RADHA GOVIND UNIVERSITY
RAMGARH, JHARKHAND

DEPARTMENT OF COMPUTER SCIENCE & TECHNOLOGY

CHOICE BASED CREDIT SYSTEM CURRICULUM SYLLABUS
FOR POST GRADUATE DIPLOMA IN COMPUTER APPLICATION

**FOR POST GRADUATE DIPLOMA PROGRAM UNDER
RADHA GOVIND UNIVERSITY**

Implemented w.e.f.
Academic Session 2025-26 & onwards

Department: Department of Computer Science, RGU

Course: PGDCA. (Post Graduate Diploma in Computer Applications)

Duration: 1 Years

Total Number of Credits: 40

Mission

The broad objective of the PGDCA programme is to prepare Post Graduates for productive careers in software industry, corporate sector, govt. organisations and academia by providing skill based environment for teaching and research in the core and emerging areas of the discipline.

The Programme's thrust is on giving the students a thorough and sound background in theoretical and application-oriented courses relevant to the latest computer software development. The programme emphasizes the application of software technology to solve mathematical, computing, communications/networking and commercial problems.

Objectives

This aim of diploma is to develop dynamic computer professionals in short time. The programme covers all aspects and basics in Computer Application. It also has projects for developing full software in various software languages along with real time environment. The programme prepares the student to undertake Master Programme and for designing small business application softwares as per the need of industry and real world.

The Prospective target group of learners are-

After getting an PGDCA degree, one can enter any of the following roles :-

1.Joining IT firms Software and Web Developments

PGDCA has endless scopes in software. Those who with have skill and knowledge in programming and programming languages like HTML, CSS, jQuery, Ajax, PHP, MySQL, Python, and Perl etc. can choose an IT industry with Web development background.

2.Laboratory Assistant / Technician

A Laboratory Assistant/ Technicianis antrainee who helps in student for their better understanding in computer based practical.

3.School Coordinator

After successful completion of PGDCA programme, the learner can join as school coordinator for training school students.

4.Digital Marketing

After PGDCA can also make a career in digital marketing. This field is emerging day by day.

5.Self Engagement

After MCA learner can also become an entrepreneur.

6.Go for Higher Studies

After PGDCA the learner can go for higher studies, depending upon his background and interest. After PGDCA learner can opt followed degree:

•   **MCA(Lateral Entry)2 years course**

1. **Evaluation Rules :**
   a) 70% of marks as semester-end examination of minimum 30 minutes to maximum 45minutes per credit and
   b)   30% marks for internal (i.e. in-semester) assessment.
   c) Each credit will have an internal (continuous) assessment of 50% of marks and a teachermust select a variety of procedures for examination such as:
      a. Written Test and/or Mid Term Test (not more than one for each course);
      b. Term Paper;
      c. Journal/Lecture/Library notes;
      d. Seminar presentation;
      e. Short Quizzes;
      f. Assignments;
      g. Extension Work;
      h. Research Project by individual students or group of students; or an Open Book Test (with the concerned teacher deciding what books are to beallowed for this purpose.)

2. **Eligibility Criteria:** The programme is open to any Graduate or its equivalent.

3. **The overall course structure is given below:**

POST DRADUATE DIPLOMA IN COMPUER APPLICATION

SUBJECT CODE = PGDCA

CURRICULUM STRUCTURE

PGDCA - I Semester

S. No	Subject Code	Subject Name	Periods			Internal Exam			End Sem. Exam	Total Marks	Credit
			L	T	P	CT	TA	Total			
1	PGDCA101	Fundamentals of Computers & Information Technology	3	1	0	20	10	30	70	100	4
2	PGDCA102	Introduction to Operating Systems (Dos, Windows, Linux)	3	1	0	20	10	30	70	100	4
3	PGDCA103	PC Packages	3	0	0	20	10	30	70	100	3
4	PGDCA104	MS-Access	3	0	0	20	10	30	70	100	3
6	PGDCA105	PC Packages **Lab**	0	0	4	30	10	40	60	100	2
8	PGDCA106	MS-Access **Lab**	0	0	2	30	10	40	60	100	2
		Total								600	18

L/T/P: Lecture/Tutorial/Practical   ****CT=Class Test, **TA**= Teacher Assessment

PGDCA - II Semester

S. No	Subject Code	Subject Name	Periods			Internal Exam			End Sem. Exam	Total Marks	Credit
			L	T	P	CT	TA	Total			
1	PGDCA201	System Analysis and Design	3	0	0	20	10	30	70	100	3
2	PGDCA202	Programming with Visual Basic.NET	3	1	0	20	10	30	70	100	4
3	PGDCA203	Internet & E-Commerce	3	1	0	20	10	30	70	100	4
4	PGDCA204	OOPs & Programming with C++	3	0	0	20	10	30	70	100	3
5	PGDCA205	Programming with Visual Basic.NET **Lab**	0	0	4	20	10	30	70	100	2
6	PGDCA206	OOPs & Programming with C++ **Lab**	0	1	4	20	10	30	70	100	2
7	PGDCA207	Project Work	0	0	0	00	00	00	00	100	4
		Total								700	22

L/T/P: Lecture/Tutorial/Practical   ****CT=Class Test, **TA**= Teacher Assessment

PGDCA - I Semester
Subject code- PGDCA101
Subject name- Fundamentals of Computers & Information Technology

UNIT–I

Brief History of Development of Computers, Computer System Concepts, Computer System Characteristics, Capabilities And Limitations, Types of Computers, Basic Components of A Computer System - Control Unit, ALU, Input/output Functions and Characteristics, Memory RAM, ROM, EPROM, PROM and other types of Memory.

UNIT-2

Input/Output & Storage Units-: Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, canners, Digital Camera, MICR, OCR, OMR, Barcode Reader, Voice Recognition, Light pen, Touch Screen, Monitors -characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc,

UNIT-3

Printers And Its Types -Dot Matrix, Inkjet, Laser, Plotter, Sound Card And Speakers, Storage Fundamentals - Primary Vs Secondary Data Storage And Retrieval Methods - Sequential, Direct And Index Sequential, Various Storage Devices - Magnetic Tape, Magnetic Disks, Hard Disk Drives, Floppy Disks ,Optical Disks, Flash Drives Video Disk, MMC Memory Cards, Physical Structure of Floppy & Hard Disk, Drive Naming Conventions In PC.

UNIT–4

Use of Communication and IT, Communication Process, Communication Types- Simplex, Half Duplex, Full Duplex, Serial And Parallel Communication, Types Of Network - LAN, W AN, MAN ,Internet,Topologies of LAN - Ring, Bus, Star, Mesh And Tree Topologies, Components of LAN -Media, , World Wide Web and Applications and Internet Services.

UNIT-5

Software and Its Need, Types of Software - System Software, Application Software, System Software - Operating System, Utility Program, Programming Languages, Assemblers, Compilers And Interpreter, Programming Languages- Machine, Assembly, High Level, 4GL, Their Merits And Demerits, Application Software and its Types - Word- Processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Characteristics, Virus-Working Principles, Types of Viruses, Virus Detection and Prevention Methods .

TEXT & REFERENCE BOOKS:

• COMPUTERS TODAY, BY S.K BASANDRA, GALGOTIA PUBLICATIONS.

• FUNDAMENTALS OF INFORMATION TECHNOLOGY ALEXIS LEON & MATHEWS LEON, , VIKAS PUBLISHING

•DOS QUICK REFERENCE RAJEEV MATHUR, , GALGOTIA PUBLICATIONS

Subject code- PGDCA102
Subject name- Introduction to Operating Systems (DOS, Windows, Linux)

UNIT-1

DISK OPERATING SYSTEM (DOS): Introduction, History & Versions of DOS, DOS Basics - Physical Structure of Disk, Drive Name, FAT, File and Directory Structure and Naming Rules, Booting Process, DOS System Files. DOS Commands: Internal - DIR, MD, CD, RD, COPY, COPY CON, DEL,REN VOL, DATE, TIME, CLS, PATH, TYPE, VER etc. External - CHKDSK, XCOPY, PRINT, DISKCOPY, DOSKEY, TREE, MOVE, LABEL, FORMAT, SORT, FDISK, BACKUP, EDIT, MODE, ATTIRIB, HELP, SYS etc, Executable V/s Non Executable Files in DOS

UNIT-2

WINDOWS XP: Introduction to Windows XP and its Features, Hardware Requirements of Windows. Windows Concepts, Windows Structure, Desktop, Taskbar, Start Menu, My Pictures, My Music, MyDocuments,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 Folders. My Computer - Exploring Hard Disk, Copying and Moving Files and Folder from One Drive to Another, Formatting Floppy Drive, Windows Explorer and its Facilities, Using Floppy, CD, DVD, Pen Drive, Burning CD. Windows Accessories - Calculator, Notepad, Paint, WordPad, Command Prompt. Entertainment- Media Players, Sound Recorder,Volume Control, Movie Maker.

UNIT-3

ADVANCED FEATURES OF WINDOWS XP:

Managing Hardware & Software - Installation of Hardware & Software, Using Scanner Web Camera, Printers. System Tools - Backup, Character Map, Clipboard Viewer, Disk Defragmenter, Drive Space, Scandisk, System Information, System Monitor, Disk Cleanup, Using Windows Update. Browsing the Web with Internet Explorer, Multiple User Features of Windows, Creating and Deleting User, Changing User Password, etc.Accessibility Features of Windows - Sharing Folders and Drives, Browsing the Entire Network, Using Shared Printers. OLE - Embed/Link Using Cut and Paste an Embed/ Link, Using Insert Object Manage Embedded/Linked Object.

UNIT-4

LINUX: History & Features of Linux, Linux Architecture, File System of Linux, Hardware Requirements of Linux, Various flavors of Linux, Linux Standard Directories, Functions of Profile and Login Files in Linux, Linux Kernel,

UNIT-5

WORKING WITH LINUX: KDE & Gnome Graphical Interfaces, Various Types of Shell Available in Linux, Multi-User Features of Linux, Login and Logout from Linux System, Linux commands - bc, cal, cat, cd, clear, cmp, cp, mv, date, find, ls, pwd, mkdir, more, rm, rmdir, chgrp, chmod, chown, tty, wc, who, whois, grep, telnet, vi editor, Using Floppy, CD-ROMand Pen Drivein Linux, Permissions and Ownerships,

TEXT & REFERENCE BOOKS:
* *DOS QUICK REFERENCE BY RAJEEV MATHUR, GALGOTIA PUBLICATIONS LINUXCOMPLETE BY BPB PUBLICATIONS*
* *PETER NORTON COMPLETE GUIDE TO LINUX BY PETER NORTON, TECHMEDIAPUBLICATIONS*
* *LEVEL   MODULE M 1.1 INFORMATION TECHNOLOGY BY KHANNA BOOKPUBLICATIONS, NEW DELHI*
* *WINDOWS XP COMPLETE REFERENCE, BPB PUBLICATION*

Subject code- PGDCA103

Subject name- PC Packages

UNIT-1

Office Packages: Office activates and their software requirements, Word-processing, Spreadsheet, Presentation graphics, Database, introduction and comparison of various office suites like MS-Office, Lotus-Office, Star-Office, Open-Office etc.
MS Word Basics: Introduction to MS Office, Introduction to MS Word, Features & area of use. Working with MS Word, Menus & Commands, Toolbars & Buttons, Shortcut Menus, Wizards & Templates, Creating a New Document, Different Page Views and layouts, Applying various Text Enhancements, Working with -Styles, Text Attributes, Paragraph and Page Formatting, Text Editing using various features ; Bullets, Numbering, Auto formatting, Printing & various print options

UNIT-2

Advanced Features of MS-Word: Spell Check, Thesaurus, Find & Replace; Headers & Footers, Inserting - Page Numbers, Pictures, Files, Autotexts, Symbols etc., Working with Columns, Tabs & Indents, Creation & Working with Tables including conversion to and from text, Margins & Space management in Document, Adding References and Graphics, Mail Merge, Envelops & Mailing Labels. Importing and exporting to and from various formats.

UNIT-3

MS Excel: Introduction and area of use, Working with MS Excel, Toolbars, Menus and Keyboard Shortcuts, concepts of Workbook & Worksheets, Using Wizards, Various Data Types, Using different features with Data, Cell and Texts, Inserting, Removing & Resizing of Columns & Rows, Working with Data & Ranges, Different Views of Worksheets, Column Freezing, Labels, Hiding, Splitting etc., Using different features with Data and Text, Cell Formatting including Borders & Shading,

UNIT-4

Advanced Features of MS Excel: Multiple Worksheets: Concept, Creating and Using Multiple Worksheets; Use of Formulas, Calculations & Functions, Various types of Functions, Cell Referencing, Absolute and Relative Addressing, Working with Different Chart Types, Chart Wizard, Printing of Workbook & Worksheets with various options, Database: Creation, Sorting, Query and Filtering aDatabase; Creating and Using Macros;

UNIT-5

MS PowerPoint: Introduction & area of use, Working with MS PowerPoint, Creating a New Presentation, Working with Presentation, Using Wizards; Slides & its different views, Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists, Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Designing & Presentation of a Slide Show, Printing Presentations, Notes, Handouts with print options.

TEXT & REFERENCE BOOKS:

- *WINDOWS XP COMPLETE REFERENCE. BPB PUBLICATIONS*
- *MS OFFICE XP COMPLETE BPB PUBLICATION*
- *MS WINDOWS XP HOME EDITION COMPLETE, BPB PUBLICATION.*
- *JOE HABRAKEN, MICROSOFT OFFICE 2000, 8 IN 1, BY, PRENTICE HALL OF INDIA*
- *I.T .TOOLS AND APPLICATIONS, BY A. MANSOOR, PRAGYA PUBLICATIONS, MATURA*

Subject code- PGDCA104

Subject name- MS-Access

UNIT-1

Basics of RDBMS
Introduction to database -What is a Database, Why use a Relational Database, Overview of Database Design -Data Normalization (Determining tables, Determining Fields, Determining Relationships) Integrity Rules (Primary/Foreign Key, One-to-Many, Many-to-Many, One-to-One) Introduction to MS Access (Objects, Navigation).

UNIT-2

Tables in Database
Create a Table in MS Access -Data Types, Field Properties, Fields: names, types, properties--default values, format, caption, validation rules Data Entry, Add record delete record and edit text, Sort, find/replace, filter/ select, rearrange columns, freeze columns. Edit a Tables- copy, delete, import, modify table structure, find, replace.

UNIT-3

Working with Query
Setting up Relationships- Define relationships, add a relationship, set a rule for Referential Integrity, change the join type, delete a relationship, save relationship Queries & Filter - difference between queries and filter, filter using multiple fields AND, OR , advance filter Queries, create Query with one table, find record with select query, find duplicate record with query, find unmatched record with query, run query, save and change query.

UNIT-4

Working with Forms
Introduction to Forms Types of Basic Forms: Columnar, Tabular, Datasheet, Main/Subforms, add headers and footers, add fields to form,add text to form use label option button, check box, combo box, list box Forms Wizard, Create Template.

UNIT-5

Working with Reports
Introduction to Reports , Types of Basic Reports: Single Column, Tabular Report Groups/Total, single table report, multi table report preview report print report, Creating Reports and Labels, Wizard.

TEXT & REFERENCE BOOKS:
- *MS OFFICE XP COMPLETE BPB PUBLICATION ISBN 8 1-7656-564-4*
- *MS ACCESS FAST & EASY BY FAITHE WEMPEN PHI . ISBN 81- 203-1893-5*
- *MICROSOFT® ACCESS® STEP BY STEP BY COX & LAMBERT PHI LEARNING ISBN PB9788120342019*

Semester: II

Subject Code   : PGDCA201

Subject Name: System Analysis and Design

UNIT-1

System Concept: Definition, Characteristics, Elements of system, Physical and abstract system, open and closed system, ,System Development Life Cycle: Various phases of system development, Considerations for system planning and control for system success. System Planning.

UNIT-2

Initial Investigation: Determining Users Requirements and Analysis, Fact Finding Process and Techniques. Feasibility Study: Determination of Feasibility Study, Technical, Operational & Economic Feasibilities, Data Analysis, Cost and Benefit Analysis.

UNIT-3

Tools of Structured Analysis: Data Dictionary, Form, Gantt Charts, System Model, Pseudo Codes, Flow Chart System Flow Chart, Decision Tree, Decision Tables, Input/ Output and Form Design: Input and Output Form Design Methodologies, Menu, Screen Design, Layout Consideration.

UNIT-4

User Manual, Programming Manual, Programming Specifications, Operator Manual. System Testing & Quality: System Testing and Quality Assurance, Software Maintenance. System Security: Data Security, Disaster/ Recovery Threat and Risk Analysis.

UNIT-5

Organization of EDP: Introduction. Job Responsibilities & duties of EDP Personnel's- EDP manager, System Analyst, Programmers, Operators etc. Essential features in EDP.

TEXT & REFERENCE BOOKS:
- *SYSTEM ANALYSIS & DESIGN BY V K JAM, DREAMTECH PRESS*
- *MODERN SYSTEM ANALYSIS &DESIGN BY A HOFFER, F GEORGE, S VALACIAH LOW PRICEDEDN. PEARSON EDUCATION.*
- *INFORMATION T ECHNOLOGY & COMPUTER APPLICATIONS BY VK.KAPOOR SULTAN CHAND&SONS, NEW DELHI.*

Subject Code : PGDCA202

Subject Name: Programming with Visual Basic.Net

UNIT-1

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 driven Programming -Methods and events.

UNIT-2

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-3

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, List View, Tree View, Toolbar, Status Bar. Their Properties, Methods and Events. OpenFile Dilog, SaveFileDialog, FontDialog, ColorDialog, Print Dialog. LinkLabel. Designing menus : Context Menu, access & shortcut keys.

UNIT-4

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.

UNIT-5

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 PUBLICATION*
- *MSDN. MICROSOFT. COM/ NET/*
- *WWW.GOTDOTNET.COM*

Subject Code : PGDCA203

Subject Name: Internet & E-Commerce

UNIT-1

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 - Basics of Sending & Receiving, Free Email services. FTP & its usages. Telnet Concept, Internet chatting - Voice chat, Text chat.

UNIT-2

Word Wide Web (www) - History, Working, Web Browsers, Its functions, Concept of Search Engines, Searching the Web, HTTP, URLs, Web Servers, Web Protocols. Space on Host Server for Website, HTML, Design tools, HTML editors , Image editors.

UNIT-3

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.

UNIT-4

JavaScript Overview, syntax & conventions. Variables, Expressions, Branching & Looping statements, Functions, Arrays Objects, Events & Document Object Model - onClick, onMouseOver, on Submit, on Focus, on Change, onBlur. onLoad, onUnload. Alerts, Prompts & Confirms.

UNIT-5

E - Commerce an Introductions, Concepts, Advantages and Disadvantages, Internet & E-Business, Applications, Electronic Payment Systems: Introduction, Types of Electronic Payment Systems, , Smart Cards and Credit Card-Based Payment Systems, Introduction E-Governance and its applications , Various Sites .

TEXT & REFERENCE BOOKS:
- *O LEVEL MODULE - M 1.2 - INTERNET & WEB PAGE DESIGNING BY V.K.JAIN - BPBPUBLICATIONS.*
- *E-COMMERCE AN INDIAN PERSPECTIVE (SECOND EDITION) - BY P. T. JOSEPH, S.J.PRESENTICE-HALL OF INDIA*
- *INTERNET FOR EVERYONE - ALEXIS LEON AND MATHEWS LEON, VIKAS PUBLISHING HOUSEPVT. LTD., NEW DELHI*
- *INTERNET FOR DUMMIES - PUSTAK MAHAL, NEW DELHI*
- *A BEGINNERS GUIDE TO HTML AVAILABLE AT:*
  HTTP://WWW.NCSA.UIUC.EDU/GENERAL/INTERNET/WWWLHTMLPRIMERALL. HTML
- *INTRODUCTION TO JAVASCRIPT AVAILABLE AT - WWW. MCU. AC. IN/JAVASCRIPTGUIDE.PDF*

Subject Code   : PGDCA204

Subject Name: OOPs & Programming with C++

UNIT-1

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-2

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, ControlStructures.

UNIT-3

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.

UNIT-4

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. Operator Overloading - introduction, methods, binary versus unary operators Inheritance: Extending Classes Introduction, Defining Derived Classes, Single Inheritance, Making a Private Member Inheritable, Multilevel Inheritance, MultipleInheritance, Hierarchical Inheritance, Hybrid Inheritance.

UNIT-5

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 PUBLICATIONS ISBN O-07-462038-X*
- *OBJECT ORIENTED PROGRAMMING IN C++ BY NABAJYOTI BARAKATI*
- *SAMS PHI PVT. LTD*
- *OBJECT ORIENTED PROGRAMMING IN C++ BY R.K. SHUKLA, WILLEY*