



# **Post Graduate Diploma in Computer Application (PGDCA)**

## **Scheme and Syllabus**

**Department of Computer Science**

**AKS University**

**July 2020**

**PGDCA (PG Diploma in Computer Application)**

**SEMESTER-1 (No Change)**

<b>Sr.no</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>Group</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
1	91CA105	Fundamentals of Computers and Information Technology	Computer Science	4			4
2	91CA106	PC Packages (Word, Excel, PowerPoint)	Computer Science	3			3
3		<b>Elective-1</b>	Computer Science	3			3
	91CA107-A	Database Using MySQL					
	91CA107-B	Database Using MS Access					
4		<b>Elective-2</b>	Computer Science	3			3
	91CA108-A	Fundamentals of Multimedia					
	91CA108-B	Programming with VB.Net					
1	91CA154	PC Packages (Word, Excel, PowerPoint)- Lab	Computer Science			2	1
2		<b>Elective-1 (Lab)</b>	Computer Science			2	1
	91CA155-A	Database Using MySQL- Lab					
	91CA155-B	Database Using MS Access- Lab					
3		<b>Elective-2 (Lab)</b>	Computer Science			2	1
	91CA156-A	Fundamentals of Multimedia- (Lab)					
	91CA156-B	Programming with VB.Net- (Lab)					
		<b>Total</b>		13		6	16

**PGDCA (PG Diploma in Computer Application)**  
**SEMESTER-2**

<b>Sr. no</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>Group</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Credit</b>
1	91CA205	IT Trends and Technologies	Computer Science	4			4
2	91CA206	Internet and Web Designing	Computer Science	3			4
3		<b>Elective-3</b>		3			4
	91CA207-C	DTP with Page Maker - Photoshop and Typing Skills	Computer Science				
	91CA207-B	Financial Accounting with Tally	Computer Science				
4		<b>Elective-4</b>		3			4
	91CA208-A	Multimedia with Corel Draw, Premier And Sound Forge	Computer Science				
	91CA208-C	Programming with ASP.net Aptitude and General Awareness	Computer Science				
1	91CA254	Internet and Web Designing-Lab	Computer Science			2	1
2		<b>Elective-3 (Lab)</b>				2	1
	91CA255-C	DTP with Page Maker - Photoshop and Typing Skills - Lab	Computer Science				
	91CA255-B	Financial Accounting with Tally- Lab	Computer Science				
3		<b>Elective-4 (Lab)</b>				2	1
	91CA256-A	Multimedia with Corel Draw, Premier And Sound Forge- Lab	Computer Science				
	91CA256-C	Programming with ASP.net Aptitude and General Awareness - Lab	Computer Science				
		<b>Total</b>				6	19

# PGDCA

## SEMESTER-1

### 1PGDCA1 – FUNDAMENTAL OF COMPUTER & INFORMATION TECHNOLOGY

#### UNIT-I

**Computer System** - Concepts, Application area, advantage & disadvantage, Components of a computer system - Control unit, ALU, Input/Output, Memory, Mother Board, Generations of computers, Configurations of Computer system, Types of PCs-Desktop, Laptop, Notebook, Palmtop, PDA, Special Purpose computers, Supercomputers Characteristics and area of Uses, Primary Vs Secondary Memory, RAM, ROM, EPROM, PROM.

**Various Storage Devices-** Magnetic Disks, Hard Disk Drives, Floppy Disks, Zip Drive, Optical Disks, CD, VCD, CD-R, CD-RW, DVD, DVD-RW, Blue Ray Disc, flash drives SD/MMC Memory cards, Solid-State Drive (SSD).

#### UNIT-II

**Input Devices:** Keyboard, Mouse, Trackball, Joystick, Scanners, Digitizing tablet, Digital Camera, MICR, OCR, OMR, Light pen, Barcode & Barcode Reader, Quick Response Code (QR Code), Voice Recognition, Touch Screen.

**Output Devices:** Monitors- Characteristics and types of monitor, Size, Digital, Analog, Resolution, Refresh Rate, Interlaced/Non—Interlaced, Dot Pitch, Video Standard- VGA, SVGA, XGA etc. Printers and its Types Impact and Non-Impact printer, Dot Matrix, Inkjet, Laser, Plotter, 3D Printers, Sound Card and Speakers

#### UNIT-III

**Software** - Need, Types of Software- System Software, Application Software, System Software- Operating System- definition & function, Device Drivers & Utility Programs, Introduction & Features of DOS, Windows. Programming Languages-Machine, Assembly, High Level, 4GL, their Merits and Demerits, Uses of Assemblers, Compilers and Interpreter. Application Software – Introduction, Types, Word Processing, Spreadsheet, Presentation Graphics Database Management, desktop publishing, communication, educational, Graphics & Multimedia, Business Accounting, MIS, Gaming and ERP Software etc.

**Computer Coding System-**ASCII, ISCII and Unicode, Number System of Computer. Binary, Octal, Decimal, Hexadecimal their Conversion.

#### UNIT-IV

Use of Communication and IT, Communication Process, Component of communication— sender, receiver, transmission medium & protocol, Communication types- Simplex, Half Duplex, Full Duplex. Communication Channels- Twisted, Coaxial, Fiber Optic, Modem-Working and characteristics. Types of network- client/server and peer-to-peer networks, Types of connections- Dialup, Leased Lines, ISDN, DSL, RF, Broad band uses, advantages & disadvantages.

**Types of Network—** LAN, WAN, MAN, Internet, VPN etc., Topologies of LAN— Ring, Bus, Star, Mesh and Tree Topologies- structure, uses, advantages & disadvantages. Components of LAN- Media, NIC, NOS, Network devices- Bridges, HUB, Routers, Repeater, Gateways uses, advantages & disadvantages

#### UNIT-V

**Disk Operating System (DOS):** Introduction, DOS Basics - 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, External- TREE, FORMAT, SORT, FDISK, MODE, ATTRIB, HELP, SYS etc., Concepts of Free/Open Source and proprietary software, applications and use of computer in various fields.

**LINUX:** History & Features, Hardware Requirements of Linux, Various flavors of Linux, Linux Standard Directories, Functions of Profile and Login Files in Linux, Linux Kernel, Login and Logout from Linux System, Linux commands- bc, cal, cat, cd, clear, cmp, cp, mv, date, find, is, pwd, mkdir, more, rm, rmdir, chgrp, chmod, who, whois.

***Reference Books:***

- Fundamentals of Computers, Paperback by Reema. Thareja, Oxford University Press.
- Computer Fundamentals- 6th Edition by Pradeep K. Sinha, Priti Sinha, E3PB Publications.
- Computers Today, A. Ravichandran, Khanna Book Publishing.
- Handbook of Computer Fundamentals by Nasib Singh Gill, Khanna Publishers.

## SEMESTER-1

### 1PGDCA2- PC PACKAGES (WORD, EXCEL, POWERPOINT)

#### UNIT-I

**Operating System (Windows 8.1):** Overview of Windows Operating System, Basic Operations-How to start a computer, login, logoff, hibernate, shutdown etc, Personalizing Desktop-Desktop Background, Screen Saver, Themes, Setting date & time, Task bar, Files & Folders, Create, Copy, Rename, Moving & Delete Files & Folders, Create & Using Shortcuts, Recycle Bin.

**Accessories-**MS Paint, Notepad, WordPad, Windows Media Player, Calculator, Games, Math Input Panel, Language Settings-How to set other languages on computer Using Control Panel to add, remove or configuring new or existing devices and software programmes and fonts, Enhance the performance of computer- using Disk Clean-up, using Disk Defragmenter, Using Windows Update, Protecting your computer against viruses.

**Internet in Windows:** Basic Operations using Internet Browser-Working with browsers, Know about WWW, URL, Search Engines, Searching information on Wikipedia, Subscribing and reading newspapers online, Typing text in the regional language, Using Google Maps, Working with Google Apps, Online Ticket Booking, Apply for PAN Card/Passport /Aadhar Card online, Pay electricity bill and service tax online, Booking gas refill online, Downloading eBooks.

#### UNIT-II

**Modern Office Activities -** Software Requirements, Introduction to Office Automation Suit, Elements of office suit & area of use. Word-processing, Spreadsheet, Presentation graphics, Database, Introduction and comparison of various office suites like Apache Open Office, Libre Office, Cafligra Suite, WPS office, KOffice, Google Docs & Microsoft office.

**MS Word:** Introduction to MS Office (2013), Introduction to MS Word, Features & area of use. Various versions of MS Office and their requirements, Working with MS Word, Menus & Commands, Ribbon, Toolbars & Buttons, Shortcut Menus, Wizards & Templates, Creating a New Document, Different Page Views and layouts, Applying various Text Enhancements- Fonts, Styles, Text Attributes, Formatting Your Text and Documents: Auto format, Paragraph and Page Formatting, Line spacing, Margins, Borders and Shading, Tabs and Indents, Text Editing using various features, Bullets, Numbering, Working with Styles, Printing & various print options, Spell Check Working with Headers and Footers.

**Tables:** Creating a simple table, creating a table using the table menu, Entering and editing text in a table, selecting in table, adding rows, changing row heights, Deleting rows, Inserting columns, Deleting columns, changing column width, Conversion to and from text.

#### UNIT-III

**Advance Features of MSWord-**Spell Check, Thesaurus, Find & Replace, Files, Auto texts, Symbols etc., working with Columns, Tabs & Indents, Margins & Space management in Document, Page, Column & Section Breaks, Adding References, Using footnote and endnote in documents creating automatic Table of Content, Using Themes, Watermarks, inserting equations & Symbols.

**Graphics:** Importing graphics, Clipart, Insert picture, Using ClipArt, Shapes and SmartArt in documents, using drawing features, drawing objects, text in drawing. Taking and inserting Screenshots in Documents, Using WordArt and Drop Cap features in documents. Templates: Template types, using templates, exploring templates, modifying templates.

Mail Merge in MS Word, Mail Merge concept, Envelops & Mailing Labels, Importing and exporting to and from various formats, Macros in MS Word: Macro introduction and their use, recording macros, editing macros, running a macro.

## UNIT-IV

**MS Excel:** Spreadsheet Basics & features, concepts of Workbook & Worksheets, Getting started, Creating a new worksheet, Using Wizards, Various Data Types, Selecting cells, Entering and editing text, Entering and editing Numbers, Removing & Resizing of Columns & Rows, entering and editing Formulas, Referencing cells, moving cells, copying cells, sorting cell data, inserting rows, inserting columns, Inserting cells, Deleting parts of a worksheet, clearing parts of a worksheet, Different Views of Worksheets.

Formatting: Page setup, Cell Formatting, changing column widths and Row heights, auto format, changing font sizes and Attributes, centering text across columns, using border buttons and Commands, changing colors and shading, hiding rows and columns, Working with Data & Ranges, Column Freezing, Labels, Hiding, Splitting, merging etc.

Charts: Chart parts and terminology, chart wizard, different types of charts, printing charts, deleting charts, linking in spreadsheet, Printing of Workbook & Worksheets with various options.

## 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, shapes, screenshots, Smart Art and charts in presentation, Sounds and Movies to a Slide; Working with PowerPoint Objects, Designing & Presentation of a Slide Show, change Slide backgrounds, Change Slide Size, Using Animation and Transitions in presentation, Advanced Slide options- Manual & Automatic, Printing Presentations, Notes, Handouts with print option Slide Master, Handout Master and Notes Master.

**Outlook Express:** Features and uses, Configuration and using Outlook Express for accessing emails in office, Add e-mail accounts to Outlook, Create emails, send and receive emails in outlook.

### *Reference Books:*

- Introducing Windows 8.1 for IT Professionals Technical Overview, ED BOTT, Microsoft Press e-book download from [https://blogs.msdn.microsoft.com/microsoft\\_press/2013/10/14/free-ebook-introducing-windows-8-1-for-it-professionals/](https://blogs.msdn.microsoft.com/microsoft_press/2013/10/14/free-ebook-introducing-windows-8-1-for-it-professionals/)
- Windows 8.1 by Pert Mason, Bookboon Download online at <http://bookboon.com/en/windows-8-1-english-ebook>.
- Windows 8.1 In Depth, by Knittel, PEARSON
- Windows 8.1 Plain and Simple by Joli Ballew, Nancy Muir, PHI
- MCSA Microsoft Windows 8.1 Complete Study Guide: Exams 70-687, 70-688, Jeffrey R. Shapiro, Darril Gibson, Wiley India.
- Windows 8.1 For Dummies by Andy Rathbone, Wiley India.
- Office 2013 in Simple Steps, Kogent Learning Solutions Inc., Wiley India
- Microsoft Office 2013 Bible, Lisa A. Bucki, John Walkenbach, Faithe Wempen, Michael Alexander, Dick Kusleika, Wiley India.
- Microsoft Office 2013 Edition Inside Out, Bott Ed, Siechert, Carl, Prentice Hall of India (PHI).
- Microsoft Office Professional 2013 Step by Step, Melton, Beth, Dodge, Mark, Swinford, Echo, Couch, Andrew, Legault, Eric, Schorr, Ben M., Rusen, Ciprian Adrian, Prentice Hall of India (PHI).
- Learning Microsoft Office 2013, Paperback by Ramesh Bangia, Khanna Book Publishing.
- Microsoft Office 2013: Digital Classroom, Paperback by Walter Holland, ACI Creative Team, WILEY.

## SEMESTER-I

### 1PGDCA3(A) -DATABASE USING MYSQL

#### (ELECTIVE-I)

##### UNIT-I

**Database Concept** – Introduction, Need of database, Flat Database, Database Management System, Characteristics of DBMS, Relational Database, Entity and Referential Integrity, Database Concept of primary key, Database Application Example, Banking, Railways, School, Retail Store. Database Elements - Tables, Query, Form, Report, Introduction to Client Server paradigm

##### UNIT-II

**MySQL Database** – MySQL and Its Features, Installation on Windows, Making it works on Command Line, Using the Built in Database, Running and Shutting down MySql Server, Setting up MySql user account. CREATE and DROP database, Important Administrative Mysql database commands- SHOW DATABASE, USE DATABASE, SHOW TABLES, SHOW COLUMN, and SHOW INDEX

##### UNIT-III

**Database Query Commands** - DDL, DML, DCL, Creating Tables Using SQL Commands, Using various Data Types, Applying constraints on Tables, Updating, Deleting MySQL Tables, Inserting Data, Updating and Deleting Data - Retrieving Data From a MySQL Database- Sorting Data Retrieved from a MySQL Database- Using WHERE to Filter data. SQL Functions and Operators Control flow function, String Function, Numerical Function

##### UNIT-IV

**MySQL-** Data Filtering- AND, OR, NOT and IN- MySQL Wildcard Filtering using LIKE- MySQL Regular Expression Searches - Joining Tables in MySQL, Applying Grouping of data by Group By, MySQL Data Aggregation Functions- MySQL Users and Security- Administering and Monitoring MySQL using the MySQL Commands.

##### UNIT-V

**PhpMyAdmin** - Example Applications for MySQL database- Workbench and PhpMyAdmin, Graphical user Interface of PHP MyAdmin, PHP MyAdmin Features, Installation, Use of different section of PhpMyAdmin, Managing database with PHP MyAdmin, Browse, Structure, Search, Insert, Empty, Drop, Create new tables and add data, Execute MySQL query with sql tab.

##### *Reference Books:*

- A Guide to MySQL Philip J Pratt.
- Learning MySQL Seyed MM Tahaghghi O'Reilly Publications.
- <https://dev.mysql.com/doc/refman/5.6/en/>
- <https://www.analysisandsolutions.com/code/mysql-tutorial.htm>



## SEMESTER-I

### 1PGDCA3(B) - DATABASE USING MS-ACCESS

#### (ELECTIVE-I)

##### UNIT-I

**Introduction to Database** -What is a Database, 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

**MS Access** - 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

**Query and 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 reports. Print report, Creating Reports and Labels, Wizard.

##### ***Reference Books:***

- MS Office XP complete BPB publication ISBN 8 1-7656-564-4.
- MS Access fast & easy by faith wempen PHI.



## SEMESTER-I

### 1PGDCA4(A) - FUNDAMENTALS OF MULTIMEDIA

#### (ELECTIVE-II)

##### UNIT-I

**Introduction to Multimedia** - Multimedia Definition and concept, Need of Multimedia, Areas of use, Development platforms for multimedia, Identifying Multimedia elements Text, Images, Sound, Animation and Video, Multimedia Hardware and Software requirement. Making simple Multimedia with PowetPoint Text as a component of Multimedia, Concepts of plain & formatted text, RTF & HTML texts, Object Linking and Embedding concept, Fonts- need & types.

##### UNIT-II

**Sound in Multimedia** - Importance of sound in Multimedia, Sound and its Attributes - tone, intensity, frequency, wavelength, pitch etc. Mono V/S Stereo Sound, Sound Channels, Effects in Sound, Analog V/S Digital Sound, Overview of Various Sound File Formats on PC WAV, MP3, Concept of MIDI, Software for sound editing and mixing, 3D sound

##### UNIT -III

**Graphics in Multimedia** -Importance of Graphics in Multimedia, Vector and Raster Graphics, Image Capturing Methods Scanner, Digital Camera Etc. Various Attributes of Images- Size, Color, Bit Depth, Resolution etc, Various Image File Format BMP, DIB, EPS, PIC, and TIF Format Their Features and limitations

##### UNIT-IV

**Video and Animation in Multimedia** - Impact of Video in Multimedia, Basics of Video Analog and Digital Video, How to use video on PC, Brief note on various video standards PAL, NTSC, Different file formats and their use in Multimedia, MPEG, AVI, MJPG, Name of video editing software, Basics of Animation, Types of Animation and use of Animation, Software for Creating Animations,

##### UNIT-V

**Applications of Multimedia & Future** - Application of multimedia in different industries- Education, Entertainment, Journalism etc., Future of Multimedia, Career in Multimedia Production, Virtual Reality as new technology in multimedia, Applications of VR, Introduction to HMD, Boom cave, Introduction to various type Authoring Tools

##### *Reference Books:*

- Multimedia: Making It Work (4th Edition) By Thyvaughan, Tata Mcgraw Hills.
- Multimedia in Action James E Shuman Vikas Publishing House.
- Multimedia Basics Volume / Technology, Andreas
- Hoi Zinger, Firewall Media (Laxmi Publications Pvt. Lid) New Delhi.
- Multimedia on the PC by IANR Sinclair, BPB Publishers

## SEMESTER-I

### 1PGDCA4(B) - PROGRAMMING WITH VB .NET

#### (ELECTIVE-II)

##### UNIT-I

**Object Oriented Programming Language** — OOP Concepts, OOP Compared to Traditional Programming Objects, Messages, Methods and Classes. Control Structures Inheritance and Polymorphism, Advantages, Usage. Program development environment

##### UNIT-II

**.NET**- Introduction to .NET, .NET Framework features & architecture, CLR, Common Type System, MSIL, Introduction to visual studio, Visual BASIC, visual development & event drive Programming, Methods and events, Variables, Data Type of variables, Classes & Objects, simple projects in VB.NET, constructor, inheritance, Access Specifiers, Overloading.

##### UNIT-III

Scope & lifetime of a variable, Arrays, Collections, Subroutines, Functions, Control flow statements: conditional statement, loop statement. MsgBox & Input box. **Forms:** Loading, showing and hiding forms, Methods and events, GUI Programming with Windows Form, Textbox, Label, Button, simple projects in VB.NET using these controls

##### UNIT-IV

**More Advanced Tools:** Listbox, Combobox, Checkbox, PictureBox, Radio Button, Panel, scroll bar, Timer, Dialog boxes, Designing menus, Advanced projects in VB.NET using these controls

##### UNIT-V

Database programming with ADO.NET Accessing Data using Server Explorer, Creating Connection, Accessing Data using Data Adapters and Datasets, using Command & Data Reader, data bind Controls, displaying data in data grid. Processing Access Database using ADO.NET Object model, Connection object, Command object, Add, delete, move & update records to dataset. Projects in VB.NET using database

##### Reference Books (Based on Visual Studio 2010 or Above):

- Vb.Net Programming Black Book by Steven Holzner Dreamtech Publications.
- Mastering Vb.Net By Evangelos Pet Routsos - BPB Publications.
- Introduction To .Net Framework -Worx Publication MSDN. Microsoft.Com/ Net www.Gotdotnet.com.
- Vb.Net Black Book by Steven Holzner Drearniech

## SEMESTER-II

### 2PGDCA1 - IT TRENDS & TECHNOLOGIES

#### UNIT-I

**E-governance:** E-governance, e-democracy, Government efforts to encourage citizen participation, PPP model, E-governance websites & services, MPOONLINE services, UIDI & Aadhar, E-governance mobile apps like UMANG, Digital Locker, Digital Library.

**Cyber Crime:** Introduction, types of attacks like spyware, malware, spam mail, logic bombs, denial of service, types of cyber crime like email fraud, phishing, spoofing, hacking, identity theft.

#### UNIT-II

**E-Commerce-** Introductions, Concepts, Advantages and Disadvantages, technology in E-Commerce, Benefits and Impact of e-commerce.

**Electronic Payment Systems:** Introduction, Types of Electronic Payment Systems, RTGS, IMPS, NEFT, Payment Gateway, Debit & Credit Card, Internet Banking, Mobile Wallet, UPI, BHIM, PAYTM App, Online Shopping, Online Marketing.

#### UNIT-III

**Wireless Communication:** Introduction, Bluetooth, WiFi, WiMax, LiFi, Mobile technology, 2G, 3G, 4G, 5G services, IMEI, SIM, IP Telephony, Soft phone, Voice mail, Ad-hoc & sensor networks, GIS, ISP, Mobile Computing, Cellular System Cell, Mobile Switching office, Hands off, Base Station.

#### UNIT-IV

**Artificial Intelligence and Expert system-** Concepts of AI & Expert Systems, Merits and Demerits of Expert system, Application of Expert system and AI

**Cloud computing**— Introduction, types, application, services, Google play store, Apple store,

**IOT**— Introduction, Application & use

**Big Data-** Introduction, Application & use

#### UNIT-V

**MIS -** Introduction, System Development Life Cycle, Various phases of system development, Considerations for system planning, Initial Investigation, Determining Users Requirements and Analysis, Fact Finding Process and Techniques, Data Analysis, data Dictionary, decision table, decision tree & form design process.

#### *Reference Books:*

- Fundamentals of Information Technology Alex Leon & Mleon, Vikas Publications.
- Frontiers of Electronic Commerce, By- Kalakota, Ravi; Stone, Tom.
- E-Cornmerce An Indian Perspective (Second Edition) By Pt Joseph, S.J. Prentice-Hall Of India. Recent Magazines of Computers and Communication.
- System Analysis & Design by V K Jam, Dreamtech Press.
- Modern System Analysis & Design by A Hoffer, F George, S Valaciah, Low Priced Edn. Pearson Education.
- Information Technology & Computer Applictions by V K. Kapoor, Sultan Chand & Sons, New Delhi.



## SEMESTER-II

### 2PGDCA2 - INTERNET AND WEB DESIGNING

#### UNIT-I

**Introduction to Internet** - Internet Evolution & Concept, Internet Vs Intranet, Growth of Internet, Internet Service Provider (ISP) & its Function, Connectivity- Dialup, Leased line, VSAT, URLs, Portals, Internet Services, Applications. E-MAIL- Basics of Sending & Receiving, Free Email services, Internet chatting - Voice chat, Text chat, World Wide Web (www)- History, Working, Web Browsers & its functions, Concept of Search Engines, Searching the Web, HTTP, URLs, Web Servers, Web Protocols, Networks layers & TCP/IP protocols, The Advantages and Disadvantages of Internet and World Wide Web

#### UNIT-II

**HTML**- Concepts of Hypertext, Versions of HTML, Elements of HTML, Syntax, Tags & Attributes, Head & Body Sections, Building, HTML Documents. Inserting Texts, Images, Hyperlinks, Backgrounds And Color Controls, Different HTML Tags, Table Layout and Presentation, Creating Lists, Use of Font Size & Attributes, List Types and Its Tags, Use of Frames and Forms in Web Pages, Creating Frameset, Opening pages into frames, Design Forms Contro

#### UNIT-III

**Cascading Style Sheet (CSS)** - Introduction, creating style , using inline and external CSS, Creating Divs with ID style, creating Tag & Class style using font family, size and colors, creating borders, Navigation links, creating effects with CSS, 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-IV

**Designing Websites with Expression Web**- Introduction to WYSIWG HTML editor, advantages of using HTML editors, Creating a new site, Creating a new Page, Inserting and formatting text, Creating & Inserting Images, Adjusting Transparency settings, Adding Images with alternative Text, Aligning images, creating Email Link, Linking to other websites, Testing and targeting Links, Organizing files & folders, Designing Accessible Tables, styling a table, Editing table layouts, Adding style to a table using CSS

#### UNIT-V

**Word Press**- What is Word Press, Installation, Login, overview of admin panel, user profile, Word Press Themes, Themes depository, Create & add a new logo, Set up a static home page, Create Posts, Delete pages, Create Menu, Add a post, Delete a post, Add Widgets, Upload images, Add Images To a post, Insert and Format Text, Add a Hyperlink to an image, Add a Hyperlink to some text, Protocols- meaning, different web protocols-FTP, DNS, TCP, UDP, HTTP, IP Telnet Concept, FTP Commands - viewing Files and directories, Transfer and rename files, FTP with Filezilla & CuteFTP, Web Hosting - Concept, Introduction to Domain Name & DNS, procedure to register a Domain Name, Procedure for web hosting, Space on Host Server for Website.

#### **Reference Books:**

- 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. Esentice-Hall of India
- Internet for Everyone - Alexis Leon And Mathews Leon, Vikas Publishing House Pvt. Ltd., New Delhi
- WordPress Made Super Simple - How Anyone can Build A Professional Looking Website, by Jack Davies and Sarah Wiley
- Internet for Dummies - Pustak Mahal, New Delhi.
- Introduction to JavaScript available At - [www.mcu.ac.in/javascriptguide.pdf](http://www.mcu.ac.in/javascriptguide.pdf).
- How to Create A Website Using WordPress: The Beginner's Blueprint for Building a Professional Website in 3 Easy Steps Kindle eBook, by Brian Patrick.
- WordPress for Beginners 2017: A Visual Step-by-Step Guide to Mastering WordPress Kindle eBook by Dr. Andy Williams.

**SEMESTER-II**  
**2PGDCA3(A) - DTP WITH PAGE MAKER & PHOTOSHOP (ELECTIVE-III)**

**Unit-I**

**Desk Top Publishing (DTP):** & DTP, Definition, Need and Area of Application & Web Designing, DTP in Publications, Difference between a word processor and Publication Software, DTP Software, Offset Printing Technology, Printers. Page Layout & Designing, Formatting of a text: Typography, Fonts, Point Size, Spacing, Breaks, Measurements etc.

**Types of Printing:** Lithography, Flexography, Gravure, Screen Printing, Offset Printing. Print Media & Offset Printing. Terms used in Offset Printing: Bleed, CMYK, Transparent Printouts - Bromide & Film. Halftone, Impression, Saddle Stitch, Perfect Bind, Negative & Positives for Plate were making.

**Unit-II**

**Adobe Page Maker 7.0:** Page Maker as a DTP Software, Page Maker Vs. Word Processing Software, Tools, Styles, Menus, Templates, Alignments, Grids, Guides, Keyboard shortcuts, Page Layouts- Margins, Page Orientations and Page Sizes, Text and Image Editing, Magazine & News Paper Page Layouts, Filters, Import and Export options, Auto flow and Story Editor, Different Layout views, Layers, Tab setting, Columns & Gutters, Use of Styles, Palettes & Colors, Import & Export files, Document Setup & Preferences. Master Pages.

Introduction to InDesign, Interfaces, Commands & options, inserting text & images, Page designing in InDesign.

**Unit-III**

**Adobe Page Maker-**Page and document setup, working with rulers, setting the unit measurement, Bullets, Column Balancing, Breaks Arrange, Fill & Stroke Options. Text Wrapping, Widows & Orphan lines, Revert Command, Using Drop Caps and various style formats, Editing of Graphics and Frames. Defining Styles. OLE & Embedding, Plugins, Mathematic Equation, Table Editor and it use. Polygon Setting & Rounded Corners Master Pages, Headers & Footers, View Menu Options, Print Setup options. Paste Multiple & Paste Special. Managing and Printing Publications Tiles, multiple copies etc. Use of Page Maker in Newspaper and Magazines.

**Unit-IV**

**Adobe Photoshop:** Introduction, Graphic Files and Extensions- JPG, GIF, PNG, TIF, BMP, PSD, CDR, SVG etc., Vector Image, Raster Images, Bitmap Graphics. Pixels, Color Models: HSB, RGB, CMYK, Bitmap, Gray Scale, Duotone. Color Mode Conversion. Changing Image Size and Resolution, Creating New image. Introduction PSD files, Menu Bar, Option Bar, Palette, Tools, Opening-Saving-Closing a File, History Option, Photoshop Layers & Palettes, Duplicating Layers, Changing Order of Layers, Renaming & Deleting Layers, Filters, Applying and Blending Filters, Filter Effects, Masking Tools & Effects, Using Channels.

**Unit-V**

**Typing and Keyboarding for Professionals-** Mastering the Keys, Numerical Keys, Symbol Keys, Shift Keys, Enter and Backspace Keys, Tab and Caps Lock Keys, Shortcut Keys, Typing practices in Hindi and English, Master proper finger to key usage, Skill Drills, Sentence Repetition, Paragraph Practice, Speed Boosters, Timed Tests, Business Letters and Emails, Email Etiquette, Resumes, Application Letters

Word processing skills such as creating a document, using spellcheck, creating tables, working with headers or footers, document formatting etc. and common word processing related keyboard commands; Numeric Skills to deal with numbers and digits

**Reference Books:**

- Adobe Photoshop 7 by BPB PUBLISHING.
- Adobe Premier Pro Class room in a book, the official training workbook, Adobe at [ptgmedia.pearsoncmg.com](http://ptgmedia.pearsoncmg.com)
- InDesign CS6 in Simple Steps by Kogent Learning Solutions Inc. and Dreamtech Press
- Fundamental Keyboarding Skills: From The Typewriter To The Computer, Denise Chambers, Authorhouse, ISBN:978-1-4343-1457-4



**SEMESTER-II**  
**2PGDCA3(B) - FINANCIAL ACCOUNTING WITH TALLY**  
**(ELECTIVE-III)**

**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, and Configuration.

**UNIT-II**

Create, Alter & Display Groups and Ledgers, All accounting voucher types, Accounting Voucher transactions, Account Invoice transactions, Excise Invoice, Export Invoice, Transactions using Bill-wise details.

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. Create, Alter & Delete Budgets for groups, ledgers & cost centre, Defining credit limit & credit period, Display Budgets & variances, Create, Alter & Delete a scenario. Journal Transactions, payment voucher, Godown summary.

**UNIT-III**

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 break outstanding receivables & payables, interest receivable & payable, Statistics, Cash Fund flow, Day book List of Accounts, Reversing journals, optional vouchers, postdated vouchers.

**UNIT-IV**

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

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**

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.

***Reference Books:***

- Nadhani, K.K, Accounting with Tally, BPB Publications, New Delhi.
- Kogent Learning Solution, Tally ERP 9 in simple steps (Hindi), Dreamtech Press, New Delhi.
- Goyal, Hemant Kumar, Accounting through Computer, Radha Pocket Books.
- Goyal, Hemant Kumar Sharma, Rajkumar, a to z Accounting through computer, Ravi Pocket Books, Meerut.
- N. Satyapal, Using Tally, Khanna Books Publishers, New Delhi.
- Nadhani, Ashok K, Nadhani, Kisor K, Implementing Tally 9, BPB Publications, New Delhi.

**SEMESTER-II**  
**2PGDCA4(A) - MULTIMEDIA WITH CORELDRAW, PREMIER & SOUND FORGE**  
**(ELECTIVE-IV)**

**UNIT-I**

Introduction to CorelDraw, Usage and Advantages, Introduction to User Interface, Introduction to tool panel and workspaces, Introduction to various size and formats of panels and layouts, File layouts and layout properties, Objects and using color profiles.

**UNIT-II**

Text tools and text properties, Creating Vector graphics by using editing tools, Importing Images and graphics in Corel draw layout, Creating shapes and editing shapes, Drawing curves and editing curves, Creating special text effects, Creating special object effects, Using color effects.

**UNIT-III**

Using grid and rulers, Tracing images and graphics, working with borders and page arrangements, Using Masking effects with Text, Using Masking effects with objects.

**UNIT-IV**

**Adobe Premier:** Introduction, Area of Use, Setting up new Project, Workspace: Project Video Display, Selected Clip Display, project panel Project Timeline Toolbar,

Toolbar description: Selection Tool, Track Select Forward Tool, Track Select Backward Tool Ripple Edit Tool, Rolling Edit Tool, Rate Stretch Tool, Razor tool, Slip tool, Slide Tool, Pen Tool, Hand Tool, Zoom Tool.

Importing files into Premier, Sequence, Titles, Video Motion, Video Opacity, Transition Panel, Effect panel, Color Correction, Adjusting Video Speed, Saving Project, Exporting Video

**UNIT-V**

**Sound Forge:** Introduction, Interface, Editing Toolbar, Transport toolbar, Opening new file, playing a file, playing file from specific point, playing a selection, Basic Sound Editing: Copying, Pasting, Cutting, Deleting, Cropping, Mixing, Recording Audio Normalizing, Using Markers, Noise Reduction.

***Reference Books:***

- Learn Corel Draw 11 by BPB PUBLISHING
- Corel Draw the official Guide by Gray David Bouton, Corel Press
- Corel 1) mw Course 11, 12, X To X5 13Y VISHNU P. SINGI 1 I3IB PU I3LISHING
- Instant sound forge (Audio) Fisher, Jeffrey,
- A guide to film making with software tools: Adobe Premier and Sound Forge NuT

## **SEMESTER-II**

### **2PGDCA4(B) - PROGRAMMING WITH ASP.NET**

#### **(ELECTIVE-IV)**

##### **UNIT-I**

Concepts of Hypertext & HTML, Elements of HTML syntax, Head & Body Sections, Building HTML documents, Inserting texts, Images, Hyperlinks, Backgrounds and Color controls, 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-II**

Overview of Dynamic Web page, introduction & features of ASP.NET, Understanding ASP.NET Controls, Applications, Web servers, IIS, Web forms, web form controls, server controls, client controls. Adding controls to a web form, Buttons, Text Box, Labels, Checkbox, Radio Buttons, List Box.

##### **UNIT-III**

Running a web Application, creating a multiform web project, Form Validation: Client-side validation, server-side validation, Validation Controls: Required Field Comparison Range. Calendar control, Ad rotator Control, Internet Explorer Control, Accessing Data using Data Adapters and Datasets.

##### **UNIT-IV**

Database programming for websites, Creating Connection, Accessing Data using Data Adapters and Datasets, using Command & Data Reader, data bind Controls, data grid. Add, delete, move & update records to dataset. Projects in ASP.NET using database.

##### **UNIT-V**

Introduction to XML in .NET, XML basics, attributes, fundamental XML classes, Document, textwriter, textreader, XML validations, XML in ADO.NET, The XML Data Document, Introduction to Web services, State management- View state, Session state, Application state SOAP, web service description language.

#### ***Reference Books (Based on Visual Studio 2010 or Above):***

- The Complete Reference ASP.NET by Mathew Macdonald, TMH.
- Professional ASP.NET- Wrox publication.
- Active Server Pages 2.0 (Unleashed) by Stephen Waither: Techmedia.
- ASP 3 Programming Bible by Eric A. Smith: IDG Books.

## SEMESTER-II

### 2PGDCA4(C) - APTITUDE AND GENERAL AWARENESS

#### (ELECTIVE-IV)

#### UNIT-I

**Reading Comprehension** - Ability to read and understand passages in English comprising questions regarding locating information, identifying relationships, interpreting ideas, moods, characteristics of characters, tone of passage and getting the central theme. English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.

#### UNIT-II

**Mathematical Aptitude** - Mathematical Aptitude comprising concepts from Number Systems (Fraction, Surds, and Decimals, Number Series), Arithmetic (Percentage, Profit and Loss, Discount, Compound Interest & Annuities, Ratio & Proportions, Time, Work & Distance, 2 D & 3D Figures- Areas & Volumes)

#### UNIT-III

**Reasoning Aptitude** - Reasoning Aptitude focusing on Verbal and Logical Reasoning focusing on deriving conclusions from logical premises or assess the validity of arguments based on statement of facts, Mixed Reasoning, Non-Verbal Reasoning.

#### UNIT-IV

**General Awareness** - Indian History & Indian Geography, Indian Economy, Culture, Indian Constitution, General Policy & Scientific Research Science & Technology, Trends in Current Affairs, Books and Authors, Sports, Important Schemes, Important Days, Portfolios, People in News

#### Unit V

**IT Skills** - Internet skills such as using search engine effectively to get the best desired result within short time; uploading and downloading information from the Internet and usage of Internet applications such as web sites, browsers, blogs, and Internet services such as Email, video conferencing, Online Collaboration etc, Online Practicing MCQs based on all the above units.

#### **Reference Books**

1. Verbal and Non-Verbal Reasoning by Dr. RS Aggarwal, S. Chand
2. A new approach to Reasoning by B.S. Sijwali & S. Sijwali Arihant
3. CPCT Computer Proficiency and Certification Test Paperback – 1 January 2017
4. 20 Solved Papers CPCT Success Kit 2021, Arihant