

# Post Graduate Diploma in Computer Application (PGDCA)

**Course Code :** PG-01

**Eligibility :** Graduate in Any Discipline

**Duration :** 1 Year

## Semester-I

### Fundamentals Of Computers

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 , Modem , Components Of LAN , Types Of Internet Connections , Internet & Its Advantages , Internet Services , WWW & Common Technologies of Internet

### Operating System (Dos , Windows , Linux)

DOS :-- Disk Operating System(Dos) , Introduction , History & Versions Of Dos , Basic-Physical Structure Of Disk, Drive Name , Fat , File & Directory Structure And Naming Rules , Booting Process , Dos , System Files , Dos Commands Internal & External Dir, Md, Cd, Rd, Copy, Del, Ren, Vol, Date, Time, Cls, Path, Type Etc. , Chkdsk, Xcopy, Print, Diskcopy, Diskcomp, Doskey, Tree, Move, Label, Append, Format, Sort, Fdisk, Backup, Edit, Move.

Windows XP :-- Introduction To Window XP And Its Features , Hardware Requirements Of Windows , Window Structure, Desktop, Taskbar, Start Menu , Working , With Recycle Bin – Restoring A Delete 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 Formatting Floppy Drive , Windows Accessories-Calculator , Notepad , Paint , Wordpad , Character Map, Paint

Windows Fundamental :-- Windows is an operating system , XP Home Addition , XP Professional Addition , Active desktop , Multi user account , Data protection features , Playing MP3 Sound and XP , Windows desktop fundamental , Desktop , Taskbar , Icons , My computer , My Document , Recycle bin , Folder

LINUX :-- History & Features Of Linux , Linux structure , file System of linux hardware requirement of linux , various flavour of linux , program & process , process creator and process identifiers , functions of profile and login file in linux , linux kernel

## PC Package (Word , Excel , Power Point)

Office package :- Word processor Software , Spreadsheet software , Presentation software , Database Management software

MS Office :- Introduction to Ms Office , Introduction to Ms Word , How to Start , Components of Ms Word , File Menu , Edit Menu , View Menu , Insert Menu , Format Menu , Tools Menu , Table Menu , Window Menu , Help Menu

MS Excel :- Introduction to MsExcel , Calculations , Formula , Functions , Insert Row/Columns , Create Chart , Format Sheet

Tools Menu :- Goal Seek , Scenario , Auditing

Data Menu :- Sort , Filter , Advance Filter , Sub total , Forms , Validations , Table , Consolidate , Pivot table , Window , Help

Ms PowerPoint :- Introduction , Insert New Slide , Format Slide , Slide Show

## Programming In "C" & C++

Introduction to programming concept :- Types of programming language , Low level language , High level language , Types of language processor , Header file

Structure of programming language :- Program structure :-Comment , Define columns & Rows

Data type in C :- Introduction to data type , Variables , Input statement

Operators and expression :- Arithmetic operators , Increment and Decrement operator , Relational operator , Logical operator , And operator , Or operator , Not operator , Conditional operator

Decision control structure :- Introduction to Decision Making statement , The switch statement

loop control structure :- Introduction , For loop , While loop , Do while loop , Loop termination

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 C++

Overviews of C++ :- Object oriented Programming, concept , Advantage & ,usage of C++ .

Classes and objects :classes structure and classes, union and classes, Friend function ,Friend classes, Inline function ,Scope resolution operator, Static class members, Static data members function, passing object to function, Returning objects , Object assignment.

Constructor & Destructor :- Constructor and destructor: Introduction constructor , parameterized constructor , multiple constructor in a class , constructor with default argument , copy constructor , copy constructor , Default argument ,destructor.

Operator overloading :- function & operator overloading: function overloading , overloading constructor function finding the address of an overloading function , operator overloading: creating a member operator function , Creating prefix and postfix form of the increment & decrement operator , overloading the shorthand operation (i .e. +=,-=etc) , operator overloading restrictions , operator overloading using friend function , overloading loading Some special operators , overloading [ ],(),-,comma operator , overloading <<.

Inheritance :- Base class access control , protected member , Protected base class Inheritance , Inheritance multiple base class , constructors , destructors & Inheritance , when constructor & destructor function are expected , Passing parameter to base class constructors , grating access , Virtual functions & Polymorphism: virtual function , pure virtual function , early Vs , late binding.

The C++ input /output system basic :- C++ stream , the basic stream classes: C++ Predefined stream , formatted I/o: formatting using the ios member , setting the format flags , clearing format flags , an overloaded form of self

## Semester-II

### GUI Programming In Visual Basic

Computer programming , Introduction to Programming languages , Low level languages , Assembly language , Machine languages , Language Processors

Introduction to Visual Basic :-- Introduction to programming , Advantages& Disadvantages , Features , Edition

Building a VB Application :-- Project , Forms , Controls , Properties , Event procedures , Modules , VB Operate Modes , Setting Properties , Writing codes

Controls :-- VB standard controls

Data types :-- Types declaration character , Variables , Variable declaration , Default variant , Implicit , Explicit , Procedure level , Form level , Global level

Message Box

Operator in Visual basic :-- Introduction to operator , Arithmetic operator , Relational operator , Logical operator

Conditional branching :-- The if statement & select statement , Simple if statement , If else statement , Nested if statement , If else ladder , The select statement

Special Events :-- Change event , Key down , Key press , Lost focus

System built in Function :-- Data type functions , Math's functions , String function , Conversion function , Date function , Input box function

Loops :-- For loops , For each loops , While loops , Do while loops , With ....end with

Procedure & Modules :-- Introduction to procedure & function , Sub procedure , Function procedure , Property procedure , Let method , Get method , Set method , Modules

Menu editor :-- Introduction to menu editor , document interface , MDI form , Popup menus

Special controls :-- Toolbar control , Status bar , Calendar control , Date picker , Ms tabbed dialog control

Error in Debugging :-- Introduction to errors , Kinds of errors , Debugging , Handling run time error

Common Dialog Controls :-- Introduction to common dialog control , Open dialog control , Save dialog control , Font dialog control , Print dialog control

File System Object Component

Visual basic and data base :-- Introduction to data base , Data control , Database engine , ADO data control , Data control properties , Data bound control , ADO data control methods

Programming with ADO :-- Connection object , Command object , Recordset object , Cursor type , ADO library

ADO Data Environment

Ms Hierarchical flex grid control

Data Report :-- Introduction to data report , Report section , Other report section

Component Basic :-- Introduction to com , Active X EXE , Active X DLL , Active X Control , Check the control , Creating active XDDL , Creating active X control , Package & Development Wizard

### Oracle/PL-SQL

Oracle Product details, Different data base model, RDBMS components –Kernel , Data dictionary ,client /server computing and oracle ,Overview of oracle architecture –oracle files ,system and user process ,Oracle memory ,system data base object, protecting data.Oracle data type ,working with tables .data Constraints ,column level &table level constraints ,defining different constraints on the table defining integrity constraints in the ALTER TABLE command ,Select Command ,logical operator ,Range Searching ,Pattern Matching ,Oracle Function ,Grouping data from table in SQL ,Manipulation Data in SQL Joining Multiple Tables(Equi joins)

,Joining a Table to self (Self joins), Sub queries Union ,intersect &Minus clause ,creating view  
Renaming the column of a view ,granting permissions –updating ,Selection ,Destroying view  
Creating index ,Creating and managing user ,PL/SQL,SQL&PL/SQL differences ,block structure  
,variables ,constants ,datatype Assigning data type , assigning database values to variables,  
select ..... INTO,Using cursors.

Error handling .Built –in exceptions, User defined exceptions ,The Raise-Application –Error  
procedure ,Oracle transaction ,Locks Implicit and Explicit locking .procedures& function-  
Concept, Creation ,Execution ,Advantages ,Syntax, Deletion .

Triggers –Concept use ,How to apply data base triggers, type to triggers ,syntax, deleting .  
Function of oracle DBA. Create database ,Create table space ,import &Export ,Oracle backup  
recovery

## INTERNET & E-COMMERCE

Introduction to HTML :-- Introduction to html , HTML element and tags , Evolution of HTML ,  
Creating HTML document , Body element , Block formatting element , Heading element ,  
Marquee element , Paragraph element , List element , Anchor element , Graphics element ,  
Table element , Form element , Frame element

Java Script :-- Introduction to java script , Event in java script , Script element , Functions in java  
script , variables , Operators , Comment Indicator , Conditional branching Statement , The switch  
Statement , Loops , Arrays , System defined function , Catching Errors , Cookies , Event handles ,  
Object Hierarchy model

VB Script :-- Introduction to VB Script , Variables , Operators , Conditional branching statement  
,Conversion functions , Predefined functions , String handling functions , Data type functions ,  
Date Function

Dynamic HTML :-- DHTML features , Event , DHTML property , Example of DHTML , Style Sheet ,  
Cursor CSS properties , The inner HTML property , The Div element , Text Positioning , Multi  
media effects

Macromedia Dream viewer

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