

# **RKDF UNIVERSITY**

## **PGDCA-02-1**

### **PROGRAMMING WITH VISUAL BASIC.NET**

#### **UNIT-I**

Introduction to .NET, .NET Framework features & architecture, CLR, Common Type System, MSIL, Assemblies and class libraries. Introduction to visual studio, Project basics, types of project in .Net, IDE of VB.NET- Menu bar, Toolbar, Solution Explorer, Toolbox, Properties Window, Form Designer, Output Window, Object Browser. The environment: Editor tab, format tab, general tab, docking tab. Visual development & event drive Programming -Methods and events.

#### **UNIT-II**

The VB.NET Language- Variables -Declaring variables, Data Type of variables, Forcing variables declarations, Scope & lifetime of a variable, Constants, Arrays, types of array, control array, Collections, Subroutines, Functions, Passing variable Number of Argument Optional Argument, Returning value from function. Control flow statements: conditional statement, loop statement. MsgBox & Inputbox.

#### **UNIT – III**

Working with Forms : Loading, showing and hiding forms, controlling One form within another. GUI Programming with Windows Form: Textbox, Label, Button, Listbox, Combobox, Checkbox, PictureBox, Radio Button, Panel, scroll bar, Timer, ListView, TreeView, toolbar, StatusBar. There Properties, Methods and events. OpenFileDialog, SaveFileDialog, FontDialog, ColorDialog, PrintDialog. Link Label. Designing menus : ContextMenu, access & shortcut keys.

#### **UNIT-IV**

Object oriented Programming: Classes & objects, fields Properties, Methods & Events, constructor, inheritance. Access Specifiers: Public Private, Protected. Overloading, My Base & My class keywords. Overview of OLE, Accessing the WIN32 API from VB.NET. COM technology, advantages of COM+, COM & .NET, Create User control, register User Control, access com components in .net application.

## **UNIT-V**

Database programming with ADO.NET – Overview of ADO, from ADO to ADO.NET, Accessing Data using Server Explorer. Creating Connection, Command, Data Adapter and Data Set with OLEDB and SQLDB. Display Data on data bound controls, display data on data grid.

### **TEXT & REFERENCE BOOKS :**

- **VB.NET PROGRAMMING BLACK BOOK BY STEVEN**
- **HOLZNER –DREAMTECH PUBLICATIONS**
- **MASTERING VB.NET BY EVANGELOS PETROUTSOS- BPB**
- **PUBLICATIONS**
- **INTRODUCTION TO .NET FRAMEWORK-WORX**

## **PGDCA - 02-2**

### **INTERNET & E-COMMERCE**

#### **UNIT-I**

Internet - Evolution, Protocols, Interface Concepts, Internet Vs Intranet, Growth of Internet, ISP, Connectivity - Dial-up, Leased line, VSAT etc., URLs, Domain names, Portals, Application. E-MAIL - Concepts, POP and WEB Based E-mail , merits, address, Basics of Sending & Receiving, E-mail Protocols, Mailing List, Free Email services. INTERNET protocols - 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-II**

World wide web (www) - History, Working, Web Browsers, Its functions, Concept of Search Engines, Searching the Web, HTTP, URLs, Web Servers, Web Protocols. Web publishing - Concepts, Domain name Registration, Space on Host Server for Web site, HTML, Design tools, HTML editors, Image editors, Issues in Web site creations & Maintenance, FTP software for upload web site.

### **UNIT-III**

HTML - Concepts of Hypertext, Versions of HTML, Elements of HTML syntax, Head & Body Sections, Building HTML documents, Inserting texts, Images, Hyperlinks, Backgrounds and Color 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. Introduction to WYSIWYG Design tools for HTML, Overview of MS FrontPage, Macromedia Dream weaver, and other popular HTMLeditors, designing web sites using MS FrontPage (using at least FrontPage 2000)

### **UNIT-IV**

Javascript Overview, syntax & conventions. Variables, Expressions, Branching & Looping statements, Functions, Arrays Objects, Events & Document Object Model – onClick, onMouseOver, onSubmit, onFocus, onChange, onBlur. onLoad, onUnload. Alerts, Prompts & Confirms.

### **UNIT - V**

E - Commerce An introductions, Concepts, Advantages and disadvantages, Technology in E- Commerce, Internet & E-business, Applications, Feasibility & various constraints. E-transition challenges for Indian corporate. Electronic Payment Systems: Introduction, Types of Electronic Payment Systems, Digital Token-Based Electronic Payment Systems, Smart Cards and Electronic Payment Systems, Credit Card-Based Electronic Payment Systems, Risk and Electronic Payment Systems.

#### **TEXT & REFERENCE BOOKS :**

- **Internet and Web Design Made Easier By A. Mansoor,**
- **Pragya Publications, Matura**
- **level Module - M 1.2 - Internet & web page designing by**
- **V.K.Jain – BPB Publications.**
- **E-Commerce An Indian Perspective (Second Edition) – by**
- **P.T. Joseph, S.J. Presentice-Hall of India**

# **PGDCA-02-3**

## **SYSTEM ANALYSIS AND DESIGN**

### **UNIT -I**

The System Concept, Characteristics, Elements and Types of a system. The System Development Life Cycle, Considerations for candidate systems, Prototyping. The Role of System Analyst

### **UNIT-II**

System planning and Initial Investigation Information Gathering, information gathering tools. Structured Analysis, The Tools of Structured Analysis (DFD, Data Dictionary, Decision tree and Pseudo Codes, Decision Tables), pros and cons of each tool. System performance definition, description of outputs, Feasibility Study Cost/Benefit Analysis : Data Analysis, Cost/Benefit Analysis, The system proposal.

### **UNIT-III**

The Process and Stages of System Design: Design methodologies, development activities. Input design, output design, forms design, types of forms, basics of form design, layout considerations and forms control.

### **UNIT - IV**

File structure, file organization, objectives of database, data structure. System Testing and Quality Assurance, Why system testing, what do we test for, the test plan quality assurance, trends in testing, role of data processing auditor. Training and Documentation.

### **UNIT-V**

Implementing and software maintenance, Conversion, combats resistance to change, post implementation review, software maintenance. Hardware/Software Selection and the Computer Contract, suppliers, procedure for hardware/software selection, financial considerations in selection, the computer contract. System Security, Disaster Recovery Planning

#### **TEXT & REFERENCE BOOKS :**

- **System Analysis and Design, Elias M. Awad, Galgotia Publications (P) Ltd.**
- **System Analysis and Design, International Ed., Perry Edwards, McGraw Hill Publications.**

# **PGDCA- 02-4 (A)**

## **OOPS & PROGRAMMING WITH C++**

### **UNIT -I**

#### **PRINCIPLES OF OBJECT-ORIENTED PROGRAMMING**

Object-Oriented Programming Paradigm, Basic Concepts of Object Oriented Programming, Benefits of OOPs, Object-Oriented Languages, Applications of OOP, C++ Statements, Class, Structure of C++ Program, Creating the Source File, Compiling and Linking.

### **UNIT-II**

**TOKENS, EXPRESSIONS AND CONTROL STRUCTURES** Introduction, Tokens, Keywords, Identifiers, Basic Data types, User Defined Data Types, Derived Data Types, Symbolic Constants, Type Compatibility, Declaration of Variables, Dynamic Initialisation of Variables, Reference Variables, Operators in C++, Scope Resolution Operator, Member Dereferencing Operators, Manipulators, Type Cast Operator, Expressions and Implicit Conversions, Operator Precedence, Control Structures.

### **UNIT-III**

**CLASSES AND OBJECTS** Specifying a Class, Defining Member Functions, Making an Outside Function Inline, Nesting of Member Functions, Private Member Function, Arrays within a Class, Memory Allocation for Objects, Static Data Member, Static Member Functions, Arrays of Objects, Object as Function Arguments. **CONSTRUCTORS AND DESTRUCTORS** Introduction, Constructors, Parameterized Constructors, Multiple Constructors with Default Arguments, Dynamic Initialisation of Objects, Copy Constructors, Dynamic Constructors, Destructor. **FUNCTIONS IN C++** The Main Function, Function Prototyping, Call by Reference, Return by Reference, Inline Functions, Default Argument, Const. Arguments, Function Overloading, Friend and Virtual Function.

### **UNIT - IV**

**OPERATOR OVERLOADING AND TYPE CONVERSIONS** Introduction, Defining Operator Overloading, Overloading Unary Operators, Overloading Binary Operators Using Friends, Manipulation of strings using Operators, Rules for Overloading Operators, Type conversions.

## **UNIT-V**

**INHERITANCE : EXTENDING CLASSES** Introduction, Defining Derived Classes, Single Inheritance, Making a Private Member Inheritable, Multilevel Inheritance, Multiple Inheritance, Hierarchical Inheritance, Hybrid Inheritance. **POINTERS, VIRTUAL FUNCTIONS AND POLYMORPHISM** Compile time Polymorphism, run time polymorphism, Pointers to Objects, This Pointer, Pointers to Derived Classes, Virtual Functions, Pure Virtual Functions.

### **TEXT & REFERENCE BOOKS :**

- **Object Oriented Programming with C++ by E.Balaguruswami, TMH**
- **Object Oriented Programming in C++ by Nabajyoti Barakati SAMS PHI Pvt.**

## **PGDCA-02-4(B)**

### **FINANCIAL ACCOUNTING WITH TALLY**

#### **UNIT I -**

Basic Concepts of Accounting, Financial Statements, Financial Statement Analysis, Cost Centre, Basic concepts of Inventory Tally Configuration & INI setup, Data Directory & Folders configuration, Single & Multiple User, Tally Screen Components, Mouse / Keyboard Conventions & Key, Combinations, Switching between screen areas, Quitting Tally. Maintaining Company Data, Basic Company Details, Create/Alter/Select/Load/Close a Company, Chart of Accounts, Company Features, Configuration.

#### **UNIT – II**

Create, Alter & Display Groups and Ledgers, All accounting voucher types and transactions, Create and Alter new Voucher type, Item and Account Invoice transactions, Excise Invoice, Export Invoice, Transactions using Bill-wise details Create, Alter & Display Cost Centre and Cost Categories, Cost centre & Cost Category allocation in voucher entry, Creating Cost centre Class, Invoice entry in a Class situation, Create, Alter & Delete Foreign Currencies, Voucher entry using foreign currency, Bank Reconciliation, Interest calculations using simple & advance

parameters, Interest calculations on outstanding balances & on invoices, Use of voucher class, adjustment of interest, Creation of voucher class, Invoice entry in a class situation.

### **UNIT – III**

Create, Alter & Delete Budgets for groups, ledgers & cost centres, Defining credit limit & credit period, Display Budgets & variances, Create, Alter & Delete a scenario. Enabling Job Costing in Tally, Master creation & configuration for Job costing, Creation of Voucher type & Voucher class for Stock Transactions, Creation of Transfer journal for transfer of stock between godowns, Consumption journal Transactions, payment voucher, Godown summary Report, Job Work Analysis, Material consumption summary. Reports like balance sheet, Profit & Loss account, Ratio analysis, Trial Balance. Accounts books like cash/bank book, All ledgers, Group summary & vouchers, Sales, purchase & journal registers, Cost centre & category summary, Cost centre breakup, ledger & group breakup, outstanding receivables & payables, interest receivable & payable, Statistics, Cash & Fund flow, Day book, List of Accounts, Reversing journals, optional vouchers, post-dated vouchers.

### **UNIT – IV**

Create, Alter & Display Stock Groups and Stock Items, Stock item behaviour using costing and market valuation method, other behaviour like treating all sales as new manufacture, treating all purchases as consumed, treating all rejections inward as scrap, ignoring negative balances, Treating difference due to physical counting, Create, Alter & Display Stock categories, Create, Alter, Display simple & compound units of measures, Stock items using alternate units, Defining standard cost & selling price, Defining Rate of duty, Defining MRP, Create, Alter & Display Godowns, Allocation of items to the Godowns, All inventory voucher types and transactions, Inventory details in accounting vouchers, Defining re-order level, Transactions using tracking numbers, Use of batch-wise details in voucher, Additional cost details in vouchers, Creating Bill of material, Cost estimation, Creating Price list & defining Price levels, invoice using Price list, Zero valued entries, Transactions in case of Different actual & billed quantities. Reports like Stock summary, Inventory books like Stock item, Group summary, Stock transfers, Physical stock register, Movement analysis, Stock group & item analysis, stock

category analysis, Ageing analysis, Sales order & Purchase order book, Statement of inventory related to Godowns, categories, stock query, Reorder status, Purchase & Sales order summary, Purchase & Sales bill pending, Exception reports like negative stock & ledger, overdue receivables & payables, memorandum vouchers, optional vouchers, post-dated vouchers, reversing journals.

#### **UNIT – V**

Cheque Printing, Common printing options, Different printing formats, Multi-Account printing, Dynamic- Report specific options. Creating Group company, Use of Tally vault, Using Security control & defining different security levels, Use of Tally Audit. Back-up & Restore, Splitting company data, Export & import of Data, ODBC compliance, use of E-mail, Internet publishing, Upload, web browser & online help, Re-write data.

#### **TEXT & REFERENCE BOOKS :**

- **Implementing Tally 6.3 by Nadhani; BPB Publications**
- **BPB Tally 6.3 by BPB Editorial Board (Hindi) BPB Publications ,**

## **PGDCA-02-2(C)**

### **Database Management System with MS ACCESS**

#### **UNIT-I**

**Traditional file processing system** : Characteristics, limitations, Database : Definition, composition. **Database Management System:** Definition, Characteristics, advantages over traditional file processing system, User of database, DBA and its responsibilities, Database schema, instance.DBMS architecture, data independence, mapping between different levels. **Database languages:** DDL, DML, DCL. Database utilities, Data Models, Keys: Super, candidate, primary, unique, foreign.

#### **UNIT-II**

**Entity relationship model:** concepts, mapping cardinalities, entity relationship diagram, weak entity sets, strong entity set, aggregation, generalization, converting ER diagrams to tables. Overview of Network and Hierarchical model.



**Relational Data Model:** concepts, constraints. Relational algebra: Basic operations, additional operations.

### **UNIT-III**

**Database Design:** Functional dependency, decomposition, problems arising out of bad database design, normalization, multi-valued dependency, Database design process, data base protection, database integrity. **Database concurrency:** Definition and problems arising out of concurrency. **Database security:** Authentication, authorization, methods of implementing security.

### **UNIT-IV**

**MS-ACCESS:** Introduction to MS-ACCESS, working with database and tables, queries in Access, Applying integrity constraints, Introduction to forms, sorting and filtering, Controls, Reports and Macro: creating reports, using Macros.

#### **Text Book:**

- B.P. Desai, "Database management system" BPB publications, New Delhi.

#### **Reference:**

- C.J. Date, "An Introduction to Data Base Systems", 3rd Ed., Narosa Publishers, 1997
- Jeffrey D. Ullman, "Principles of Database Systems", 2nd Ed., Galgotia Pub., 1984.