

PGDCA 201 : Visual Basic

**UNIT 1-A** profile of VB - Menus, Tool bar Buttons , Tool box, Form , Project, controls, Properties, Program window.  
Programming Essentials- General Procedures, Sub Procedures and function-designing,. Calling & passing controls as arguments , Constant & variable : Decleration, Scope and types.

**UNIT 2-**Designing a project :- start up form , Properties and Program design , Managing multiple forms.  
Flow of control - decesions - if statement , Else if clause ,Select case structure, Nested decisions.  
Loops :- Do loops , For loops ,

**UNIT 3-**Arrays ,Declarings arrays ,Multidimensional & dynamic arrays , User defined types :- Recorded structures, With statement array of records .  
Date file :- Random Access Files - Opening & closing of file , Put # , Get# ,Seek# statements.  
Text files - opening & closing file, Write# , Print# , Input # , Line input # statements.

**UNIT 4-**Input & Out put Procedures - Defining a Menu , Control Arrays , Input Techniches - Validating & Formatting the Input , Moving the focus , Menu choices out put techniques -Calculation & Display , Drawing chart .

**UNIT 5-**Visual basic controls:- Intrinsic Controls, Custom control, Common dialog control , Printer object. Object, Classes and Collections :- Developing classes & collection MDI form , OLE controls . Data base connections.Data manager programme , Data control ,Bound controls.

**Reference:**

1. Foundation of Visual Basic - Douglas Hergert.
2. Visual Basic Programming Explorer- Peter G. Aitken.

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Jiwaji University, Gwalior -- PGDCA -- Session 2014-15

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## PGDCA 202 : Object Oriented Programming

Time 3.00Hours

Max. Marks : 100

Min. Passing Marks : 40

### UNIT-I

Overview of C++ : Object oriented programming, Introducing C++ classes, Concepts of object oriented programming. Classes & Objects : Classes, Structure & classes, Union & Classes, Friend function, Friend classes, Inline function, Scope resolution operator, Static class members: Static data member, Static member function, Passing objects to function, Returning objects, Object assignment.

### UNIT-II

Array, Pointers references & The Dynamic Allocation operators : Array of objects, Pointers to object, Type checking C++ pointers, The This pointer, Pointer to derived types, Pointer to class members, References: Reference parameter, Passing references to objects, Returning reference, Independent reference, C++ 's dynamic allocation operators, Initializing allocated memory, Allocating Array, Allocating objects.  
Constructor & Destructor : Introduction, Constructor, Parameterized constructor, Multiple constructor in a class, Constructor with default argument, Copy constructor, Default Argument, Constructing two dimensional Array, Destructor.

### UNIT-III

Function & operator overloading : Function overloading, Overloading constructor function finding the address of an overloaded function, Operator Overloading: Creating a member operator function, Creating Prefix & Postfix forms of the increment & decrement operation, Overloading the shorthand operation (i.e. +=, -= etc), Operator overloading restrictions, Operator overloading using friend function, Overloading New & Delete, Overloading some special operators, Overloading [ ], ( ), -, comma operator, Overloading <<.

### UNIT-IV

Inheritance : Base class Access control, Inheritance & protected members, Protected base class inheritance, Inheriting multiple base classes, Constructors, destructors & Inheritance, When constructor & destructor function are executed, Passing parameters to base class constructors, Granting access, Virtual base classes .  
Virtual functions & Polymorphism : Virtual function, Pure Virtual functions, Early Vs. late binding

### UNIT-V

The C++ I/O system basics : C++ streams, The basic stream classes: C++ predefined streams, Formatted I/O: Formatting using the ios members, Setting the format flags, Clearing format flags, An overloaded form of setf(), Examining the formatted flags, Setting all flags, Using width() precision() and fill(), Using manipulators to format I/O, Creating your own manipulators.

### TEXT & REFERENCE BOOKS :

*C++ The complete reference* - Herbert Schildt, - TMH Publication

*Object Oriented Programming C++* - R. Lafore

*Object Oriented Programming with C++* - R. Subburaj, Vikas Publishing House, New Delhi.

*C++* - E. Balguruswamy, , TMH Publication

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### PGDCA 203 : DBMS

**UNIT 1-Introduction:** database system, advantages of database systems-redundancy, consistency, sharing, standards, integrity, security, conflicting requirements and data independence, concept of distributed database, DBMS, component. Architecture of database systems; schema, sub-schema; logical and conceptual view. data description language (DDL), DML and database administrator.

**UNIT 2-Data models:** relational model-structure, tuple, attributes, relation normalization, key-primary key, candidate key, alternate key. relational calculus & relational algebra-concepts, definition of union, set difference, Cartesian product -selection, intersection, quotient and join. Normal forms : -first, second, third normal forms.

**UNIT 3-Hierarchical and network model-concept, structure, advantages and disadvantages. protection and security :** - types of crashes, security on databases.

#### **UNIT 4-**

**Relational Algebra & SQL:** The structure, relational algebra with extended operations, modifications of Database, idea of relational calculus, basic structure of SQL, set operations, aggregate functions, null values, nested sub queries, derived relations, views, modification of Database, join relations, DDL in SQL.

#### **UNIT 5**

**Database Integrity:** general idea. Integrity rules, domain rules, attribute rules, relation rules, Database rules, assertions, triggers, integrity and SQL

#### **Reference:**

- 1) Introduction to database systems- C. J date.
- 2) Principles of database system Jeffery D Ullman.
- 3) A Silberschatz, H.F Korth, Sudersan "Database System Concepts" --, MGH Publication.

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## PGDCA 204 Introduction to Internet Technologies

Time 3.00Hours

Max. Marks : 100

Min. Passing Marks : 40

**UNIT-1 Introduction of Internet :** What is Internet , Services Of Internet , H/W & S/W Requirements to Connect to the Internet .E-mail, Introduction of WWW, Web Server and Web Client , Difference between the web and the Internet , Internet Service Provider (ISP).

Web publishing Concepts, Domain name Registration, Space on Host Server for Web site,

**UNIT-2 Choosing an Internet Service Provider :** Location , Stability , Customer Service, Performance , Pricing , Establishing an Internet Account.

**E-mail Basics :** Running an E-mail Program , Sending mail, Reading mail, Replying to mail, Deleting mail. Newsgroups, mailing Lists , Chatting.

### UNIT -3

Data Transmission Protocols, Client/Server Architecture & its Characteristics, FTP & its usages. Telnet Concept, Remote Logging, Protocols, Terminal Emulation. Message Board, Internet chatting - Voice chat, text chat.

**UNIT -4 An Introduction to Internet Explorer :** Starting Internet Explorer , A Quick Tour with Internet Explorer , At the Helm in internet Explorer, Viewing Various file Types .

**Internet Search Engines:** What is Search Engines , How do Search Engines work ? , Types of Search Engines.

**UNIT -5 Creating a Web Page :** What is HTML , What can You Do with HTML , Creating , Saving and Viewing HTML documents , Applying Structure Tags , Applying Common Tags and attributes Images, Hyperlinks, Backgrounds and Colour controls, Different HTML tags, Table layout and presentation, Use of font size & Attributes, List types and its tags. Use of Frames and Forms in web pages.

Creating a New Web, Opening an Existing Web, Creating , Opening and Saving Web Pages , Entering and Editing Text. Printing Page , Spell Checking, Finding or Replacing Text.

### **Reference:**

Alexis leon and Mathews Leon - Internet for every one (Tech World)

Douglas Comer - The Internet Book (prentice Hall)

SYBEX- bpb publication – Internet Complete (Second Edition).

V.K.Jain - O level Module - M 1.2 - Internet & web page designing , BPB Publications

