

DETAILED SYLLABUS

POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS (PGDCA)



Department of Computer Applications & Science

**Makhanlal Chaturvedi National University of
Journalism and Communication, Bhopal**

**B-38 Vikas Bhawan, Opp Dak Bhawan, Press
Complex, Zone-1 M.P. Nagar, Bhopal – 462011
mcu.ac.in**

Post Graduate Diploma in Computer Applications (PGDCA) SEMESTER – I

S. No.	Paper Numerical Unique	Class & Papers	Paper Name/Subject	Theory paper		Practical Exams		Internal Evaluation		Total
				Max.	Min.	Max.	Min.	Max.	Min.	
1.	7617	1PGDCA1	Fundamentals of Computers & Information Technology	80	32	-	-	20	08	100
2.	7618	1PGDCA2	PC Packages (Word, Excel, Powerpoint)	50	20	30	12	20	08	100
Elective-I										
3.	7619	1PGDCA3 (A)	Database Using MySQL	50	20	30	12	20	08	100
4.	7620	1PGDCA3 (B)	Database Using MS-Access	50	20	30	12	20	08	100
Elective-II										
5.	7621	1PGDCA4 (A)	Fundamentals of Multimedia	50	20	30	12	20	08	100
6.	7622	1PGDCA4 (B)	Programming with VB .Net	50	20	30	12	20	08	100

Post Graduate Diploma in Computer Applications (PGDCA) SEMESTER – II

S. No.	Paper Numerical Unique	Class & Papers	Paper Name/Subject	Theory paper		Practical Exams		Internal Evaluation		Total
				Max.	Min.	Max.	Min.	Max.	Min.	
1.	7715	2PGDCA1	IT Trends & Technologies	80	32	-	-	20	08	100
2.	7716	2PGDCA2	Internet and Web Designing	50	20	30	12	20	08	100
Elective-I										
3.	7717	2PGDCA3 (A)	DTP with Page Maker & Photoshop	50	20	30	12	20	08	100
4.	7718	2PGDCA3 (B)	Financial Accounting with Tally	50	20	30	12	20	08	100
Elective-II										
5.	7719	2PGDCA4 (A)	Multimedia with Corel Draw, Premier & Sound Forge	50	20	30	12	20	08	100
6.	7720	2PGDCA4 (B)	Programming with ASP .Net	50	20	30	12	20	08	100

SEMESTER-I

1PGDCA1 - FUNDAMENTALS OF COMPUTERS & 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 and Its 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 and its Types- Word Processing, Spreadsheet, Presentation Graphics, Data Base 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.

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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, ls, 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, BPB Publications.
- Computers Today, A. Ravichandran, Khanna Book Publishing.
- Handbook of Computer Fundamentals by Nasib Singh Gill, Khanna Publishers.

M. Maheshwari
विभागाध्यक्ष
कम्प्यूटर अनुप्रयोग विभाग

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SEMESTER-I

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.

Using 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 and their 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 OpenOffice, Libre Office, Calligra Suite, WPS office, KOffice, Google Docs & Microsoft office.

MS Word Basics: 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

Advanced 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

M. Maheshwari
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footnote and endnote in documents, creating automatic Table of Contents, Using Themes, Watermarks, Inserting Equations & Symbols.

Graphics: Importing graphics, Clipart, Insert picture, Using Clip Art, 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/

M. K. Maheshwari
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SEMESTER-I
1PGDCA3(B) - DATABASE USING MS ACCESS
(ELECTIVE-I)

UNIT-I

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.

Reference Books:

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

M. Maheshwari
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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 Power Point 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

Application of Multimedia and its 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 types of 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. Ltd) New Delhi.
- Multimedia on the PC by IANR Sinclair, BPB Publisher