

Classes, Object References, Instance Variables, Constructors, Method overloading, Arrays (one dimension and multi dimensional)

Unit 3 – Inheritance, Abstract classes and Interface

Basics of Inheritance, *this, super, final, finalize, static*, abstract classes, interfaces, Package-*import* statement, access protection

Unit 4 – Exception Handling

Exception Handling - *try* and *catch*, multiple *catch* statements, nested *try*, *throw*, *throws*, Exception subclasses

Unit 5 – Multithreading, Strings, Wrapper classes

Threads and Synchronization (Java thread model, priorities, synchronization, interthread communication)

Strings – constructors, String operations, *StringBuffer*, wrapper classes

Unit 6 – Streams

Input Output Streams, File Streams, Buffered Streams,

Unit 7– Applets

Applet Basics, applet architecture, event handling

Unit 8 – GUI using Swing

Origin of Swing, Swing Components, Layout Managers, Difference between AWT and Swing, JApplet, JFrame, JPanel, JLabel, JTextField, JButton, JCheckBox, JRadioButton, JComboBox, JTabbedPane, JScroll-Pane, JTree, JTable, JList

PGD 203 - Internet and Web Technologies

Number of Hours : 120 (Theory – 60; Practical – 60)

Number of Units : 6

Unit 1 – Introduction to Internet

Basics terms of Internet, web server, URL, protocols, how browsers work, web server basics, Internet security

Unit 2 - Introduction to Markup Language

Hypertext, HTML Features, HTML Editors, HTML Tags, Types of Tags, Text Formatting and Alignment, List, Hyper Links, Background Images, Background and Text colors, Image tags, Image mapping, HTML Tables, HTML Frames, HTML Forms, Advanced Tags

Unit 3 - Introduction to JavaScript

Introducing JavaScript, Data types, Operators, Functions, Working with Objects, Functions, *this*, the *with* statement, Handling Events, Processing Forms

Unit 4 - Java Servlet Programming, JSP

Introduction to Servlet, Life Cycle of a Servlet, The Servlet API, Reading Servlet Parameters, *HTTP GET* request, *HTTP POST* request, Servlets and JDBC, Using Cookies and Units.

Introduction to JSP, JSP life cycle, Elements of JSP, Implicit objects

Unit 5 - XML Introduction

History of XML, What is XML? Why XML? XML Uses and Applications, Pondering XML XML syntax fundamentals, Tags, Entity References, Comments Processing Instructions, DTD, CDATA, One state of XML, Styling XML, Browsing XML, Passing XML, Introduction to XML tools

Unit 6 - Modeling XML Data

XML Data Modelling basics, Modelling data with DTDs, Modelling data with XML schemes, comparing the two data modelling approaches

PGD 204 - Data Structures through C

Number of Hours : 120(Theory – 60; Practical – 60)
Number of Units : 8

Unit 1 – Basic concepts of data representation
Abstract and System Defined Data Types, Representation, Primitive Data Structures

UNIT 2 – Introduction to Algorithm Design and Data Structure
Design and Analysis of Algorithm, Top-Down and Bottom-Up Approaches to Algorithm Design, Analysis of Algorithm: Complexity Measures in Terms of Time and Space, Structured Approach to Programming

Unit 3 – Stacks and Queues
Representation of Stacks and Queues Using Arrays, Circular Queues, Applications of Stacks: Conversion from Infix to Postfix and Prefix Expressions, Evaluation of Postfix Expressions Using Stacks

Unit 4 – Linked Lists
Singly Linked List: Operations on List, Linked Stacks and Queues, Polynomial Representation and Manipulation Using Linked Lists, Circular Linked Lists, Doubly Linked Lists, Generalized Lists,

Unit 5 – Storage Allocation
Memory Allocation Strategies: First Fit and Best Fit Approaches

Unit 6 – Trees
Binary Tree Traversal Methods: Preorder Traversal, Inorder Traversal, Postorder Traversal, Representation of Trees and its Applications: Binary Tree Representation of a Tree, Binary search tree, B-tree

Unit 7 – Searching and Sorting
Searching: Sequential and Binary Searches, Indexed Search, Hashing Schemes, Internal Sorting: Insertion Sort, Selection Sort, Quick Sort, Merge Sort

Unit 8 – Graphs
Graph Representation: Adjacency Matrix, Adjacency Lists Traversal Schemes: Depth First Search, Breadth First Search

PGD 205 - .Net Technologies (VB.NET, ASP.NET)

Number of Hours : 120(Theory – 60; Practical – 60)
Number of Units : 24

Unit 1 - Introduction to Microsoft SQL Server 2005
Overview of SQL Server 2005, Components of SQL Server 2005, Overview of SQL Server 2005 Architecture

Unit 2 - Implementing SQL Server Databases and Tables
Creating and Managing a SQL Server Database, Identifying Data Types, Creating and Managing Tables.

Unit 3 - Implementing Stored Procedures

Introduction to Stored Procedures, Creating, Executing, Modifying and Deleting Stored Procedures, Programming Stored Procedures.

Unit 4 - Overview of the Microsoft .Net Platform

What is the Microsoft .Net Platform?, What is the .Net Framework?, What are the .Net, Framework Components?, What are the Visual Basic .Net Enhancements?

Unit 5 - Integrated Development Enhancement Features

Describing the Integrated Development Environment, Creating Visual Basic .Net Projects
Debugging Applications, Compiling the applications in Visual Basic .Net

Unit 6 - Language and Syntax Enhancements

Data Types, Using Variables and Operators, Conditional Statements Loops and Arrays, Functions, Subroutines and Properties

Unit 7 - Exception Handling

Exceptions, Unstructured Exception Handlings, Structured Exception Handlings

Unit 8 - Object-Oriented Programming in Visual Basic .Net

Defining Classes, Creating and Destroying Objects, Inheritance, Interfaces Overloading

Unit 9 - Using Windows Forms

Why Use Windows Forms? Structure of Windows Forms, Using Windows Forms, Using Different Windows Controls, Windows Forms Inheritance

Unit 10 - Graphics and File Handling

Using Menus, Context Menu and Built in Dialogue Boxes, Using the Graphics class
Using Text and Binary Files, Using Strings and Data Manipulations, Using the File Stream class

Unit 11 - Using ADO .NET

ADO .NET Overview,.NET Data Providers, The Dataset Object, Data Designers and Data Binding, XML Integration

Unit 12 - Developing Components in Visual Basic .NET

Components Overview, Creating Serviced Components, Creating Component Classes, Creating Windows Forms Controls, Threading

Unit 13 - Deploying Applications

Describing Assemblies, Choosing a Deployment Strategy, Deploying Applications

ASP.NET

Unit 14 - The ASP.NET programming model

Types of Internet Applications, Using ASP.NET, Using Visual Studio .NET

Unit 15 - Web development in Microsoft Visual studio .NET

Understanding the Role of Web Servers and Web Browsers, Create an ASP.NET Project;
Create a Web Site and Adding New Web Pages

Unit 16 - Anatomy of ASP.NET page

Invoking a Page, The Page Class, The Page Life Cycle

Unit 17 - Adding and configuring ASP.NET server controls

HTML Controls, Web Controls, Validation Controls

Unit 18 - ASP.NET state management

Choosing Client-Side or Server Side State Management, View State, Control State, Cookies, Application State, Unit State

Unit 19 - Processing and modifying configuration files

Processing the Configuration Files, Modifying the Configuration Files

Unit 20 - Using ADO.NET with ASP.NET

Using ADO.NET Disconnected Classes, Using ADO.NET Connected Classes.

Unit21 - Catching and Correcting Errors

Using Exception Handling, Using Error Events, Using Error Pages

Unit 22 - Customizing and personalizing a Web application

Using Master Pages, Using Themes and User Profiles, Using Web Parts

Unit 23 - Implementing Authentication and authorization

Authenticating and Authorizing Users, Using Windows Authentication, Using Forms Authentication, Using Passport Authentication

Unit 24 - Implementing Authentication and authorization

SEMINAR, PROJECT

II. Diploma in Computer Applications (DCA)

Duration : 6 Months PART TIME
Eligibility : Plus Two / Equivalent
Course Fee : Rs.6000/-

Scheme of Study

Subject Code	Subject Name	Theory Hours	Practical Hours	Marks
DCA 101	Information Technology and OS	30	20	100
DCA 102	MS Office	25	35	75
DCA 103	Visual Basic	25	35	75
DCA 104	Programming in C	30	35	75
DCA 105	Linux and Open Office	25	35	75
DCA 102 L	MS Office			25
DCA 103 L	Visual Basic			25
DCA 104 L	C Programming			25
DCA 105 L	Linux and Open Office			25
	Case Study		25	
	Total	135	185	500

Number of Hours for Theory	135
Number of Hours for Practical	185
Number of Hours for Examinations and other Activities	40
Total Hours in a Year	360
Number of Working Hours in a Day	3
Total Working Days for the Course	120

DCA 101 - Information Technology and OS

Number of Hours : 50 (Theory – 30; Practical – 20)
Number of Units : 7

Unit 1 - Information: Concepts and Processing

Concepts of Information, Data Concepts, Elements of Electronic Data Processing, Special Applications, Number System in Computers

Unit 2 - Elements of a Computer System

Classification of Computer Systems, Concepts of Hardware, Concepts of Software, Concepts of Storage Devices and Data Communication Equipment

Unit 3 - Operating Systems

Concepts of OS, Commands of DOS, Windows and GUI, Unix, Elements of Windows NT, DOS Directory, Communication Service across Network Protocols

Unit 4 - Computers and Communication

Introduction to computer networks, Electronic Mail (E-mail), Concept of Network Computer, Concepts of Distributed Processing, Real Time Systems and Online Systems Processing

Unit 5 - Programming Languages Classification

Classification of Programming Languages, Generations of Languages

Unit 6 - Principles of Data Security, Maintenance and Trouble Shooting

Concepts of Security, Tools for Security and Protection: Passwords, Hardware and Software Locks, Preventive Maintenance of Computer Systems, Trouble Shooting

Unit 7 - Information Technology Applications

Concepts Scientific and Business Applications, Educational and Entertainment, Multi-Lingual Applications, Major IT Projects in India

DCA 102 - MS Office

Number of Hours : 60 (Theory – 25; Practical – 35)
Number of Units : 14

Unit 1 - Introduction to Computers

Generations of Computers, Classification of Computers, Computer Applications, Input and Output, Memory, Representation of Information, Hardware and Software, Peripheral Devices, Generation of Languages

Unit 2 - Using DOS

Disk Operating System, Directory Commands, File Management Commands, Disk Management Commands, External Commands, Utility Commands, Simple Batch Files, Configuring the System

Unit 3 - Using Windows Operating Systems

Introduction , User Interface, Files and Folders, Working in Explorer, File Operations, Recycle Bin, Starting a Program, Shortcuts, Shutting Down, Windows Accessories, Control Panel, Network Neighbourhood

Unit 4 - Word Processing

Introduction to MS Word, Word Processor Basics, Opening, Editing and Printing Documents, Text Formatting, Page Formatting, Paragraphs, Finding and Replacing Text

Unit 5 - Inserting Various Objects

Symbols and Pictures, Page Numbering, Headers and Footers, Date & Time, WordArt, ClipArt, Comment, Text Boxes, Creating Tables, Inserting Newspaper Columns

Unit 6 - Mail Merging

Creating Master Document, Data Source, Creating Mailing Labels and Envelopes, Templates and Wizards

Unit 7 – Malayalam Computing

Unit 8 - Spreadsheet Package

Introduction to Worksheet, MS Excel, Entering Data, Data types, Cell Addressing, Auto Fill, up to Complete, Value formatting, Inserting Rows and Columns, Manipulating Sheets

Unit 9 - Mathematical Computations

Using Functions, Formula and Ranges, Working with Charts/Graphs

Unit 10 - Database Management in Excel

Setting up a Database, Sorting, Executing Database Functions, Filtering Records

Unit 11 - Tools for Analysis

What-if Analysis Tools, Data Analysis Tools, Creating and Using Macros, Printing Worksheets

Unit 12 - Database Management using Access

Introduction to Database Management, Relational Databases, Primary Key, Creating Tables, Field Types, Validations, Input Formats, Defining Relations

Unit 13 - Table Operations, Querying

Updating Tables, Sorting, Defining and Executing queries, Types of queries, Selection Query, Action Queries, Append Query, Make Table Query, Setting Criterion

Unit 14 - Customized Input and Output

Creating Input Forms, Adding Navigation and Operation Controls, Creating Reports, Executing Data Aggregate Functions

DCA 103 - Visual Basic

Number of Hours : 60 (Theory – 25; Practical – 35)

Number of Units : 5

Unit 1 – Introduction to Visual Basic Environment

Introduction to Graphical User Interface(GUI), Programming languages(Procedural, Object Oriented, Event Driven), The Visual Basic Environment, How to use VB to compile/ run programs, Using form wizard, Events and method

Visual Basic controls – Command button, Textbox, Frame, CheckBox, option button, list box, combo box, Timer, menus, image, setting border & style, Dialog boxes.

Unit 2 – Visual Basic programming

Variables – public, private, static, constants, datatypes, declaring variables, constants, scope of variables, val/function, Formatting data

Control statements- *If else, select...case, goto*, looping statements, Functions, *friend* function, Arrays, Files

Unit 3 – OOP in VB

OOPs concepts- Inheritance, polymorphism, Encapsulation, OLE control,

Unit 4 – Opening and closing Data files, Sequential file Organization, Data operations in a sequential file, Err Object, Random data file, Creating database files using MS Access, Using Data control, navigating database.

Unit 5 – Displaying data in grids, validation and error trapping, Recordset, searching a particular record (*findFirst, findnext, findlast, findprevious*), seek method, creating new dynaset, ActiveX controls, Crystal reports

DCA 104 - Programming in C

Number of Hours	:	65 (Theory – 30; Practical – 35)
Number of Units	:	4

Unit 1 – Introduction to problem solving & C Programming

Overview of C, Introduction, History of C, Importance of C, Sample C programs, Programming Style, Executing a C program, Constants, Variables and Data Types, Character Set, Comments, Line Comment, Block Comment, Data Types, Declarations, Variables, Constants, Operators in C, Arithmetic Operators, Relational Operators, Logical Operators, Hierarchy of Operations, Left to Right Operations, Right to Left Operations, Control Structures in C, Decision Making Statements, *if---else* Statement, *switch----case* Statement, Looping Statements, *for* Loop Statement, *while* Statement, *do---while* Statement, Nested Loops

Unit 2 – Arrays and Functions

Arrays in C- Concept, One-dimensional Array, Array Processing, Searching, Sorting, Merging, Multi Dimensional Arrays, Two-Dimensional Arrays, Matrix Manipulation, Modular Programming Concept, Functions, Introduction, C Library Functions, User Defined Function, Function Declaration, Function Prototype, Function Definition, Scope, Rules for Variables, Local Variables, Global Variables, Storage Classes, Automatic, *Static*, *Extern* Register, Parameter Passing Mechanisms, Call by Value, Call by Reference, Recursive Functions, Passing Arrays as Function Arguments

Unit 3 – Advanced Programming

Pointers-Introduction, Uses, Pointers and arrays, Arrays of Pointers, Pointers to Functions, Functions returning Pointers, Strings, String representation in C, String Manipulations Using Functions, Structures- Introduction, Declaration, Array of Structures, Arrays within Structures, Nested Structures, Pointers to Structures, Structures as Function Arguments, Unions, Declaration, Union versus Structures, Enumerated Data Types, *typedef*

Unit 4 – File handling features

File Pointers, Defining File Pointers, Opening and Closing a File, File Functions. *putc()*, *getc()*, *fread()*, *fwrite()*, *fscanf()*, *fprintf()*, File Creation and Modification, Command Line Arguments, C Preprocessor, Header Files, Graphics Functions

DCA 105 - Linux and Open Office

Number of Hours : 60 (Theory – 25; Practical – 35)
Number of Units : 5

Unit 1 – Introduction to 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 commands -ls, cat, cd, ,chmod, clear, cp., rmdir, wc, who, grep, write, mv, find, mkdir, more, date, vi Editor.

Unit 2 – 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

Create a new Document, Save a document, open a document, Close an active document, Send document by email, Export to PDF, Export to HTML, 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

Formatting 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, Index, Index with default styles, Index with user styles, Index updates, Index links

Word Processing with writer using Malayalam

Unit 3 – Open Office 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, 8 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

Unit 4 – Impress

Creating a Presentation, Opening an existing presentation, Adding Slides, Adding text to a slide, Saving Your Presentation, Making Presentations Picture Perfect, Adding Images, Clipping art, Drawing objects, Colouring Backgrounds, Creating a coloured background, Creating a gradient background, Hatching a background, Using a bitmap image as a background, Creating 3D text, Inserting 3D objects, Animating Impressively, Using Text Effects Effectively, Creating Animation Effects, Creating Animated GIF files, Adding Slide Transition Effects, Showing a Presentation, Setting slide timing, Hiding slides, Specifying slide show settings, Delivering a Slide Show .

CASE STUDY (25 hrs)

III. Diploma in Office Automation (DOA)

Duration : 6 Months PART TIME
Eligibility : SSLC / Equivalent
Course Fee : Rs.6000/-

Scheme of Study

Subject Code	Subject Name	Theory Hours	Practical Hours	Marks
DOA 101	Foundation Programme, Introduction to DOS, Windows and LINUX, Internet Technology	35	50	100
DOA 102	MS Office	30	70	75
DOA 103	Adobe PageMaker/Indesign, Adobe Photoshop, Corel Draw	70	45	75
DOA 102 L	Software Lab I (MS Office)			25
DOA 103 L	Software Lab II (PageMaker/Indesign, Photoshop, Corel Draw)			25
Total		135	165	300

Number of Hours for Theory	135
Number of Hours for Practical	165
Number of Hours for Examinations and Other Activities	60
Total Hours for the Course	360
Number of Working Hours in a Day	3
Total Working Days for the Course	120

DOA 101 - Foundation Programme, Introduction to DOS, Windows and Linux, Internet Technology

Number of Hours : 85 (Theory – 35; Practical – 50)
Number of Units : 16

Unit 1 – Information Technology
Transformation of Society, Knowledge Workers, Internet

Unit 2 – Introduction to Computers
History of Computing, Generation of Computers, What is so special about Computers, Anatomy of a Computer, Classification of Computers, Impact of Computers in Modern Life

Unit 3 – Introduction to COMPUTER HARDWARE
Number system-Hexadecimal, Binary, decimal, Octal, processor, memory, harddisk, expansion buses, power supplies, UPS, Printers, Audio and Video, External Interfaces, networking fundamentals.

Unit 4– Using DOS
Introduction, What Is Disk Operating System (DOS)? How is MS-DOS Organized? Different Versions of MS-DOS, Directory Commands: *DIR, MD, RD, TREE, PATH*, File Management Commands: *COPY, XCOPY, DEL, RENAME, ATTRIB, BACKUP, RESTORE, SYS*, General Commands: *TYPE, DATE, TIME, PROMPT*, Disk Management Commands: *FORMAT, CHKDSK, DISKCOPY, LABEL, VOL*, DOS Utility Commands: *MOVE, DELTREE, MSBACKUP, SCANDISK, SETVER, UNDELETE, UNFORMAT, XCOPY*, Using *COPY CON* to Build a File, Introduction to Simple Batch Files, Configuring the System, System Configuration Commands: *FILES, BUFFERS, COUNTRY*, Batch File Commands: *ECHO, PAUSE, REM*

Unit 5– Using Windows
Introduction - Windows Basics, the User Interface, Windows Accessories, Miscellaneous Windows' Features

Unit 6 – Introduction
Basics of Computer Communications, Network Models, Private Data Network, Public Data Network, LAN, WAN, MAN, Internet

Unit 7 – Internet
Evolution of Internet, Internet Applications, Internet Server and Client Units on Various Operating Systems, Addressing in Internet - IP and Domains, Internet Service Providers, Internet Resources

Unit 8 – World Wide Web Concepts
Internet Explorer, Netscape Communicator

Unit 9 – E-mail Concepts
E-mail Networks, E-mail Protocols (SMTP, POP, IMAP), Format of an E-mail Message, E-mail Routing, E-mail Downloading, E-mail Netiquette

Unit 10 – File Transfer Protocol
Public Domain Software, Types of FTP Servers, FTP Clients, Common commands

Unit 11 – Telnet
Telnet Protocol, Telnet Server, Telnet Clients

Unit 12 – Searching and Chatting
Archie, Gopher, Veronica, WAIS, Internet Relay Chat, Voice and Videoconferencing, Common Search Engines

Unit 13 – Use Net Newsgroup Concepts
Configuring Your Newsreader, Subscribing to Newsgroups, News Reading in Outlook Express

Unit 14– Web Publishing
Web Site Planning, Design Implications, Where and how to host your Web Site, Maintaining a Web Site, Publishing Tools

Unit 15 – H T M L
Title, Heading, Lists, Formatting Inline Elements, Hyper Text Links URLs, Images, Tables, Frames and Forms

Unit 16 – Case Study
Development a Small Web Application Consisting Static Web Pages with Links to Each Other Using HTML Frames, HTML Forms, Links

DOA 102 - MS Office

Number of Hours : 100 (Theory – 30; Practical – 70)
Number of Units : 31

MS-Word

Unit 1 – Introduction to Word Processing
Introduction, Creating Documents, Saving Documents, Quitting Documents, Opening Documents, Save a File with a New Name, Printing, Moving around in a Document, Selecting Text, Finding and Replacing Text, Special Characters, Inserting Page Breaks, Page Numbers, Bookmarks, Symbols, Pictures and Dates, Document Enhancement, Proofing Documents with Spell Check and Grammar Check, Using Macros, Creating and Printing Merged Documents - Mail Merging, Tables, Using Auto Correct, Auto Complete and Auto text, Creating Borders and Shading, Creating Web Pages

Unit 2 – Bharat Operating System (BOSS)

MS Excel

Unit 3 – Components of MS Excel
Tool bars, Menu Bars, Formula Bar, Status Bar

Unit 4 – Working with Worksheets
Preparing a Worksheet, Navigating, Copying Moving, Selecting a Range of Cells, Entering Data Like Text, Numbers Date, Time, Currency, Copying Data, Working with Formula and Functions

Unit 5 – Formatting
Changing Column Width, Row Width, Height, Hide, Unhide, Alignment, etc, Merging Cells, Centering Text, Applying Fonts Colors, Styles, Working with Macros

Unit 6 – Mail merging Excel sheet

Unit 7– Adding Graphics to Worksheet
Inserting Graphics, Working with Graphic Objects, WordArt

Unit 8 – Excel Chart
Creating Different Charts

Unit 9 – Excel Databases
Creating Database, Working with Database Records, Applying Database Functions

Unit 10 – Data Analysis Using - Goal Seek and Data table

Unit 11 – Printing with EXCEL
Print Dialogue Box, Page Setup Dialogue Box

MS Access

Unit 12 – Introduction to Database
Database System Concepts, DBMS, RDBMS

Unit 13 – Planning and Designing a Database

Unit 14 – Creating a Database
Storing Data in Tables, Fields, Records, Two ways to create a Database, Creating a Database from Scratch, Creating a Database with Database Wizard

Unit 15 – Building and Modifying Tables
Create Tables by using the Table Wizard, Create Tables from Scratch, Field Names, Data Types and Field Properties, Modify Tables using Design View, Entering Data in a Datasheet, Editing Data in a Datasheet, Changing the Width of Columns and Height of Rows, Changing the Order of Columns, Setting of Primary Key

Unit 16 – Defining Relationship
Establish Relationship, Enforce Referential Integrity

Unit 17 – Querying a Database
Constructing a Query, Creating the Query, Choose the Tables to Query, Fields to Query, Entering the Query criteria, Saving the Results of a Query

Unit 18 – Different kinds of Queries
Cross Tab, Update, Delete, Append, Make Table

Unit 19 – Building and Modifying Forms
For Entering and Viewing Data, Creating a Form (Design View or Form Wizard), Use the Control Toolbox to Add Controls, Modify Format Properties (Font Style, Size, Color, Caption, etc.) of Controls, Use Form Sections (Headers, Footers, and Detail), Use a Calculated Control on a Form

Unit 20 – Macro
Create a Macro, Create a Command Button, Add Action to Macro

Unit 21 – Producing Reports
Create a Report with the Design View/Report Wizard, Preview and Print a Report, Move and Resize a Control, Modify Format Properties (Font Style, Size, Color, Caption, etc.), Use the Control Toolbox to Add Controls, Use Report Sections (Headers, Footers, and Detail), Use a Calculated Control in a Report, Generating Mailing Labels, Printing Reports

Unit 22 – Exporting and importing data
Export a Table, Table from Other Pages like Excel, Dbase to an Existing MS Access Database

Unit 23 – Modules
How to Write a Module and Run it

MS PowerPoint

Unit 24 – Main Features of PowerPoint
Overview and Uses of PowerPoint

Unit 25 – Making the Presentation
Creating Template with the AutoContent Wizard, Creating a Presentation with a Template, Creating a Presentation from Scratch

Unit 26 – Different Views
Normal, Slide, Outline, Slide Sorter, Slide Show, Notes, Slide Master

Unit 27 – Animation, Art and Sound
Controlling Transitions between Slides, Animating Different Parts of a Slide, Inserting a Motion Clip, Including Sounds in Slides

Unit 28 – Including Graphs, Charts, Tables and Columns
Organization Chart Slide, Creating a Table Slide, Creating Two Column Slide, Showing a Presentation, Rehearsing/Timing a Presentation, Designating Some Slides as “Hidden”, Viewing Slides anywhere in a Slide Show

Unit 29 – Techniques for Making a Show Livelier
Display Hidden Slide during Show, Erase Annotation, Hide Slide Show, Pen or Pointer

Unit 30 – Office Connections – Presenting with the help of other Office programs
Importing Text from a Word Document

Unit 31 – Printing a Presentation
Printing Color slides in Black and White, Help Topic, and Specifying Number of Copies in Black and White, Print Slides, Notes, Handouts and Outlines

DOA 103 - Adobe PageMaker/Indesign, Adobe Photoshop and Corel Draw

Number of Hours : 115 (Theory – 70; Practical – 45)
Number of Units : 16

Unit 1- Introduction
Introduction to Desktop Publishing, Introduction to PageMaker 7.0, Advantages, Using the Mouse, Components of the PageMaker Window

Unit 2 – Creating Publications
Creating a New Document: Setting the Margins, Setting the Page Size, Changing the page Orientation, Setting Page Numbers, Changing the Page Size view, Creating New Document Windows: Displaying the Rulers, Changing the Rulers, Using Rulers, Using Guidelines, Positioning Guidelines, Adding Guidelines to Master Pages, Aligning to Guidelines, Displaying Guidelines, Locking Guidelines, Formatting Types: Changing Font Families, Changing Font Sizes, Changing Typeface Styles, Changing Character Specifications: Changing Type Leading, Changing Character Widths, Changing Tracking, Changing Type Options
Saving Your Document: Saving a New Document, Saving an Existing Document, Saving a Document As Another Document, Reverting to a Previously Saved Version, Developing Paragraphs: Typing Text, Adding Special Characters to Text, Aligning Text, Formatting Paragraphs: Changing Indents, Changing Space Around Paragraphs, Changing Paragraph Alignment, Controlling Paragraphs Break between Pages and Columns, Adding Lines Above or below Paragraphs

Unit 3 – Creating Frames

Introduction to Creating Frames: Converting Other Objects to Frames, Threading and Unthreading Text: Threading Additional Text, Threading Text to Different Page, Unthreading Text Blocks, Rethreading Text Blocks, Making Text Blocks Disappear Without Deleting them, Selecting and Dragging Text, Editing, Deleting Text, Cut, Copying, Pasting Text, Viewing the Contents of Clipboard, Using Undo and Revert, Inserting and Removing Pages: Inserting & Removing Pages, Adjusting Spacing of Characters, Words, Lines: Adjusting, Spacing & Leading, Setting and Changing Tabs

Unit 4 – Introduction to Auto Flow

Introduction to Auto Flow, PageMaker Plug-ins, Drop Cap, Change Case, Bullets And Numbering

Unit 5 – Adding Design Elements

Adding Design Elements, Adding Graphics to Your Document, Adding Lines, Changing Line Specifications, Adding Shapes, Changing Shape Specifications, Changing Line and Fill, Specifications Together (Fill & Stroke), Changing Round Corners, Creating Drop-Shadow, Boxes, Text wrap, Changing PageMaker Options: Adjusting Margins, Setting and Adjusting Columns, Setting Unequal Width Columns, Creating Headers and Footers, Creating Graphics in PageMaker, Rotating Text, Skewing and Mirroring objects with the Control Palette. Importing Graphics into PageMaker: Placing, Sizing, Aligning Graphics, Cropping Graphics

Unit 6 – Setting up Templates

Setting Up Templates, Setting up Master Page Templates, Creating Custom Page Sizes, Creating, Custom Borders, Creating a News Paper Template, Creating New Master Pages, Saving an Existing Page as a Master, Setting Up Custom Styles: Defining Styles, Creating, Editing, Removing Styles and Copying Styles

Unit 7 – Using Layers

Introduction to Using Layers, n-Layers Palette, Moving & Creating Objects, Introduction to printing - Selecting a Printer, Printing Your Document, Printing Document Dialog Box Options

Unit 8 – Adding Colours

Introduction - Using PageMaker's Default Color Palette, Opening Color Palette, Adding Color to Text, Working with Color Graphics, Defining Custom Colours, Creating Text Screens

Unit 9 – Developing Long Documents

Introduction - Using Story Editor: Opening Story Editor, How the Story Editor Names, Stories, Switching Between Story Editor and Layout Editors, Closing Story Editor and Placing the Story Editor, Differences between Story Editor and Layout Editors, Checking Your Spellings: Starting the Speller, Correcting Misspelled Words, Correcting Duplicate Words, Adding Words to the Different Dictionaries, Correcting Duplicate Words, Using Find Feature, Using the Change Feature, Creating an Index, Using PageMaker Help

Adobe Photoshop CS3 and Corel Draw 9

Unit 10 – Introduction

Getting Stock Image, Tools, Getting Images into Photoshop, Creating New Images, Selecting Colors and Display Mode, Selecting Tools, Path, Mask, Editing, Layers, Filters

Unit 11 – Saving & Developing Images

Application using Images

Unit 12 – Retouching a Photography

Remove a Stain from a Photo, Remove Blemishes, Rubbing out an unwanted Person, Repairing the Cracked Photography, Cloning a Pattern, Cropping an Image, Making Things Appear Small

Unit 13 – Working with Old Photographs

Warped Photograph, Wrinkled Photograph, Faded Photograph

Unit 14 – Working with Fixed Media
Multiply mode, Paintbrush to OS, Linear gradient tool

Unit 15 – Preparing Images for the Web
Creating Web Pages with Images

Unit 16 – Introduction to CorelDraw
Familiarization with CorelDraw

IV. Certificate course in Desk Top Publishing (CDTP)

Duration : 3 months Part Time

Eligibility : SSLC / Equivalent

Course Fee : Rs.4,000/-

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
CDTP 101	Computer Fundamentals, MS word, MS Excel, MS PowerPoint, Adobe PageMaker/Indesign, Adobe Photoshop, Internet Fundamentals	80	90	75
CDTP 101 L	MS Word, Excel, PowerPoint, PageMaker/Indesign, Photoshop			25
Total		80	90	100

Number of Hours for Theory 80

Number of Hours for Practical 90

Number of Hours for Examinations and Other Activities 10

Total Hours for the Course 180

Number of Working Hours in a Day 3

Total Working Days for the Course 60

**CDTP 101 - Computer Fundamentals, MS word, MS Excel, MS PowerPoint
Adobe PageMaker/Indesign, Adobe Photoshop, Internet Fundamentals**

Number of Hours : 170 (Theory – 80; Practical – 90)
Number of Units : 8

Unit 1 - Foundation Programme

Information Technology, Transformation of society, Knowledge workers, Internet, Introduction to computers - History of computing, generation of Computers, What is so special about computers, Anatomy of a computer, Classification of computers, Impact of Computers in modern life

Unit 2 - Introduction to DOS and Windows

Introduction to DOS

Introduction, What is Disk operating system (DOS)? How is MS-DOS organized? Different versions of MS-DOS, Directory commands, General Commands, Introduction to simple batch files, Configuring the system

Introduction to Windows

Introduction, Windows Basics, The user Interface, Windows accessories, Miscellaneous Windows features

Unit 3 - MS Word

Introduction to Word Processing, Creating documents, Saving documents, Quitting documents, Opening documents, Save a file with a new name, Printing, Moving around in a document, Selecting Text, Finding and replacing text, special characters, Inserting page breaks, page numbers, bookmarks, symbols, pictures and dates, Document enhancement, Proofing documents with spell, check and grammar check, Using macros, Using macros, Creating and printing merged documents, Mail merging, Tables, Using Auto correct, Auto complete and AutoText, Creating borders and shading, Creating Web, word processing using Malayalam

Unit 4 - MS Excel

Components of ms excel- Tool bars, Menu Bars Formula Bar, Status Bar, Working with worksheets - Preparing a Worksheet, Navigating, Copying, Moving, selecting a range of cells, Entering data like text, numbers date, time, currency, Working with formula and functions, Formatting, Changing column width, row, width, height, hide, unhide, alignment, Merging cells, Entering text, applying font, Colors, styles, Working with Macros, Mail merging Excel sheet, Adding graphics to worksheet, Inserting graphics, objects, Word Art, Excel Charts - Creating different charts, Excel Databases - Creating database, Working with database records, Applying database functions, Data Analysis using, Goal Seek and Data table, Printing with Excel - Print Dialogue Box, Page Setup Dialogue Box

Unit 5 - MS PowerPoint

Main Features of Power point, Making the Presentation - Creating Template with the AutoContent Wizard, Creating a Presentation with a Template, Creating a Presentation from Scratch, Different Views - Normal, Slide, Outline, Slide Sorter, slide Show, Notes, Slide Master, Animation, Art and Sound, Controlling Transitions Between slides, Animating, Different Parts of a Slide, Inserting a Motion Clip, Including Sounds in Slides, Including Graphs, Charts, Tables, Columns Organization Chart Slide, Creating a table Slide, Creating two column Slide, Showing a Presentation, Rehearsing / Timing a presentation, Designating some Slides as "Hidden", Viewing Slides Anywhere in a Slide Show, Techniques for Making a Show Livelier, Display Hidden Slide during show, Erase Annotation, Hide Slide Show, Pen or Pointer, Office connections Presenting with the help of other Office programs, Importing the text from a Word Document, Printing a Presentation, Printing Colour slides in Black and White, Help Topic, Specifying Number of Copies in Black and White, Print Slides, Notes, Handouts and Outlines

Unit 6 - Adobe PageMaker 7.0

Introduction

Introduction to Desktop Publishing, Introduction to PageMaker Advantages, Using the Mouse, Components of the PageMaker Window, Creating publications

Creating Documents

Creating a New Document, Setting the Margins, Setting the Page Size, Changing the page Orientation, Setting Page Numbers, Changing the Page Size view, Creating New document Windows, Displaying the Rulers, Changing the Rulers, Using Rulers, Using Guidelines, Positioning Guidelines, Adding Guidelines to Master, Pages, Aligning to Guidelines, Displaying Guidelines, Locking Guidelines, Formatting Types, Changing Character Specifications, Saving Your Document, Developing, paragraphs Formatting Paragraphs

Frames, Auto flow and Plugins

Creating Frames Converting Other Objects to Frames, Threading and Unthreading ext, Threading Additional Text, Threading Text to Different Page, Unthreading Text Blocks, Rethreading Text Blocks, Making Text Blocks disappear Without Deleting Them, Selecting and Dragging Text, Editing, Deleting Text, Cut, Copying, Pasting Text, Viewing the Contents of Clipboard, Using Undo and Revert, Adding Design Elements, Introduction to Auto flow, PageMaker plug-ins, Drop cap, change case, Bullets and numbering

Design elements, Graphics

Adding design elements, Adding Graphics to Your Document, Adding Lines Changing Line Specifications, Adding Shapes Changing Shape Specifications, Changing Line and Fill Specifications Together (Fill & Stroke), Changing Round Corners, Creating Drop-Shadow Boxes, Text wrap, Changing PageMaker Options, Adjusting Margins, Setting and Adjusting Columns, Setting Unequal Width Columns, creating Headers and Footers, Creating Graphics in PageMaker, Rotating Text, Skewing and Mirroring objects with the control palette

Templates

Setting up Master Page Templates, Creating Custom Page Sizes, Creating Custom Borders, Creating a News Paper Template, Creating New Master Pages, Saving an Existing Page as a Master, Setting Up Custom Styles, Defining Styles, Creating, Editing, Removing Styles & Copying Styles

Using Layers

Layers Palette, Moving & Creating Objects, Printing, Selecting a Printer, Printing Your Document, Printing Document Dialog Box Options

Adding Color

Using PageMaker's Default Color Palette, Opening Color Palette, Adding Color to Text, Working with Color Graphics, Defining Custom Colors Creating Text Screens

Developing Long Documents

Using Story Editor, Opening Story Editor, How the Story editor Names Stories, Switching Between Story Editor and Layout Editors, Closing Story Editor and Placing the Story Editor, Differences between Story Editor and Layout Editors, Checking Your Spellings, Starting the speller, Correcting Misspelled Words, Correcting Duplicate Words, Adding Words to the Different Dictionaries, Correcting Duplicate Words, Using Find Feature, Using the Change Feature, Creating an Index, Using PageMaker Help

Unit 7 - Adobe Photoshop CS3

Introduction

Getting stock image, Tools, Getting images into Photoshop, Creating new images, Selecting colors and display, Saving & Developing images ode, Selecting Tools, Path, Mask, Editing, Layers, Filter, Saving and developing images, Retouching a photography, Remove a stain from a photo, Remove blemishes, Rubbing out an unwanted person, repairing the cracked

photography. Cloning a pattern, cropping an image, Making things appear small, Wrinkled photograph, Faded photograph, Working with fixed media, Introduction to CorelDraw, Familiarization with CorelDraw

Unit 8 - Internet Technologies

Introduction

Basics of Computer Communications, Network models, Evolution of Internet, Equipments required for Internet Connection, World Wide Web, E-mail Concepts, Searching & Chatting, Internet security

V. Diploma in Desk Top Publishing (DDTP)

Duration : 6 months Part Time

Eligibility : SSLC / Equivalent

Course Fee : Rs.6,000/-

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
DDTP 101	Computer Fundamentals, MS Office - MS Word, MS Access, MS Excel, MS PowerPoint, Malayalam Computing Adobe Photoshop, Adobe PageMaker / Indesign, Internet Fundamentals	135	175	75
DDTP 101 L	MS Word, Access, Excel, PPT, Malayalam Computing, Photoshop, PageMaker			25
Total		135	175	100

Number of Hours for Theory 135

Number of Hours for Practical 175

Number of Hours for Examinations and Other Activities 20

Total Hours for the Course 330

Number of Working Hours in a Day 3

Total Working Days for the Course 110

DDTP 101 - Computer Fundamentals, MS Word, MS Access, MS Excel, MS PowerPoint, Malayalam Computing, Adobe Photoshop, Adobe PageMaker / Indesign, Internet Fundamentals

Number of Hours : 310 (Theory – 135; Practical – 175)
Number of Units : 9

Unit 1 - Computer Fundamentals

Introduction To Computers, Types Of Computer, History Of Computer, Generation Of Computer, PC & Its Components, Disk Defragmenter, Categories Of PC, Evolution Of Micro Processors, Registers Of Micro Processors, Basic Components Of Computer System, Input Output & Storage Units, Software, Types Of Software, Types Of Operating System, Categories Of OS, Example Of Utility Program, Programming Languages, Generations Of Programming Language, Application Software, User & Example Of Application Software, Viruses, Types Of Virus, Virus Detection & Prevention, Communication Process, Communication Protocols, Communication Channel/Media,

Unit 2 - Introductions to DOS and Windows

Introduction to DOS

Introduction, What is Disk operating system (DOS)?, How is MS-DOS organized?, Different versions of MS-DOS, Directory commands, General Commands, Introduction to simple batch files, Configuring the system

Introduction to Windows

Introduction To Window XP And Its Features, Hardware Requirements Of Windows, Window Structure, Desktop, Taskbar, Start Menu, Working with Recycle Bin – Restoring A Deleted File, Emptying The Recycle Bin, Managing Files, Folders And Disk Navigating Between Folders, Manipulating Files And Folders, Creating New Folder, Searching Files And Folder, My Computer, Exploring Hard Disk, Copying And Moving Files And Folder from One Drive To Another, Windows Accessories-Calculator, Notepad, Paint, Wordpad, Character Map, Paint

Unit 3 - MS Word

Introduction to Word Processing, Creating documents, Saving documents, Quitting documents, Opening documents, Save a file with a new name, Printing, Moving around in a document, Selecting Text, Finding and replacing text, special characters, Inserting page breaks, page numbers, bookmarks, symbols, pictures and dates, Document enhancement, Proofing documents with spell, check and grammar check, Using macros, Using macros, Creating and printing merged documents, Mail merging, Tables, Using Auto correct, Auto complete and AutoText, Creating borders and shading, Creating Web pages, Word processing using Malayalam

Unit 4 - MS Excel

Components of Ms excel -Tool bars, Menu Bars Formula Bar, Status Bar, Working with worksheets - Preparing a Worksheet, Navigating, Copying, Moving, selecting a range of cells, Entering data like text, numbers date, time, currency, Working with formula and functions, Formatting, Changing column width, row, width, height, hide, unhide, alignment, Merging cells, Entering text, applying font, Colors, styles, Working with Macros, Mail merging Excel sheet, Adding graphics to worksheet, Inserting graphics, objects, Word Art, Excel Charts - Creating different charts, Excel Databases - Creating database, Working with database records, Applying database functions, Data Analysis using, Goal Seek and Data table, Printing with Excel - Print Dialogue Box, Page Setup Dialogue Box

Unit 5 - MS Access

Introduction to Database, Database System concepts, DBMS, RDBMS, Planning and Designing a Database, Creating a Database, Building and Modifying Tables - Create tables by using the Table Wizard, Create Tables from scratch, Defining Relationship - Establish Relationship,

Enforce Referential Integrity, Querying a Database, Constructing a Query, Different kinds of Queries (Cross tab, Update, Append, Make Table), Building and Modifying Forms, Creating a Form (Design View or Form Wizard), Use the Control Toolbox to add controls, Modify Format Properties (font, style, font size, color, caption, etc.) of Controls, Use form sections (headers, footers, and detail), Use a Calculated Control on a form, Macros - Create a Macro, Create a Command button, Add action to macro, Producing Reports and Printing reports

Unit 6 - MS PowerPoint

Main Features of Power point, Making the Presentation - Creating Template with the AutoContent Wizard, Creating a Presentation with a Template, Creating a Presentation from Scratch, Different Views - Normal, Slide, Outline, Slide Sorter, slide Show, Notes, Slide Master, Animation, Art and Sound, Controlling Transitions Between slides, Animating, Different Parts of a Slide, Inserting a Motion Clip, Including Sounds in Slides, Including Graphs, Charts, Tables, Columns Organization Chart Slide, Creating a table Slide, Creating two column Slide, Showing a Presentation , Rehearsing / Timing a presentation, Designating some Slides as "Hidden", Viewing Slides Anywhere in a Slide Show, Techniques for Making a Show Livelier, Display Hidden Slide during show, Erase Annotation, Hide Slide Show, Pen or Pointer, Office connections Presenting with the help of other Office programs, Importing the text from a Word Document, Printing a Presentation, Printing Colour slides in Black and White, Help Topic, Specifying Number of Copies in Black and White, Print Slides, Notes, Handouts and Outlines

Unit 7 - ADOBE PAGEMARKER 7.0

Introduction

Introduction to Desktop Publishing, Introduction to PageMaker Advantages, Using the Mouse, Components of the PageMaker Window, Creating publications

Creating Documents

Creating a New Document, Setting the Margins, Setting the Page Size, Changing the page Orientation, Setting Page Numbers, Changing the Page Size view, Creating New document Windows, Displaying the Rulers, Changing the Rulers, Using Rulers, Using Guidelines, Positioning Guidelines, Adding Guidelines to Master, Pages, Aligning to Guidelines, Displaying Guidelines, Locking Guidelines, Formatting Types, Changing Character Specifications, Saving Your Document, Developing, paragraphs Formatting Paragraphs

Frames, Auto flow and Plugins

Creating Frames Converting Other Objects to Frames, Threading and Unthreading ext, Threading Additional Text, Threading Text to Different Page, Unthreading Text Blocks, Rethreading Text Blocks, Making Text Blocks disappear Without Deleting Them, Selecting and Dragging Text, Editing, Deleting Text, Cut, Copying, Pasting Text, Viewing the Contents of Clipboard, Using Undo and Revert, Adding Design Elements, Introduction to Auto flow, PageMaker plug-ins, Drop cap, change case, Bullets and numbering

Design elements, Graphics

Adding design elements, Adding Graphics to Your Document, Adding Lines Changing Line Specifications, Adding Shapes Changing Shape Specifications, Changing Line and Fill Specifications Together (Fill & Stroke), Changing Round Corners, Creating Drop-Shadow Boxes, Text wrap, Changing PageMaker Options, Adjusting Margins, Setting and Adjusting Columns, Setting Unequal Width Columns, creating Headers and Footers, Creating Graphics in PageMaker, Rotating Text, Skewing and Mirroring objects with the control palette

Templates

Setting up Master Page Templates, Creating Custom Page Sizes, Creating Custom Borders, Creating a News Paper Template, Creating New Master Pages, Saving an Existing Page as a Master, Setting up Custom Styles, Defining Styles, Creating, Editing, Removing Styles & Copying Styles

Using Layers

Layers Palette, Moving & Creating Objects, Printing, Selecting a Printer, Printing Your Document, Printing Document Dialog Box Options

Adding Color

Using PageMaker's Default Color Palette, Opening Color Palette, Adding Color to Text, Working with Color Graphics, Defining Custom Colors Creating Text Screens

Developing Long Documents

Using Story Editor, Opening Story Editor, How the Story editor Names Stories, Switching Between Story Editor and Layout Editors, Closing Story Editor and Placing the Story Editor, Differences between Story Editor and Layout Editors, Checking Your Spellings, Starting the speller, Correcting Misspelled Words, Correcting Duplicate Words, Adding Words to the Different Dictionaries, Correcting Duplicate Words, Using Find Feature, Using the Change Feature, Creating an Index, Using PageMaker Help

Unit 8 - Adobe Photoshop CS3

Introduction

Getting stock image, Tools, Getting images into Photoshop, Creating new images, Selecting colors and display, Saving & Developing images ode, Selecting Tools, Path, Mask, Editing, Layers, Filter, Saving and developing images, Retouching a photography, Remove a stain from a photo, Remove blemishes, Rubbing out an unwanted person, repairing the cracked photography. Cloning a pattern, cropping an image, Making things appear small, Wrinkled photograph, Faded photograph, Working with fixed media

Introduction to CorelDraw, Familiarization with CorelDraw

Unit 9 - Internet Technologies

Introduction

Basics of Computer Communications, Evolution of Internet, Equipments required for Internet Connection, Modem, Components Of LAN , Types Of Internet Connections, Internet& Its Advantages, Internet Services, WWW & Common Technologies of Internet Network models, E-mail Concepts, Searching & Chatting, Internet security

VI. MS Office And Internet (MSO)

Duration : 3 Months Part Time
Eligibility : SSLC / Equivalent
Course fee : Rs. 3500/-

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
MSO 101	Computer Fundamentals, Linux, MS Office (MS Word, MS Access, MS Excel, MS PowerPoint), Internet Fundamentals	80	90	75
MSO 101 L	MS Word, MS Access, MS Excel, MS PowerPoint			25
Total		80	90	100

Number of Hours for Theory	80
Number of Hours for Practical	90
Number of Hours for Examinations and Other Activities	10
Total Hours for the Course	180
Number of Working Hours in a Day	3
Total Working Days for the Course	60

MSO 101 - Computer Fundamentals, MS Word, MS Access, MS Excel, MS PowerPoint, Internet Technologies

Number of Hours : 170 (Theory – 80; Practical – 90)
Number of Units : 9

Computer Fundamentals

Unit 1 - Introduction to Computers

Generations of Computers, Classification of Computers, Computer Applications, Input and Output, Memory, Representation of Information, Hardware and Software, Peripheral Devices, Generations of Languages

Unit 2 - Using DOS

Disk Operating System, Directory Commands, File Management Commands, Disk Management Commands, External Commands, Utility Commands, Simple Batch files, Configuring the System

Unit 3 - Using Windows

Introducing Windows 98/2000/ME, User Interface, Files and Folders, Working in Explorer, File operations, Recycle Bin, Starting a Program, Shortcuts, Shutting Down, Windows Accessories, Control Panel, Network Neighbourhood

Unit 4 – Using Linux

Linux Basics, features, linux origin, linux graphical environment, User Interface, File Hierarchy concepts, current working directory, changing directories, listing direct contents, partitions and file systems

Unit 5 – MS Word

Introduction, Creating Documents, Saving Documents, Quitting Documents, Opening Documents, Save a File with a New Name, Printing, Moving around in a Document, Selecting Text, Finding and Replacing Text, Special Characters, Inserting Page Breaks, Page Numbers, Bookmarks, Symbols, Pictures and Dates, Document Enhancement, Proofing Documents with Spell Check and Grammar Check, Using Macros, Creating and Printing Merged Documents - Mail Merging, Tables, Using Auto Correct, Auto Complete and Auto text, Creating Borders and Shading, Creating Web Pages

Unit 6 – MS Excel

Tool bars, Menu Bars, Formula Bar, Status Bar

Working with Worksheets -Preparing a Worksheet, Navigating, Copying Moving, Selecting a Range of Cells, Entering Data Like Text, Numbers Date, Time, Currency, Copying Data, Working with Formula and Functions

Formatting -Changing Column Width, Row Width, Height, Hide, Unhide, Alignment, etc, Merging Cells, Centering Text, Applying Fonts Colors, Styles, Working with Macros

Mail merging Excel sheet, Adding Graphics to Worksheet -Inserting Graphics, Working with Graphic Objects, WordArt, Excel Chart -Creating Different Charts

Excel Databases-Creating Database, Working with Database Records, Applying Database Functions

Data Analysis Using - Goal Seek and Data table

Printing with EXCEL - Print Dialogue Box, Page Setup Dialogue Box

Unit 7 – MS Access

Database System Concepts, DBMS, RDBMS

Creating a Database -Storing Data in Tables, Fields, Records, Two ways to create a Database, creating a Database from Scratch, creating a Database with Database Wizard

Building and Modifying Tables

Create Tables by using the Table Wizard, Create Tables from Scratch, Field Names, Data Types and Field Properties, Modify Tables using Design View, Entering Data in a Datasheet, Editing Data in a Datasheet, Changing the Width of Columns and Height of Rows, Changing the Order of Columns, Setting of Primary Key
Defining Relationship -Establish Relationship, Enforce Referential Integrity
Querying a Database -Constructing a Query, Creating the Query, Choose the Tables to Query, Fields to Query, Entering the Query criteria, Saving the Results of a Query
Different kinds of Queries -CrossTab, Update, Delete, Append, Make Table
Building and Modifying Forms - For Entering and Viewing Data, Creating a Form (Design View or Form Wizard), Use the Control Toolbox to Add Controls, Modify Format Properties (Font Style, Size, Color, Caption, etc.) of Controls, Use Form Sections (Headers, Footers, and Detail), Use a Calculated Control on a Form
Macro -Create a Macro. Create a Command Button, Add Action to Macro
Producing Reports - Create a Report with the Design View/Report Wizard, Preview and Print a Report, Move and Resize a Control, Modify Format Properties (Font Style, Size, Color, Caption, etc.), Use the Control Toolbox to Add Controls, Use Report Sections (Headers, Footers, and Detail), Use a Calculated Control in a Report, Generating Mailing Labels, Printing Reports
Exporting and importing data -Export a Table, Table from Other Pages like Excel, Dbase to an Existing MS Access Database

Unit 8 - MS PowerPoint

Overview and Uses of PowerPoint

Creating Template with the AutoContent Wizard, Creating a Presentation with a Template, Creating a Presentation from Scratch

Normal, Slide, Outline, Slide Sorter, Slide Show, Notes, Slide Master

Controlling Transitions between Slides, Animating Different Parts of a Slide, Inserting a Motion Clip, Including Sounds in Slides

Organization Chart Slide, Creating a Table Slide, Creating Two Column Slide, Showing a Presentation, Rehearsing/Timing a Presentation, Designating Some Slides as "Hidden", Viewing Slides anywhere in a Slide Show, Display Hidden Slide during Show, Erase Annotation, Hide Slide Show, Pen or Pointer

Importing Text from a Word Document, Printing Color slides in Black and White, Help Topic, and Specifying Number of Copies in Black and White, Print Slides, Notes, Handouts and Outlines

Unit 9 - Internet Fundamentals

Basics of Computer Communications, Network Models, Private Data Network, Public Data Network, LAN, WAN, MAN, Evolution of Internet, Internet Applications, Internet Server and Client UNITS on Various Operating Systems, Addressing in Internet - IP and Domains, Internet Service Providers, Internet Resources, Browsers, Sending and receiving E-mail, FTP, Telnet, voice and video conferencing, configuring and using outlook express, Maintaining a web site, publishing tools, Internet security

VII. Diploma in Financial Accounting (DFIN)

Duration : 6 Months Part Time

Eligibility : SSLC / Equivalent

Course fee : Rs.6000/-

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
DFIN 101	Computer Basics, Windows, MS Excel	60	50	75
DFIN 102	Basic Theory of Accounting, Computerized Accounting Packages - Tally	100	90	75
DFIN 101L	MS Excel			25
DFIL 102L	Tally			25
Total		160	140	200

Number of Hours for Theory 160

Number of Hours for Practical 140

Number of Hours for Examinations and Other Activities 60

Total Hours for the Course 360

Number of Working Hours in a Day 3

Total Working Days for the Course 120

DFIN 101 - Computer Basics, Windows, MS Excel

Number of Hours : 110 (Theory – 60; Practical – 50)
Number of Units : 6

Unit 1 - Introduction

Meaning, Definition, Features, Generation, Classification, Elements, Principles, Hardware, Software, Memory, Uses of computer in modern society

Unit 2 - Operating System

DOS, Windows, Linux

Unit 3 - Application Software

MS Office

Unit 4 - Microsoft Excel

Features, Functions, Spread sheet

Components of MS Excel

Tool bars, Menu Bars, Formula Bar, Status Bar

Working with Worksheets

Preparing a Worksheet, Navigating, Copying Moving, Selecting a Range of Cells, Entering Data Like Text, Numbers Date, Time, Currency, Copying Data, Working with Formula and Functions

Formatting

Changing Column Width, Row Width, Height, Hide, Unhide, Alignment, etc, Merging Cells, Centering Text, Applying Fonts Colors, Styles, Working with Macros

Mail merging Excel sheet

Adding Graphics to Worksheet

Inserting Graphics, Working with Graphic Objects, WordArt

Excel Chart

Creating Different Charts

Excel Databases

Creating Database, Working with Database Records, Applying Database Functions

Data Analysis Using - Goal Seek and Data table

Printing with EXCEL

Print Dialogue Box, Page Setup Dialogue Box

Unit 5 - Data Processing

Objectives, Stages, Techniques, Methods, Application in Business

Unit 6 - LAN, WAN, MAN

DFIN 102 – Computerized Accounting Packages - Tally

Number of Hours : 190 (Theory – 100; Practical – 90)
Number of Units : 5

Unit 1 - Accounting

Meaning, Definition, Features, Functions, Types of Account, Rules, Principles, Systems of Accounting

Unit 2 - Business

Business, Transaction, Journal, Ledger, Book Keeping , Receipts & Payment Account, Cheques, Gross Profit, Net Profit, PAN, TAN etc

Unit 3 - Statutory

VAT/CST/GST, Excise Duty, Service Tax, Reconciliation,

Unit 4 - Rectification of Errors

Different Adjustments & rectifications of Errors and mistakes

Unit 5 - Tally

Feature F11, Configuration F12, Voucher Entry, Ledger Creation, Group Creation, Alteration, Short Cut Keys, Export of Tally data, Back up etc

VIII. Certificate Course in Office Automation (CCOA)

Duration : 3 Months Part Time

Eligibility : SSLC / Equivalent

Course fee : Rs.3500/-

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
CCOA 101	Foundation Programme, Introduction to DOS, Windows, Linux, MS Office (Word, Excel, Access, PowerPoint), Adobe PageMaker/Indesign, Corel Draw	80	90	75
CCOA 101L	MS Office, PageMaker/Indesign, Corel Draw			25
Total		80	90	100

Number of Hours for Theory	80
Number of Hours for Practical	90
Number of Hours for Examinations and Other Activities	10
Total Hours for the Course	180
Number of Working Hours in a Day	3
Total Working Days for the Course	60

CCOA 101- Foundation Programme, Introduction to DOS, Windows, Linux, MS Office (Word, Excel, Access, PowerPoint), Adobe PageMaker/Indesign, Corel Draw

Number of Hours : 170 (Theory – 80; Practical – 90)
Number of Units : 18

Unit 1 – Information Technology

Transformation of Society, Knowledge Workers, Internet

Unit 2 – Introduction to Computers

History of Computing, Generation of Computers, What is so special about Computers, Anatomy of a Computer, Classification of Computers, Impact of Computers in Modern Life

Unit 3 – Using DOS

Introduction, What Is Disk Operating System (DOS)? How is MS-DOS Organized? Different Versions of MS-DOS, Directory Commands: DIR, MD, RD, TREE, PATH, File Management Commands: COPY, XCOPY, DEL, RENAME, ATTRIB, BACKUP, RESTORE, SYS, General Commands: TYPE, DATE, TIME, PROMPT, Disk Management Commands: FORMAT, CHKDSK, DISKCOPY, LABEL, VOL, DOS Utility Commands: MOVE, DELTREE, MSBACKUP, SCANDISK, SETVER, UNDELETE, UNFORMAT, XCOPY, Using COPY CON to Build a File,

Unit 4 – Using Windows

Introduction - Windows Basics, The User Interface, Windows Accessories, Miscellaneous Windows' Features

Unit 5 – Internet Fundamentals

Evolution of Internet, Internet Applications, Internet Server and Client Units on Various Operating Systems, Addressing in Internet - IP and Domains, Internet Service Providers, Internet Resources, WWW, protocols, Email- format, sending, receiving, FTP, configuring outlook express, Telnet, chatting, video conferencing, common search engines, hosting websites

Unit 6 – H T M L

Title, Heading, Lists, Formatting Inline Elements, Hyper Text Links URLs, Images, Tables, Frames and Forms

Unit 7 – MSWord

Introduction, Creating Documents, Saving Documents, Quitting Documents, Opening Documents, Save a File with a New Name, Printing, Moving around in a Document, Selecting Text, Finding and Replacing Text, Special Characters, Inserting Page Breaks, Page Numbers, Bookmarks, Symbols, Pictures and Dates, Document Enhancement, Proofing Documents with Spell Check and Grammar Check, Using Macros, Creating and Printing Merged Documents - Mail Merging, Tables, Using Auto Correct, Auto Complete and Auto text, Creating Borders and Shading, Creating Web Pages

Unit 8 – MS Excel

Tool bars, Menu Bars, Formula Bar, Status Bar, Preparing a Worksheet, Navigating, Copying Moving, Selecting a Range of Cells, Entering Data Like Text, Numbers Date, Time, Currency, Copying Data, Working with Formula and Functions, Changing Column Width, Row Width, Height, Hide, Unhide, Alignment, etc, Merging Cells, Centering Text, Applying Fonts Colors, Styles, Working with Macros, inserting Graphics, Working with Graphic Objects, WordArt, Creating Different Charts, Print Dialogue Box, Page Setup Dialogue Box

Unit 9 – MS Access

Database System Concepts, DBMS, RDBMS, Storing Data in Tables, Fields, Records, Two ways to create a Database, Creating a Database from Scratch, Creating a Database with Database Wizard

Create Tables by using the Table Wizard, Create Tables from Scratch, Field Names, Data Types and Field Properties, Modify Tables using Design View, Entering Data in a Datasheet, Editing Data in a Datasheet, Changing the Width of Columns and Height of Rows, Changing the Order of Columns, Setting of Primary Key
Establish Relationship, Enforce Referential Integrity
Constructing a Query, Creating the Query, Choose the Tables to Query, Fields to Query, Entering the Query criteria, Saving the Results of a Query
Creating a Form (Design View or Form Wizard), Use the Control Toolbox to Add Controls, Modify Format Properties (Font Style, Size, Color, Caption, etc.) of Controls, Use Form Sections (Headers, Footers, and Detail), Use a Calculated Control on a Form
Create a Report with the Design View/Report Wizard, Preview and Print a Report, Move and Resize a Control, Modify Format Properties (Font Style, Size, Color, Caption, etc.), Use the Control Toolbox to Add Controls, Use Report Sections (Headers, Footers, and Detail), Use a Calculated Control in a Report, Generating Mailing Labels, Printing Reports
Export a Table, Table from Other Pages like Excel, Dbase to an Existing MS Access Database

Unit 10 – MS PowerPoint

Overview and Uses of PowerPoint

Creating Template with the AutoContent Wizard, Creating a Presentation with a Template, Creating a Presentation from Scratch, different views,
Controlling Transitions between Slides, Animating Different Parts of a Slide, Inserting a Motion Clip, Including Sounds in Slides
Organization Chart Slide, Creating a Table Slide, Creating Two Column Slide, Showing a Presentation, Rehearsing/Timing a Presentation, Designating Some Slides as “Hidden”, Viewing Slides anywhere in a Slide Show
Display Hidden Slide during Show, Erase Annotation, Hide Slide Show, Pen or Pointer
Importing Text from a Word Document
Printing Color slides in Black and White, Help Topic, and Specifying Number of Copies in Black and White, Print Slides, Notes, Handouts and Outlines

Unit 11- Introduction to DTP

Introduction to Desktop Publishing, Introduction to PageMaker 7.0, Advantages, Using the Mouse, Components of the PageMaker Window

Adobe Pagemaker 7.0/ Indesign

Unit 12 – Creating a New Document: Setting the Margins, Setting the Page Size, Changing the page Orientation, Setting Page Numbers, Changing the Page Size view, Creating New Document Windows: Displaying the Rulers, Changing the Rulers, Using Rulers, Using Guidelines, Positioning Guidelines, Adding Guidelines to Master Pages, Aligning to Guidelines, Displaying Guidelines, Locking Guidelines, Formatting Types: Changing Font Families, Changing Font Sizes, Changing Typeface Styles, Changing Character Specifications: Changing Type Leading, Changing Character Widths, Changing Tracking, Changing Type Options, Saving Your Document: Saving a New Document, Saving an Existing Document, Saving a Document As Another Document, Reverting to a Previously Saved Version, Developing Paragraphs: Typing Text, Adding Special Characters to Text, Aligning Text, Formatting Paragraphs: Changing Indents, Changing Space Around Paragraphs, Changing Paragraph Alignment, Controlling Paragraphs Break between Pages and Columns, Adding Lines Above or below Paragraphs

Unit 13 – Creating Frames

Introduction to Creating Frames: Converting Other Objects to Frames, Threading and Unthreading Text: Threading Additional Text, Threading Text to Different Page, Unthreading Text Blocks, Rethreading Text Blocks, Making Text Blocks Disappear without deleting them, Selecting and Dragging Text, Editing, Deleting Text, Cut, Copying, Pasting Text, Viewing the Contents of Clipboard, Using Undo and Revert, Inserting and Removing Pages: Inserting & Removing Pages, Adjusting Spacing of Characters, Words, Lines: Adjusting, Spacing & Leading, Setting and Changing Tabs

Unit 14 – Introduction to Auto Flow

Introduction to Auto Flow, PageMaker Plug-ins, Drop Cap, Change Case, Bullets And Numbering

Unit 15 – Adding Design Elements

Adding Design Elements, Adding Graphics to Your Document, Adding Lines, Changing Line Specifications, Adding Shapes, Changing Shape Specifications, Changing Line and Fill, Specifications Together (Fill & Stroke), Changing Round Corners, Creating Drop-Shadow, Boxes, Text wrap, Changing PageMaker Options: Adjusting Margins, Setting and Adjusting Columns, Setting Unequal Width Columns, Creating Headers and Footers, Creating Graphics in PageMaker, Rotating Text, Skewing and Mirroring objects with the Control Palette. Importing Graphics into PageMaker: Placing, Sizing, Aligning Graphics, Cropping Graphics

Unit 16 – Setting up Templates

Setting Up Templates, Setting up Master Page Templates, Creating Custom Page Sizes, Creating, Custom Borders, Creating a News Paper Template, Creating New Master Pages, Saving an Existing Page as a Master, Setting Up Custom Styles: Defining Styles, Creating, Editing, Removing Styles and Copying Styles

Unit 17 – Using Layers and adding colours

Introduction to Using Layers, n-Layers Palette, Moving & Creating Objects, Introduction to printing - Selecting a Printer, Printing Your Document, Printing Document Dialog Box Options Using PageMaker's Default Color Palette, Opening Color Palette, Adding Color to Text, Working with Color Graphics, Defining Custom Colours, Creating Text Screens

Unit 18 – Introduction to CorelDraw

Familiarization with CorelDraw

IX. Data Entry and Console Operation (DECO)

Duration : 3 Months Part Time

Eligibility : SSLC / Equivalent

Course fee : Rs.4000/-

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
DECO 101	Computer Fundamentals, MS Office (Word, Excel), Adobe PageMaker/Indesign	80	90	75
DECO 101L	MS Word, MS Excel, PageMaker/Indesign			25
Total		80	90	100

Number of Hours for Theory 80

Number of Hours for Practical 90

Number of Hours for Examinations and Other Activities 10

Total Hours for the Course 180

Number of Working Hours in a Day 3

Total Working Days for the Course 60

**DECO 101 - Computer Fundamentals, MS Office (Word, Excel),
Adobe PageMaker / Indesign**

Number of Hours : 170 (Theory – 80; Practical – 90)
Number of Units : 6

Computer Fundamentals

Unit 1 - Introduction to Computers

Generations of Computers, Classification of Computers, Computer Applications, Input and Output, Memory, Representation of Information, Hardware and Software, Peripheral Devices, Generations of Languages

Unit 2 - Using DOS

Disk Operating System, Directory Commands, File Management Commands, Disk Management Commands, External Commands, Utility Commands, Simple Batch files, Configuring the System

Unit 3 - Using Windows

Introduction To Window XP And Its Features, Hardware Requirements Of Windows, Window Structure, Desktop, Taskbar, Start Menu, Working With Recycle Bin – Restoring A Deleted File, Emptying The Recycle Bin, Managing Files, Folders And Disk Navigating Between Folders, Manipulating Files And Folders, Creating New Folder, Searching Files And Folder My Computer Exploring Hard Disk, Copying And Moving Files And Folder from One Drive To Another, Windows Accessories- Calculator, Notepad, Paint, Wordpad, Character Map, Paint

Unit 4 - MS Word

Introduction to Word Processing, Creating documents, Saving documents, Quitting documents, Opening documents, Save a file with a new name, Printing, Moving around in a document, Selecting Text, Finding and replacing text, special characters, Inserting page breaks, page numbers, bookmarks, symbols, pictures and dates, Document enhancement, Proofing documents with spell, check and grammar check, Using macros, Using macros, Creating and printing merged documents, Mail merging, Tables, Using Auto correct, Auto complete and AutoText, Creating borders and shading, Creating Web pages

Unit 5 - MS Excel

Components of ms excel- Tool bars, Menu Bars Formula Bar, Status Bar, Working with worksheets - Preparing a Worksheet, Navigating, Copying, Moving, selecting a range of cells, Entering data like text, numbers date, time, currency, Working with formula and functions, Formatting, Changing column width, row, width, height, hide, unhide, alignment, Merging cells, Entering text, applying font, Colors, styles, Working with Macros, Mail merging Excel sheet, Adding graphics to worksheet, Inserting graphics, objects, Word Art, Excel Charts - Creating different charts, Excel Databases - Creating database, Working with database records, Applying database functions, Data Analysis using, Goal Seek and Data table, Printing with Excel - Print Dialogue Box, Page Setup Dialogue Box

Unit 6 - Adobe PageMaker/Indesign

Introduction to PageMaker, Advantages, Using the Mouse, Components of the PageMaker Window, Creating publications

Creating Documents

Creating a New Document, Setting the Margins, Setting the Page Size, Changing the page Orientation, Setting Page Numbers, Changing the Page Size view, Creating New document Windows, Displaying the Rulers, Changing the Rulers, Using Rulers, Using Guidelines, Positioning Guidelines, Adding Guidelines to Master, Pages, Aligning to Guidelines, Displaying Guidelines, Locking Guidelines, Formatting Types, Changing Character Specifications, Saving Your Document, Developing paragraphs Formatting Paragraphs

Frames, Auto flow and Plugins

Creating Frames Converting Other Objects to Frames, Threading and Unthreading ext, Threading Additional Text, Threading Text to Different Page, Unthreading Text Blocks, Rethreading Text Blocks, Making Text Blocks disappear Without Deleting Them, Selecting and Dragging Text, Editing, Deleting Text, Cut, Copying, Pasting Text, Viewing the Contents of Clipboard, Using Undo and Revert, Adding Design Elements, Introduction to Auto flow, PageMaker plug-ins, Drop cap, change case, Bullets and numbering

Design elements, Graphics

Adding design elements, Adding Graphics to Your Document, Adding Lines Changing Line Specifications, Adding Shapes Changing Shape Specifications, Changing Line and Fill Specifications Together (Fill & Stroke), Changing Round Corners, Creating Drop-Shadow Boxes, Text wrap, Changing PageMaker Options, Adjusting Margins, Setting and Adjusting Columns, Setting Unequal Width Columns, creating Headers and Footers, Creating Graphics in PageMaker, Rotating Text, Skewing and Mirroring objects with the control palette

Templates

Setting up Master Page Templates, Creating Custom Page Sizes, Creating Custom Borders, Creating a News Paper Template, Creating New Master Pages, Saving an Existing Page as a Master, Setting Up Custom Styles, Defining Styles, Creating, Editing, Removing Styles & Copying Styles

Using Layers

Layers Palette, Moving & Creating Objects, Printing, Selecting a Printer, Printing Your Document, Printing Document Dialog Box Options

Adding Color

Using PageMaker's Default Color Palette, Opening Color Palette, Adding Color to Text, Working with Color Graphics, Defining Custom Colors Creating Text Screens

Developing Long Documents

Using Story Editor, Opening Story Editor, How the Story editor Names Stories, Switching Between Story Editor and Layout Editors, Closing Story Editor and Placing the Story Editor, Differences between Story Editor and Layout Editors, Checking Your Spellings, Starting the speller, Correcting Misspelled Words, Correcting Duplicate Words, Adding Words to the Different Dictionaries, Correcting Duplicate Words, Using Find Feature, Using the Change Feature, Creating an Index, Using PageMaker Help

X. Diploma in Computer Hardware and Maintenance and Networking (DHMN)

Duration : 6 Months, Part Time

Eligibility : SSLC / Equivalent

Course Fee : Rs 10,000/-

Scheme of Study

Subject Code	Subject Name	Theory Hours	Practical Hours	Marks
DHMN 101	Hardware Concepts and Introduction to Computers	30	40	75
DHMN 102	PC and Peripheral Architecture	30	40	100
DHMN 103	Installation and Maintenance Engineering	30	40	75
DHMN 104	Operating System, Diagnosing and Troubleshooting	30	40	75
DHMN 105	Data Communication and Networking Principles	40	30	100
DHMN 101 L	Hardware Concepts			25
DHMN 103 L	Installation and Maintenance Engineering			25
DHMN 104 L	Operating System, Diagnosing and Troubleshooting			25
	Total	160	190	500

Number of Hours for Theory 160

Number of Hours for Practical 190

Number of Hours for Examinations and Other Activities 10

Total Hours for the Course 360

Number of Working Hours in a Day 3

Total Working Days for the Course 120

DHMN 101 - Hardware Concepts and Introduction to Computers

Number of Hours : 70 (Theory: 30; Practical: 40)
Number of units : 7

Unit 1 - Fundamentals of Electronics

Introduction to Electronics, Basic definitions – active and passive components, Types of resistors, capacitors and inductors, Introduction to electronic circuits, Measurement of resistance, capacitance and inductance. Active components – Introduction to semi-conductors, diode, UJT, FET, MOSFET, SCR, etc

Unit 2 - Introduction to circuits

Half wave, full wave and bridge rectifier circuits, Introduction to regulated power supplies (linear), power supply filters, Introduction to SMPS, Study of SMPS used in personal computers

Unit 3 - Integrated circuits

Introduction and characteristics of various integrated circuits, clock generators, logic families

Unit 4 - Semi- conductor memories

Introduction, memory organisation and operation, Classification and characteristics of memories, sequential memory, read only memory and read write memory, DRAM, SRAM and SDRAM, Memory refreshing

Unit 5 - Introduction to number systems

Different number systems, representation of different number systems, conversion of number systems, how information is stored in memory.

Unit 6 - Introduction to micro processor

Introduction to 16bit processor 8088, architecture, pin diagram and pin functions, block diagram, study of PC/ XT mother board

Unit 7 - Introduction to computers

History of computing – Analog, Digital and Hybrid computers, Generation – classification of microcomputers, different functional units – memory, CPU Input/Output

DHMN 102 - PC and Peripheral Architecture

Number of Hours : 70 (Theory: 30; Practical: 40)
Number of units : 5

Unit 1 - Architecture of personal computer

Introduction to architecture of PC/ST and PC/AT 286/386/486 and PENTIUM, study and identification of display adapter, IDE, Multi I/O, SVGA, SESI, GIST and MODEM cards, Identify basic terms, concepts, and functions of systems modules like System board, Power supply, CPU, Memory, Storage devices, Monitor, BIOS, CMOS. Introduction to BIOS programming

Unit 2 - Study of PC/AT Mother boards

Block diagram architecture of motherboards. Keyboard interface circuits on mother boards. CMOS setup and their features, Configuring extended, expanded memory, cache memory, Different types of motherboards. AT, ATX etc. Identification of different components like external cache memory, BUS architecture, ISA, PCI, AGP, USB, VESA, IDE, SCSI. Etc.-CMOS settings, Plug and play BIOS

Unit 3 - Study of BUS standards

Brief study of various BUS standards- ISA, EISA, PCI, PCMCIA, etc

Unit 4 - Study of various ADD on cards.

Video display adapter, Floppy disk controller

Unit 5 - Architecture of PC-Peripherals

SMPS: Discrete components, Principle of operating of switch mode power supplies. Monitors: CRT construction and working, 9 pin input type monitor. Block diagram of color monitor. Disk drive Construction, principle of operation, Disk drive types, Cables, Connectors Jumper details, Formatting managing hard disk drives, various interface standards Keyboard Block diagram of a keyboard circuits Different types of keyboards. Study of mouse Printer Different types of printers- Laser, Ink-jet, dot matrix, line printers, Printer connection-parallel, network, USB, serial and infra red. Printer components, Printer interface with computer, detailed circuit of dot-matrix printer, Principle of operation of laser and ink-jet printers, Scanners, Principle of working of different type of scanners

DHMM 103 - Installation and Maintenance Engineering

Number of Hours : 70 (Theory – 30; Practical – 40)
Number of Units : 6

Unit 1 - Hardware installation

Understanding of popular CPU in terms of their basic characteristics like Intel, AMD, Cyrix, etc. study of different category of RAM with respect to terminology, location (EDO RAM, DRAM, SRAM, VRAM, SDRAM, WRAM, RIMM), memory bank, SIMMs, DIMMs. Study basic procedures for adding and removing field replaceable modules like system boards, storage devices, power supply, CPU, memory, input devices, hard disk drives, keyboard, mouse, network interface cards and digital camera for both desktop and portable systems.

Unit 2 - Device installation and configuration

Identify available IRQs, DMA's and I/O addresses and procedures for device installation and configuration. Identify common peripheral ports, Cabling and their connectors. Study cable types, pin diagram, pin connection, pin position, serial VS parallel ports, procedures for installation and configuration of SCSI, IDE/EIDE devices, and technical specifications.

Unit 3 - Peripheral devices installation

Installation and configuration of peripheral devices-different types of input/output devices, specifications, In the case of portable disks on docking stations, PC cards, infrared devices

Unit 4 - System performance

Up-gradation of system performance, specification, necessity and procedures for replacing different components like memory, hard drives, CPU, BIOS, etc.

Unit 5 - Concept of BIOS

Concept of BIOS, POST, its error codes and their interpretation, detailed description of CMOS setup and meaning of various settings, Plug N Play BIOS

Unit 6 - Preventive maintenance

Types of maintenance – preventive and break maintenance identify various types of preventive maintenance procedures. Products and procedures and when to use them like liquid cleaning components, types of materials to clean contacts and connections, Non-static vacuum cleaning. Printer connection – parallel, network, USB, serial and infrared, Troubleshooting and preventive maintenance of printers

DHMN 104 - Operating System, Diagnosing And Troubleshooting

Number of Hours : 70 (Theory – 30; Practical – 40)
Number of Units : 9

Unit 1- Function of Operating System

Different Operating Systems, Functions of Operating Systems, single user- multi user operating systems

Unit 2 – Trouble shooting tools

Structure of DOS, internal and external commands, File allocation table, making autoexec.bat, use of file buffers and devices, various device drivers used in config.sys, Formatting, partitioning of hard disks, concept of UMB, LMB, limitations of DOS.

Unit 3 – Windows and Linux operating system

Comparison of Windows and DOS, Windows features, Comparison of different versions of windows, Comparison of Windows X and Windows NT, installation of Windows X, Advanced features of Windows, Control panel and system settings, Device interrupt settings and conflicts removal, Configuring and installing MODEM on Windows X Over view of Linux, basic commands.

Unit 4 – Software Utilities

PC TOOLS Copying files, formatting, managing files, editing boot records, attrib, editing files etc. Virus and its cleaning, virus definition, virus types, boot record virus, partition table virus, data virus etc. how virus operates, what are their symptoms, how they affect the operation of computers and peripherals, virus scan, virus cleaning, over view of anti-virus software, SYSSOFT SANDRA

Unit 5- Fault Identification

Start-up problem, run problem, their identification and remedy, symptom and problems associated with processor, memory, mouse, floppy drive, hard drives, CD – ROM, DVD, Sound/Audio cards, Monitor/video, mother board, modems, BIOS, USB, NIC, CMOS, power supply, POST, audible/visual error codes, other peripherals, and how to trouble shoot and isolate problems.

Unit 6– Trouble shooting tools

Tools like multi meter, oscilloscope etc., common faults and their symptoms, CMOS settings.

Unit 7 – Diagnosing faults in peripheral devices

Diagnosing faults in printers and other peripheral devices

Unit 8 – System crash, cause and remedy

System crashes due to software corruption, reason for crashing the system, building up the system.

Unit 9 – Power supply

Detection of common errors and their rectification in SMPS, Necessity for dual power supply, checking of constant power supply from UPS.

DHMN 105 - Data Communication and Networking Principles

Number of Hours : 70 (Theory - 40; Practical - 30)
Number of units : 6

Unit 1 - Introduction

Communication System, Analog Data, Digital Data, Communication Channels, Synchronous and Asynchronous Data. Twin Wire, Coaxial Cable, Radio, VHF and Microwaves, satellite Link, Optical Fibre.

Unit 2 - Data Modems

Concept of Modulation, Amplitude Shift Keying (ASK), Frequency Shift Keying (FSK), Phase Shift Keying (PSK), Quadrature PSK, Differential PSK

Unit 3 - Multichannel Data Communication

Circuits, Channels and Concept of Multichanneling, PCM, Frequency Division Multiplexing, Time Division Multiplexing, COECS. Facsimile (FAX), Satellite Communication, Digital Telephony

Unit 4 - Networking of computers

Different types of networks. LAN, WAN, MAN, Different components in a local area network, server client concepts, different network topologies and their merits, Network services, Network connectivity hardware

Unit 5 - Cabling concepts

Different types of cabling, Advantages of structured cabling. Hubs, Switches, Routers and racks

Unit 6 - Configuration of net work

Windows NT Architecture, Installing NT Server as PDC, BDC or as simple server, Creation and managing of user accounts, groups, domains, sharing drives, directories and files, managing printing services, Configuring and installing clients, Managing server, managing server, managing disk storage

XI. Certificate Course in Multimedia and Web Design (CMWD)

Duration : 3 Months, Part Time
Eligibility : SSLC / Equivalent
Course Fee : Rs.8000/-

Scheme of Study

Subject Code	Subject Name	Theory Hours	Practical Hours	Marks
CMWD 101	Introduction to Computer and Multimedia, Adobe Photoshop and Corel Draw,	35	40	75
CMWD 102	HTML and Javascript, Adobe Flash, Dreamweaver, Audacity	45	50	75
CMWD 101 L	Adobe Photoshop and Corel Draw			25
CMWD 102 L	HTML and Javascript, Adobe Flash, Dreamweaver, Audacity			25
Total		80	90	200

Number of Hours for Theory	80
Number of Hours for Practical	90
Number of Hours for Examinations and Other Activities	10
Total Hours for the Course	180
Number of Working Hours in a Day	3
Total Working Days for the Course	60

CMWD 101 - Introduction to Computer and Multimedia, Adobe Photoshop and Corel Draw

Number of Hours : 75 (Theory - 35; Practical - 40)
Number of units : 4

Unit 1 - Introduction to Computers

Introduction, Classification of Computers, Functional parts of a Computer, Input/Output Devices, Operating System, Windows

Unit 2 - Introduction to Multimedia

Introduction, Concept of Multimedia, Hardware for Multimedia, Software for Multimedia, Components of Multimedia, Principles of Multimedia

Unit 3 - Adobe Photoshop

Introduction, getting images into Photoshop, Creating new images, The Photoshop program window: menu bar and palettes. Working with images: Vector and Bitmap images, Image and canvas size, Image resolution, Color modes, Background and Foreground colors, Saving images. Selection Tools, Move tool, Crop tool, Painting Tools, Drawing tools, Retouching tools, Working with layers, Flattening images, Filters, Mask, Transformation, Type tool, Shape tools.

Retouching a photography: Remove stain from a photo, remove blemishes, rubbing out an unwanted person, repairing the cracked photography, Cloning a pattern, Retouching/repairing Wrinkled photograph, Retouching/repairing faded photograph.

Animation: Frame by frame Animation, Tweening Animation.

Unit 4 – CorelDraw

Basics - Using Menus, Standard Toolbars, Property bar, Drawing tools-Rectangles, Ellipse, polygons, Stars, Spirals and Graph paper, filling tools.

Working with object shapes : Selecting and Transforming Objects, Shaping Objects, Filling objects, Outlining Objects, Viewing and zooming

Manipulation - Combining, Breaking Apart, Grouping, Ungrouping, Separating, Cloning and converting to curves, Weld, Intersection, Trim, Aligning and Distributing, Adding Effects, Extruding, Blending and Contouring, Lens, Transparency and Power Clip, Working with Text: Text editor, Fitting Text to Path, formatting text, page layout and background.

CMWD 102 - HTML and Javascript, Adobe Flash, Dreamweaver, Audacity

Number of Hours : 95 (Theory - 45; Practical - 50)
Number of units : 5

Unit 1 – HTML

Introduction to HTML, Creating & Editing a Web Page, Adding paragraph, formatting text in, html, font type and size., Text color, superscript and subscripts, Blinking Text, Hiding Text, Creating Web Pages with Images, Scaling an image, Image alignment, Wrapping text, between two images, Adding space around an image, Page layout, setting margins, space between paragraph, Line breaks, indents, Creating columns, Setting background color

Creating Tables in a Web Site, Dividing table into columns, dividing table into horizontal sections, Creating headers, borders, putting background image, changing color of a cell, Changing table width and height, changing cell size, cell border, Creating an Image Map, Creating Frames in a Web Site, Creating rows and columns, combining frame sets, creating inline frames, Adjusting color, border thickness of the borders, Creating a Form on a Web Page, Creating menus, radio buttons, check boxes, text boxes, Creating larger Text areas, password Boxes, Submit Button, Resetting the form, Adding keyboard shortcuts, organizing form elements, Setting the tabs, Disabling Form elements, Creating Style Sheets

Unit 2 – Javascript

Integrating JAVASCRIPT and HTML, Event handling, Mouse over event, mouse click keyboard event etc., Built JavaScript objects such as window, document, form objects, Button object, checkbox object, text object, Image Object, Time outs and time interval, Creating Pop-up Windows, Adding Scrolling messages, and Validating Forms

Unit 3 – Adobe Flash

Introduction to Flash Work space: The Stage, Timeline, The panels, The property Inspector, Component Inspector panel .

Working with graphics and Colors: vector and bitmap graphics, Selecting objects in Flash, Creating graphics in Flash: Drawing & Painting in Flash, The Complete Toolbar: Pen and Sub selection Tools , Paint Bucket tool, Ink Bottle tool, Pen tool, Pencil tool, Brush tool Shape tools : Oval, Rectangle, PolyStar and more, Transparency ,Fills and Outlines, Color palette

Animation: Frames & Key Motion Tweening, Basic Loop, Shape Tweening & Shape Hints, Movie Clips ,Transformation, Filters, Masks, Button Symbols, Button Actions, Importing and Applying Sound, Loading External files, Importing Video, Exporting Movies, Optimizing Movies, Full Screen Interactive Presentations.

Unit 4 - Dreamweaver

Introduction, Creating new web pages, Saving and closing web pages, About Dream weaver sites, Working with HTML tables and Frames, Creating HTML tables, Sorting table data, Creating HTML, frames, Changing Frame properties, Adding Graphics, Inserting images on WebPages, Aligning Images, Editing an image, Inserting background color, Introduction to cascading style sheets, working with, SS files .Linking, Editing, Formatting, Working with Templates, Working with HTML forms, working with SWF file

Unit 5 - Audacity

Introduction, Sound, sources of sound, Audio, Voice, vocal cord and human ear, musical instruments, acoustical transducers, microphone, loud speaker, amplifier, sound recording and play back

Analog audio, digital audio, analog to digital conversion, digital to analog conversion, sampling, sound card, capture, processing, recording and playback of audio using computer, MIDI, sound file formats, Audio editing tools

Introduction to Audacity, Opening and closing existing file, New files, data Window, Markers, Regions, Menus, Quitting Audacity, Recording and Playback, Editing Basics-Cut, Copy, Paste, Mix, Trim, Edit Tool, Magnify Tool, Pencil Tool, Working with presets, bit depth and sample rate manipulation, Mono and stereo, mute and volume, Exploring Effects, Working with Video files, Extracting audio from CD

XII. AutoCAD Level I and II (ACAD) – Civil / Mechanical / Electrical

Duration	:	2 Months (Part Time)
Eligibility	:	Plus Two / VHSE / ITC / ITI / Diploma
Course Fee	:	Rs. 5000/- (Level I) Rs. 3000/- (Level II)

Note:

Direct admission to Level II will be given to students who successfully completed the level I course conducted by CDAC only.

Scheme of Study

Subject Code	Name of Subject	Theory Hours	Practical Hours	Marks
ACD C01/ ACD M01/ ACD E01	Two dimensional drawings, Orthographic and Isometric projections - (Introduction to CAD / ACAD and similar packages, Familiarization of ACAD Screen Menu, Drawing aids, display & viewing of drawings, Editing, Dimensioning and Dimensioning styles, Hatching, Isometric drawings, Arrays, Plotting of drawings)	20	35	100
ACD C02/ ACD M02/ ACD E02	3 Dimensional Solid Modeling – (Advanced Drawing Options, Defining and Extracting block attributes, Data Exchange and OLE, User coordinate systems and 3D objects, Solid models, Modify, Editing and Viewing of 3d Objects)	20	35	100
TOTAL		40	70	200

LEVEL - I

Number of Hours for Theory	20
Number of Hours for Practical	35
Number of Hours for Examinations and Other Activities	5
Total Hours for the Course	60
Number of Working Hours in a Day	3
Total Working Days for the Course	20

LEVEL - II

Number of Hours for Theory	20
Number of Hours for Practical	35
Number of Hours for Examinations and Other Activities	5
Total Hours for the Course	60
Number of Working Hours in a Day	3
Total Working Days for the Course	20

AutoCAD Level I – Civil / Mechanical / Electrical (ACD C01/ ACD M01/ ACD E01)

Introduction to CAD / ACAD and similar packages
Familiarization of ACAD screen menu
The concept of Sheet size (limits) for drawing
Drawing commands and co-ordinates including line types & layers
Editing commands in detail
Drawing AIDS, display & viewing of drawings
Adding and modifying the TEXT
Dimensioning & including tolerance
Editing dimensioning and dimensioning styles
Hatching
Isometric drawings, Arrays
Model space & paper space concept & Template drawings
Plotting of drawings

AutoCAD Level II – Civil / Mechanical / Electrical (ACD C02/ ACD M02/ ACD E02)

Advanced drawing options – multi line, grouping, grips, block
Defining & Extracting block attributes, external references
Data Exchange & OLE
User coordinate systems & 3D objects, solid models
Modify, editing and viewing of 3D objects
Rendering, material, lighting

XIII. Diploma in Office Management (DOM)

Duration : 1 Year, Part Time
Eligibility : SSLC / Equivalent
Course Fee : Rs.12,000/-

Scheme of Study

Subject Code	Subject Name	Theory Hours	Practical Hours	Marks
DOM 101	Computer Fundamentals, DOS and Windows	60	50	100
DOM 102	MS Office	70	80	75
DOM 103	Adobe PageMaker/Indesign, Adobe Photoshop	60	70	75
DOM 104	Basic Theory of Accounting, Tally	100	40	75
DOM 105	Communicative English	50	60	100
DOM 102 L	MS Office			25
DOM 103 L	Adobe PageMaker/Indesign, Adobe Photoshop			25
DOM 104L	Tally			25
Total		340	300	500

Number of Hours for Theory	340
Number of Hours for Practical	300
Number of Hours for Examinations and Other Activities	50
Total Hours for the Course	690
Number of Working Hours in a Day	3
Total Working Days for the Course	230

DOM 101 - Computer Fundamentals, DOS and Windows

Number of Hours : 110 (Theory - 60; Practical - 50)
Number of units : 5

Unit 1 - Information: Concepts and Processing

Concepts of Information, Data Concepts, Elements of Electronic Data Processing, Special Applications, Number System in Computers

Unit 2 - Elements of a Computer System

Introduction To Computers, Types Of Computer, History Of Computer, Generation Of Computer, PC & Its Components, Disk Defragmentor, Categories Of PC, Evolution Of Micro Processors, Registers Of Micro Processors, Basic Components Of Computer System, Input Output & Storage Units, Software, Types Of Software, Types Of Operating System, Categories Of OS, Example Of Utility Program, Programming Languages, Generations Of Programming Language, Application Software, User & Example Of Application Software, Viruses, Types Of Virus, Virus Detection & Prevention, Communication Process, Communication Protocols, Communication Channel/Media,

Unit 3 - Operating Systems

Concepts of OS, Commands of DOS, Windows and GUI, Unix, Elements of Windows NT, DOS Directory, Communication Service across Network Protocols

Introduction To Window XP And Its Features, Hardware Requirements Of Windows, Window Structure, Desktop, Taskbar, Start Menu, Working with Recycle Bin – Restoring A Deleted File, Emptying The Recycle Bin, Managing Files, Folders And Disk Navigating Between Folders, Manipulating Files And Folders, Creating New Folder, Searching Files And Folder, My Computer, Exploring Hard Disk, Copying And Moving Files And Folder from One Drive To Another, Windows Accessories-Calculator, Notepad, Paint, WordPad, Character Map, Paint

Unit 4 - Computers and Communication

Basics of Computer Communications, Evolution of Internet, Equipments required for Internet Connection, Modem, Components Of LAN, Types Of Internet Connections, Internet & Its Advantages, Internet Services, WWW & Common Technologies of Internet
Network models, E-mail Concepts, Searching & Chatting

Unit 5 - Principles of Data Security, Maintenance And Trouble Shooting

Concepts of Security, Tools for Security and Protection: Passwords, Hardware and Software Locks, Preventive Maintenance of Computer Systems, Trouble Shooting

DOM 102 - MS Office

Number of Hours : 150 (Theory - 70; Practical - 80)
Number of units : 4

Unit 1 - MS Word

Introduction to Word Processing, Creating documents, Saving documents, Quitting documents, Opening documents, Save a file with a new name, Printing, Moving around in a document, Selecting Text, Finding and replacing text, special characters, Inserting page breaks, page numbers, bookmarks, symbols, pictures and dates, Document enhancement, Proofing documents with spell, check and grammar check, Using macros, Using macros, Creating and printing merged documents, Mail merging, Tables, Using Auto correct, Auto complete and AutoText, Creating borders and shading, Creating Web pages

Unit 2 - MS Excel

Components of ms excel- Tool bars, Menu Bars Formula Bar, Status Bar, Working with worksheets - Preparing a Worksheet, Navigating, Copying, Moving, selecting a range of cells, Entering data like text, numbers date, time, currency, Working with formula and functions, Formatting, Changing column width, row, width, height, hide, unhide, alignment, Merging cells, Entering text, applying font, Colors, styles, Working with Macros, Mail merging Excel sheet, Adding graphics to worksheet, Inserting graphics, objects, Word Art, Excel Charts - Creating different charts, Excel Databases - Creating database, Working with database records, Applying database functions, Data Analysis using, Goal Seek and Data table, Printing with Excel - Print Dialogue Box, Page Setup Dialogue Box

Unit 3 - MS Access

Introduction to Database, Database System concepts, DBMS, RDBMS, Planning and Designing a Database, Creating a Database, Building and Modifying Tables - Create tables by using the Table Wizard, Create Tables from scratch, Defining Relationship - Establish Relationship, Enforce Referential Integrity, Querying a Database, Constructing a Query, Different kinds of Queries (Cross tab, Update, Append, Make Table), Building and Modifying Forms, Creating a Form (Design View or Form Wizard), Use the Control Toolbox to add controls, Modify Format Properties (font, style, font size, color, caption, etc.) of Controls, Use form sections (headers, footers, and detail), Use a Calculated Control on a form, Macros - Create a Macro, Create a Command button, Add action to macro, Producing Reports and Printing reports

Unit 4 - MS PowerPoint

Main Features of Power point, Making the Presentation - Creating Template with the AutoContent Wizard, Creating a Presentation with a Template, Creating a Presentation from Scratch, Different Views - Normal, Slide, Outline, Slide Sorter, slide Show, Notes, Slide Master, Animation, Art and Sound, Controlling Transitions Between slides, Animating, Different Parts of a Slide, Inserting a Motion Clip, Including Sounds in Slides, Including Graphs, Charts, Tables, Columns Organization Chart Slide, Creating a table Slide, Creating two column Slide, Showing a Presentation , Rehearsing / Timing a presentation, Designating some Slides as "Hidden", Viewing Slides Anywhere in a Slide Show, Techniques for Making a Show Livelier, Display Hidden Slide during show, Erase Annotation, Hide Slide Show, Pen or Pointer, Office connections Presenting with the help of other Office programs, Importing the text from a Word Document, Printing a Presentation, Printing Colour slides in Black and White, Help Topic, Specifying Number of Copies in Black and White, Print Slides, Notes, Handouts and Outlines

DOM 103 - Adobe PageMaker/Indesign and Adobe Photoshop

Number of Hours	:	130 (Theory - 60; Practical - 70)
Number of units	:	9

Adobe PageMaker 7.0 / Indesign

Unit 1 - Introduction

Introduction to Desktop Publishing, Introduction to PageMaker Advantages, Using the Mouse, Components of the PageMaker Window, Creating publications

Unit 2 - Creating Documents

Creating a New Document, Setting the Margins, Setting the Page Size, Changing the page Orientation, Setting Page Numbers, Changing the Page Size view, Creating New document Windows, Displaying the Rulers, Changing the Rulers, Using Rulers, Using Guidelines, Positioning Guidelines, Adding Guidelines to Master, Pages, Aligning to Guidelines, Displaying Guidelines, Locking Guidelines, Formatting Types, Changing Character Specifications, Saving Your Document, Developing, paragraphs Formatting Paragraphs

Unit 3 - Frames, Auto flow and Plugins

Creating Frames Converting Other Objects to Frames, Threading and Unthreading ext, Threading Additional Text, Threading Text to Different Page, Unthreading Text Blocks, Rethreading Text Blocks, Making Text Blocks disappear Without Deleting Them, Selecting and Dragging Text, Editing, Deleting Text, Cut, Copying, Pasting Text, Viewing the Contents of Clipboard, Using Undo and Revert, Adding Design Elements, Introduction to Auto flow, PageMaker plug-ins, Drop cap, change case, Bullets and numbering

Unit 4 - Design elements, Graphics

Adding design elements, Adding Graphics to Your Document, Adding Lines Changing Line Specifications, Adding Shapes Changing Shape Specifications, Changing Line and Fill Specifications Together (Fill & Stroke), Changing Round Corners, Creating Drop-Shadow Boxes, Text wrap, Changing PageMaker Options, Adjusting Margins, Setting and Adjusting Columns, Setting Unequal Width Columns, creating Headers and Footers, Creating Graphics in PageMaker, Rotating Text, Skewing and Mirroring objects with the control palette

Unit 5 - Templates

Setting up Master Page Templates, Creating Custom Page Sizes, Creating Custom Borders, Creating a News Paper Template, Creating New Master Pages, Saving an Existing Page as a Master, Setting Up Custom Styles, Defining Styles, Creating, Editing, Removing Styles & Copying Styles

Unit 6 - Using Layers

Layers Palette, Moving & Creating Objects, Printing, Selecting a Printer, Printing Your Document, Printing Document Dialog Box Options

Unit 7 - Adding Color

Using PageMaker's Default Color Palette, Opening Color Palette, Adding Color to Text, Working with Color Graphics, Defining Custom Colors Creating Text Screens

Unit 8 - Developing Long Documents

Using Story Editor, Opening Story Editor, How the Story editor Names Stories, Switching Between Story Editor and Layout Editors, Closing Story Editor and Placing the Story Editor, Differences between Story Editor and Layout Editors, Checking Your Spellings, Starting the speller, Correcting Misspelled Words, Correcting Duplicate Words, Adding Words to the Different Dictionaries, Correcting Duplicate Words, Using Find Feature, Using the Change Feature, Creating an Index, Using PageMaker Help

Unit 9 - Adobe Photoshop

Introduction, getting images into Photoshop, Creating new images, The Photoshop program window: menu bar and palettes. Working with images: Vector and Bitmap images, Image and canvas size, Image resolution, Color modes, Background and Foreground colors, Saving images, Selection Tools, Move tool, Crop tool, Painting Tools, Drawing tools, Retouching tools, Working with layers, Flattening images, Filters, Mask, Transformation, Type tool , Shape tools.

Retouching a photography: Remove stain from a photo, remove blemishes, rubbing out an unwanted person, repairing the cracked photography, Cloning a pattern, Retouching/repairing Wrinkled photograph, Retouching/repairing faded photograph.

Animation: Frame by frame Animation, Tweening Animation.

DOM 104 - Basic Theory Of Accounting, Tally

Number of Hours : 140 (Theory - 100; Practical - 40)
Number of units : 8

Unit 1 - Accounting

Meaning, Definition, Features, Types of Account, Rules, Principles, Systems of Accounting, Business, Transaction, Journal, Ledger, Book Keeping, Trail Balance, Cheques, Bill of Exchange, Promissory Notes.

Unit 2 - Financial Statements

Trading, Profit & Loss Account, Receipt & Payments/ Income & Expenditure, Balance Sheet

Unit 3 - Accounting Concept

Accounting Concept, Accounting Standard, Rectification of Errors, Branches of Accounting, Depreciation, Reconciliation

Unit 4 - Rectification of Errors

Different Adjustments & rectifications of Errors and mistakes

Unit 5 - Ratio Analysis

Current Ratio, Quick Ratio, Gross Profit Ratio, Net Profit Ratio, Debt Equity Ratio etc

Unit 6 - Auditing

Meaning, Definition, Features, Qualities, Advantages, Limitations etc

Unit 7 - Tally

Feature F11, Configuration F12, Voucher Entry, Ledger Creation, Group Creation, Alteration, Short Cut Keys, Export of Tally data, Back up

Unit 8 - Statutory information

VAT/CST/GST, Excise duty, Service Tax

DOM 105 - Communicative English

Number of Hours : 110 (Theory - 50; Practical - 60)
Number of units : 5

Unit 1 - Introduction: Concept, Definition and Process of communication; significance and objectives of communication in organizations, Principles of communication

Unit 2 - Channels and Media of Communication: concept of channel and Media; written communication; oral communication; face to face communication; visual communication; audio-visual communication; silence – as communication media.

Unit 3 - Business Correspondence, Essential Parts of Business Letter, Enquiry Letter, Quotation, Order, Tender, Complaint letter, Adjustment Letter etc and their formats.

Unit 4 - Banking Correspondence, Account opening letters, Credit Letters, Guarantee Documents, Standing Instructions for Payment, Request for Bank over Draft etc.

Unit 5 - Government Correspondence, General Govt. Letters, Demi Official Letters, Office Memorandum, Circulars, Notifications, Office Orders, Endorsements, Press Release, Advertisements, Tender, Unofficial Notes etc.

XIV. Certificate Course in Java Programming and Android (JavAn)

Duration : 3 Months, Part Time
Eligibility : Degree / Equivalent
Course Fee : Rs.7,000/-

Scheme of Study

Subject Code	Subject Name	Theory Hours	Practical Hours	Marks
JavaAn 101	Core Java, Applets, Swing, Android Programming	80	90	75
JavaAn 101 L	Core Java, Applets, Swing, Android Programming			25
Total		80	90	100

Number of Hours for Theory	80
Number of Hours for Practical	90
Number of Hours for Examinations and Other Activities	10
Total Hours for the Course	180
Number of Working Hours in a Day	3
Total Working Days for the Course	60

JavAn 101 - Core Java, Applets, Swing, Android Programming

Number of Hours : 170 (Theory - 80; Practical - 90)
Number of units : 3

Unit 1 - Introduction to Java, Object Oriented Programming, Data types, Variables, Operators, Loops, Control Statements, Arrays, Classes, Constructors, Command line arguments, Inheritance, Abstract Classes, Packages and Interfaces, *java.util* package, *java.lang* package, *java.io* package, Exception Handling, Multithreading, Networking, Applet fundamentals, AWT Controls, Frames, Menus and Layouts

Unit 2 - Introduction to Swing, Swing Controls, Event handling, Introduction to SQL, Java Database Connectivity

Unit 3 - Installation and configuration of Android SDK tools, Activities, Intents and Fragments, Designing user interface, Displaying pictures and menus, Data persistence, Messaging, Location based Services, Publishing Android applications

XV. Vacation Courses

(i) Vacation course in C Programming (VCP)

Duration : 1 month Part Time

Eligibility : 8th pass

Course Fee : Rs 2,000/-

Number of Hours for Theory 35

Number of Hours for Practical 40

Total Hours for the Course 75

Number of Working Hours in a Day 3

Total Working Days for the Course 25

Unit 1 - Introduction to programming concept

Types of programming language, Low level language, High level language, Header files.

Structure of C programming language, Program structure:-Comments, Executing C program

Unit 2 - Introduction to data types, Data types in C, Variables, Input statement

Operators and expression-Arithmetic operators, Increment and Decrement operator, Relational operator, Logical operator, *AND* operator, *OR* operator, *NOT* operator, Conditional operator

Unit 3 - Decision control structure, Introduction to Decision Making, *if-else* statement, The *switch* statement, loop control structure, Introduction - *for* loop, *while* loop, *do while* loop.

Unit 4 - Arrays- Introduction to arrays

Function: Introduction to Function, Types of function

Structure: What is Structures, Structure in C, The dot operator, Arrays of Structure

Introduction to pointers

(ii) Vacation course in Web Design (VWD)

Duration : 1 month Part Time

Eligibility : 8th pass

Course Fee : Rs 2,000/-

Number of Hours for Theory 35

Number of Hours for Practical 40

Total Hours for the Course 75

Number of Working Hours in a Day 3

Total Working Days for the Course 25

Unit 1 – Photoshop

Elements of Photoshop, The Elements Environment, Exploring the Photoshop Elements Work Area, Basic Tools and Palettes

Modifying an Image: Making Minor Adjustments to your Image – Adjusting the Lighting in Your Image

Enhancing an Image: Enhancing an Image with Text –Enhancing an Image with the Painting Tools – Enhancing an Image with Layer Effects – Enhancing an Image with Filters

Composite Images: Creating a Composite Image – Create an Animated GIF – Creating Composite Images using Photo merge.

The Finished Product – Saving Images for the Web and Creating a Web Gallery

Unit 2 - HTML

Introduction to HTML, Creating & Editing a Web Page, Adding paragraph, formatting text in, HTML, font type and size, Text color, superscript and subscripts, Blinking Text, Hiding Text

Creating Web Pages with Images: Scaling an image, Image alignment, Wrapping text between two images, Adding space around an image. Page layout: setting margins, space between paragraph, Line breaks, indents, Creating columns, Setting background color

Creating Tables in a Web Site: Dividing table into columns, dividing table into horizontal sections, Creating headers, borders, putting background image, changing color of a cell, Changing table width and height, changing cell size, cell border, Creating Frames in a Web Site: Creating rows and columns, combining frame sets, creating inline frames, Adjusting color, border thickness.

Creating a Form on a Web Page: Creating menus, radio buttons, check boxes, text boxes, Creating larger Text areas, password Boxes, Submit Button, Resetting the form

Adding keyboard shortcuts, organizing form elements, Setting the tabs, Disabling Form elements, Creating Style Sheets

Creating Pop-up Windows, Adding Scrolling messages, and Validating Forms

Unit 3 - Dreamweaver

Introduction: Creating new web pages, Saving and closing web pages, About Dream weaver sites. Working with HTML tables and Frames: Creating HTML tables, Sorting table data, Creating HTML, frames, Changing Frame properties, Adding Graphics: Inserting images on WebPages, Aligning Images, Editing an image, Rollover images, Inserting background color. Introduction to cascading style sheets, working with, CSS files .Linking, Editing, Formatting, Working with Templates, Working with HTML forms, working with SWF file