

AKS University, Satna
Post Graduate Diploma in Computer Application (PGDCA)
Semester : I

Sr.no	Subject Code	Subject Name	L	T	P	Credit
1	91CA101	Operating Systems	4			4
2	91CA102	Fundamentals of Computers	4			4
3	91CA103	Office Automation Tools	4			
4	91CA104	MS Access	4			4
5	91CA151	Operating Systems (Lab)			3	2
6	91CA152	PC Packages (Lab)			3	2
7	91CA153	MS Access (Lab)			3	2

Post Graduate Diploma in Computer Application (PGDCA)
Semester : II

Sr.no	Subject Code	Subject Name	L	T	P	Credit
1	91CA201	Programming with Visual Basic.NET	4			4
2	91CA202	System Analysis and Design	4			4
3	91CA203	Internet & E-Commerce	4			4
4	91CA204	Financial Accounting with Tally	4			4
5	91CA251	Programming with Visual Basic.NET (Lab)			3	2
6	91CA252	Financial Accounting with Tally (Lab)			3	2
7	91CA253	Project Work			8	4

AKS University, Satna
Post Graduate Diploma in Computer Application (PGDCA)
Semester: I
Fundamentals of Computers

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-II

Input/ Output & Storage Units:- Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, scanners, 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-III

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-IV

Use of Communication and IT, Communication Process, Communication Types- Simplex, Half Duplex, Full Duplex, Serial And Parallel Communication, Types Of Network - LAN, WAN, 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-V

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:

1. *COMPUTERS TODAY, BY S.K BASANDRA, GALGOTIA PUBLICATIONS.*
2. *FUNDAMENTALS OF INFORMATION TECHNOLOGY ALEXIS LEON & MATHEWS LEON, , VIKAS PUBLISHING*
3. *DOS QUICK REFERENCE RAJEEV MATHUR, , GALGOTIA PUBLICATIONS*

Post Graduate Diploma in Computer Application (PGDCA)
Semester: I
Operating Systems

UNIT-I

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, ATTRIB, HELP, SYS etc, Executable V/s Non Executable Files in DOS.

UNIT-II

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, My Documents, 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-III

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-IV

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-V

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-ROM and Pen Drive in Linux, Permissions and Ownerships,

TEXT & REFERENCE BOOKS:

1. *DOS QUICK REFERENCE BY RAJEEV MATHUR, GALGOTIA PUBLICATIONS LINUX COMPLETE BY BPB PUBLICATIONS*
2. *PETER NORTON COMPLETE GUIDE TO LINUX BY PETER NORTON, TECHMEDIA PUBLICATIONS*
3. *LEVEL MODULE M 1.1 INFORMATION TECHNOLOGY BY KHANNA BOOK PUBLICATIONS, NEW DELHI*
4. *WINDOWS XP COMPLETE REFERENCE, BPB PUBLICATION*

Post Graduate Diploma in Computer Application (PGDCA)

Semester: I

Office Automation Tools

UNIT-I

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-II

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-III

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-IV

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 a Database; Creating and Using Macros;

UNIT-V

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:

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

Post Graduate Diploma in Computer Application (PGDCA)

Semester: I

MS-Access

UNIT-I

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-II

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-III

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-IV

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-V

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:

1. *MS OFFICE XP COMPLETE BPB PUBLICATION ISBN 8 1-7656-564-4*
2. *MS ACCESS FAST & EASY BY FAITHE WEMPEN PHI . ISBN 81- 203-1893-5*
3. *MICROSOFT® ACCESS® STEP BY STEP BY COX & LAMBERT PHI LEARNING ISBN PB 9788120342019*

AKS University, Satna
Post Graduate Diploma in Computer Application (PGDCA)
Semester: II

System Analysis and Design

UNIT-I

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-II

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-III

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-IV

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-V

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:

1. *SYSTEM ANALYSIS & DESIGN BY V K JAM, DREAMTECH PRESS*
2. *MODERN SYSTEM ANALYSIS & DESIGN BY A HOFFER, F GEORGE, S VALACIAH LOW PRICED EDN. PEARSON EDUCATION.*
3. *INFORMATION T ECHNOLOGY & COMPUTER APPLICATIONS BY VK.KAPOOR SULTAN CHAND & SONS, NEW DELHI.*

**Post Graduate Diploma in Computer Application (PGDCA)
Semester: II**

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 driven 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, List box, Combo box, Checkbox, Picture Box, Radio Button, Panel, Scroll bar, Timer, List View, Tree View, Toolbar, Status Bar. Their Properties, Methods and Events. Open File Dialog, Save File Dialog, Font Dialog, Color Dialog, Print Dialog. Link Label. Designing menus : Context Menu, 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.

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:

1. *VB.NET PROGRAMMING BLACK BOOK BY STEVEN HOLZNER- DREAMTECH PUBLICATIONS*
2. *MASTERING VB.NET BY EVANGELOS PETROUTSOS - BPB PUBLICATIONS*
3. *INTRODUCTION TO .NET FRAMEWORK -WORX PUBLICATION*
4. *MSDN. MICROSOFT. COM/ NET/ WWW.GOTDOTNET.COM*

**Post Graduate Diploma in Computer Application (PGDCA)
Semester: II**

Internet & E-Commerce

UNIT-I

Internet - Evolution, Protocols, Interface Concepts, Internet Vs Intranet, Growth of Internet, ISP, Connectivity - Dialup, 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-II

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-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.

UNIT-IV

JavaScript Overview, syntax & conventions. Variables, Expressions, Branching & Looping statements, Functions, Arrays Objects, Events & Document Object Model – on Click, on Mouse Over, on Submit, on Focus, on Change, on Blur. On Load, on Unload. Alerts, Prompts & Confirms.

UNIT-V

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:

1. O LEVEL MODULE - M 1.2 - INTERNET & WEB PAGE DESIGNING BY V.K.JAIN – BPB PUBLICATIONS.
2. E-COMMERCE AN INDIAN PERSPECTIVE (SECOND EDITION) - BY P. T. JOSEPH, S.J.PRESENTICE-HALL OF INDIA
3. INTERNET FOR EVERYONE - ALEXIS LEON AND MATHEWS LEON, VIKAS PUBLISHING HOUSE PVT. LTD., NEW DELHI
4. INTERNET FOR DUMMIES - PUSTAK MAHAL, NEW DELHI
5. A BEGINNERS GUIDE TO HTML AVAILABLE AT: [HTTP://WWW.NCSA.UIUC.EDU/GENERAL/INTERNET/WWW/HTMLPRIMERALL](http://www.ncsa.uiuc.edu/general/internet/www/htmlprimerall.html). HTML INTRODUCTION TO JAVASCRIPT AVAILABLE AT - WWW. MCU. AC. IN/JAVASCRIPTGUIDE.PDF

Post Graduate Diploma in Computer Application (PGDCA)
Semester: II
Financial Accounting with Tally

UNIT-I

1. Basic Concepts of Accounting, Financial Statements, Financial Statement Analysis, Cost Centre, Basic concepts of Inventory
2. 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, and Configuration.

UNIT-II

1. Create, Alter & Display
 - a. Groups and Ledgers
 - b. All accounting voucher types
2. Accounting Voucher transactions, Account Invoice transactions, Excise Invoice, Export Invoice, Transactions using Bill-wise details.
3. 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.
4. Create, Alter & Delete Budgets for groups, ledgers & cost centre, Defining credit limit & credit period, Display Budgets & variances, Create, Alter & Delete a scenario.
5. Journal Transactions, payment voucher, Godown summary

UNIT-III

1. Reports like balance sheet, Profit & Loss account, Ratio analysis Trial Balance.
2. Accounts books like cash / bank book, All Ledgers Group summary & vouchers, Sales, purchase & journal registers.
3. 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

1. Create, Alter & Display Stock Groups and Stock Items,
2. All inventory voucher types and transactions Inventory details in accounting vouchers.
3. 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 journal

UNIT-V

1. Cheque Printing, Common printing options, Different printing formats, Multi-Account printing, Dynamic- Report specific options.
2. Creating Group Company, Use of Tally vault, Using Security control & defining different security levels, Use of Tally Audit.
3. 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

1. *IMPLEMENTING TALLY 6.3 BY NADHANI; ISBN: 81 7656494X BPB PUBLICATIONS,*
2. *BPB TALLY 6.3 BY BPB EDITORIAL BOARD (HINDI) BPB PUBLICATIONS ISBN81 - 7656-594-6*