# **DETAILED SYLLABUS**

# DIPLOMA IN COMPUTER APPLICATIONS (DCA)



Department of Computer Applications & Science

Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal

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# Diploma in Computer Applications (DCA) SEMESTER – I

S. No.	Paper Numerical	Class & Papers	Paper Name/Subject	Theory paper		Prac Exa	tical ims	Inte Evalu		Total
	Unique			Max.	Min.	Max.	Min.	Max.	Min.	
1,	7805	1DCA1	Computers Fundamentals	80	32	3	-	20	08	100
2.	7806	1DCA2	PC Packages (Word, Excel, Powerpoint)	80	32	25	10	20	08	125
			Elective-I (Any one	)						
3.	7807	1DCA3 (A)	Database Using Foxpro	80	32	25	10	20	08	125
4.	7808	1DCA3 (B)	Database Using MS-Access	80	32	25	10	20	08	125

# Diploma in Computer Applications (DCA) SEMESTER – II

S. No.	Paper Class & Numerical Papers				Theory paper		Practical Exams		Internal Evaluation	
	Unique			Max.	Min.	Max.	Min.	Max.	Min.	
1,	7905	2DCA1	IT Trends	80	32		-	20	08	100
2.	7906	2DCA2	Internet and E-Commerce	80	32	25	10	20	08	125
			Elective-I (Any one	2)						
3.	7907	2DCA3 (A)	Multimedia with Corel Draw	80	32	25	10	20	08	125
4.	7908	2DCA3 (B)	DTP with PageMaker & Photoshop	80	32	25	10	20	80	125

## SCHEME FOR DIPLOMA IN COMPUTER APPLICATION (DCA)

### SEMESTER -I

Subject Code	Subject Name	Scheme		Theory Paper	Practical Exams	Internal Evaluation	Total Marks
		L P				11201120	
1DCA1	Computers Fundamentals	4		/80		20	100
1DCA2	PC Packages (Word, Excel, PowerPoint)	3	1	80	25	20	125
1DCA3(A) <b>OR</b> 1DCA3(B)	Elective – I Database Using FoxPro	3	1	80	25	20	125
	Database Using MS Access	3	1	80	25	20	125
Total	Poturo D Decetion 1)						350

Lecture, P-Practical)

## SEMESTER -II

Subject Code	Subject Name	Scheme		Theory	Practical	Internal	Total
		L	P	Paper	Exams	Evaluation	Marks
2DCA1	IT Trends	4		80		20	100
2DCA2	Internet and E-Commerce	3	1	80	25	20	125
2DCA3(A) <b>OR</b>	Elective - II  Multimedia With Corel Draw	3	1	80	25	20	125
2DCA3(B)	DTP with PageMaker & Photoshop	3	1	80	25	20	125
Total				-1/			350

## General Instructions:

1. For passing the subject examination minimum 40% marks must be separately scored in Theory Paper, Practical Exams and Internal Evaluation in the subject.

2. For passing the semester, minimum aggregate marks must be 45% in the semester.

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## SEMESTER-I

## 1DCA1 - COMPUTERS FUNDAMENTALS

#### UNIT-I

Brief history of development of computers, Computer system concepts, Computer system characteristics, Basic components of a computer system - Control unit, ALU, Input/Output, semiconductor Memory functions and characteristics, memory - RAM, ROM, EPROM, PROM and other types of memory, Capabilities and limitations, Generations of computers, Analog & Digital & Hybrid Computers, General & Special Purpose computers, Types of computers— Micro, Mini, Mainframe and Supercomputers, Characteristics and area of Uses.

Personal Computer (PCs-evolution of PCs, configurations of PCs, Pentium and Newer, PCs specifications and main characteristics, Types of PCs- Desktop, Laptop, Notebook, Palmtop, PDA etc.

#### 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

Storage Fundamentals - Primary Vs Secondary Data Storage and Retrieval Methods - Sequential, Direct And Index Sequential, Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Zip Drive, Optical Disks, CD, VCD, CD-R, CD-RW, DVD, DVD-RW, Video Disk, Blue Ray Disc, flash drives SD/MMC Memory cards, Solid-State Drive (SSD), Physical structure of floppy & hard disk, drive naming conventions in PC.

#### UNIT-IV

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 Language 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 computers-Binary, Octal, Decimal, Hexadecimal their conversion

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#### UNIT-V

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.

## 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.

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## SEMESTER-I

## 1DCA2 - 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, Icon, 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.

#### UNIT-II

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, Working with Headers and Footers, Tables: Creating a simple table, Creating a table using the table menu, Entering and editing text in a table.

## 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 footnote and endnote in documents, creating automatic Table of Contents,

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 Capfeatures in documents.

Mail Merge in MS Word, Mail Merge concept, Envelops & Mailing Labels, Importing and exporting to and from various formats

## 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,

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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, 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, SmartArt 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 options, Slide Master, Handout Master and Notes Master.

## 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/
- Windows 81. 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

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## **Practical Questions:**

Q. Load Microsoft Word & type the following text and do the following tasks:

## Television

How does television affect our lives? It can be very helpful to people who carefully choose the shows that they watch. Television can increase our knowledge of the outside world, there are high quality programmers that helps us to understand many fields of study, science, medicine, the arts and so on. Moreover, television benefits very old people, who can't often leave the house as well as patients in hospitals. It also offers non native speakers the advantage of daily informal language practice. They can increase their vocabulary and practice listening.

On the other hand, there are several serious disadvantages of television. Of course, it provides us with a pleasant way to relax and spend our free time, but in some countries, people watch the 'blood tube' for an average of six hours or more a day. Many children stare at a television screen for more hours each day than they do anything else including studying & sleeping. It's clear that the tube has a powerful influence on their lives and that its influence if often negative.

- 1. Save your work as "Television" on Desktop.
- 2. Set the heading: Font Times New Roman Size 18, align centre & Bold,
- 3. Set the remaining text with font Calibri & size 12
- 4. Underline the heading & change all letters to uppercase
- 5. Run the spell checker.
- 6. Apply indentation to the first line of the second paragraph
- 7. Change the line spacing of the paragraphs to 1.5.
- 8. Replace the word "screen" with monitor.
- 9. Apply a 6pt width page border to the document
- 10. Change the Page orientation to Landscape
- Q. Type the given text in similar format using list in the word:
  - 1. Select the first, then hold CTRL whilst selecting the rest
  - Right click on them
  - Double click on them
  - Use the TAB button
  - 2. How do you get capital letters using just one finger?
    - Use the SHIFT LOCK key
    - Use the TAB key
    - Use the ESCAPE key
    - Use the CTRL key
  - 3. What is the short cut for copying data to the clipboard?
    - CTRL + C
    - CTRL + X
    - CTRL + Z
    - CTRL + V

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Q. Create a table as shown below.

Sti	udent Name	Marks1	Marks2
First Name	Last Name		

- 1. Enter the detail in the table
- 2. Insert one row after Marks 2 and name its heading as Total
- 3. Calculate total of Marks1 & Marks2 and enter in Total Column
- 4. Bold the Student Name, Marks1, Marks2, & Total

# Q. Type the following text in Hindi using UNICODE

हँसी शरीर के स्वास्थ्य का शुभ सवांद देने वाली है। वह एक साथ ही शरीर और मन को प्रसन्न करती है। पाचन शक्ति बढ़ाती है, रक्त को चलती है और अधिक पसीना लाती है। हँसी एक शक्तिशाली दवा है। एक डॉक्टर कहता है कि वह जीवन कि मीठी मदिरा है। डॉक्टर ह्युड कहता है कि आनंद से बड़कर बहुम्ल्य वस्तु मनुष्य के पास और कोई नहीं। कारलाइल एक राजकुमार था। संसार त्यागी हो गया था वह कहता है कि जो जी से हँसता है, वह कभी बुरा नहीं होता। जी से हँसो, तुम्हे अच्छा लगेगा। अपने मित्र को हँसाओ, अब अधिक प्रसन्न होगा। शत्रु को हँसाओ, तुम से कम घर्णा करेगा। एक अनजान को हँसाओ, तुम पर भरोसा करेगा। उदास को हँसाओ, उसका दुःख घटेगा। एक निराश को हँसाओ, उसकी आशा बढेगी। एक बूढ़े को हँसाओ, वह अपने को जवान समझने लगेगा। एक बालक को हँसाओ, उसके स्वास्थ्य में वृद्धि होगी। वह प्रसन्न और प्यारा बालक बनेगा। पर हमारे जीवन का उद्देश्य केवल हँसी ही नहीं है, हमको बहुत काम करने हैं। तथापि उन कामों में, कष्टों में और चिंताओं में एक सुँदर आतंरिक हँसी, बड़ी प्यारी वस्तु भगवान ने दी है।

- Q. Send a letter to your classmates using mail merge.
- Q. Write about introduction of computer and insert pictures related to it.
- Q. Open Microsoft Excel and perform the following
- Input experimental data into Microsoft Excel worksheet.
- Properly format and organize data inserted.
- Perform calculations in Microsoft Excel using formulas and various built-in functions.
- Generate simple and effective tables and graphs to describe experimental data in Microsoft Excel.
- Integrate both graphs and tables created in Microsoft Excel into Microsoft Word document.
- Q. Present Power Point Slides to explain various input devices
- Q. Present Power Point Slides to exp¹ain various output devices
- Q. Present Power Point Slides to show various tourist places of Madhya Pradesh.
- Q. Apply text and slide transitions
- Q. Insert image & sound file in Presentation

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## SEMESTER-I

# 1DCA3(A) - DATABASE USING FOXPRO

## (ELECTIVE-I)

#### UNIT-I

The RDBMS for PC, Concept of database, FoxPro - Versions, features, requirement of Hardware and Software FoxPro- Menu System, Working with FoxPro Creating Database File Some common operations on data-CREATE, LIST, APPEND, CLOSE, QUIT, FoxPro- Data Types Viewing and Editing Data ,Data Displaying Commands-LIST, DISPLAY, LOCATE, EDIT, CHANGE, BROWSE, REPLACE, DELETE, RECALL, PACK (All Commands with various Options)

## UNIT-II

File utilities in FoxPro Modify Structure, Memo Field and File Utilities- DISPLAY DIRECTORY, COPY, DELETE, RENAME. Sorting and Indexing of Database Files Sorting & Indexing Concept Sort Commands- Single & Multiple Key Advantage & Disadvantages of Sort, Indexing Vs Sorting, Single & Multiple Key, Indexing, FIND, SEEK, FoxPro Report- its creation, features & Utilities, Preview, Printing Custom Report, grouping & Sub grouping, FoxPro Label- Designing & Printing

#### UNIT-III

Memory Variables, Date & Time Functions and, Keyboard Macros, Memory Variables-Creation and Uses, Simple Vs Array Saving and Restoring Memory Variables, ?/??/??? Commands Time & Date Functions and Commands, Date Arithmetic, Converting Defining Function Keys, Keyboard Macros- Creating and Using Mathematical Commands, Functions, Arithmetic Operations, Mathematical Functions

## UNIT-IV

Programme with Foxpro Concepts of FoxPro commands file, Modify Commands Conditioning, Branching and Looping within Program files with, Do- While Enddo, If-Endif, Scan-Endscan, For- Endfor, Docase Endcase, Text- Endtext, Executing Commands from other command files, Macro Substitution, Common Error Massages, Debugging techniques and commands

## UNIT-V

Concept of Multiple Database Files- Using multiple database files, Relationing the database- SET RELATION, UPDATE, APPEND, FROM, COPY TO, JOIN, Relation Queby Example and SQL CUSTOM SCREENS & USER DEFINE FUNCTIONS & OTHER TOOLS, Create Custom Screen with @, @\_GET, @LEDIT, @\_SAY\_GET\_READ, Creating Box & Lines, User Define Functions, Custom Screen Designing and their Use, FoxDoc for documentation

## Reference Books:

- Foxpro made simple by R.K. Taxali, BPB publications.
- Mastering Foxpro 2.5 BPB Publications.
- Foxpro 2.6 for Dummies- Pustak Mahal.

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## **Practical Questions:**

Q. Create New Database name "student" (with relevant data type) and add following records:

Roll_NO	FNAME	SNAME	CITY	COURSE	FEE_DEPOSITED
100	ANIL	VRCE	BHOPAL	DCA	1000.00
101	SUNIL	RANA	DELHI	DCA	500.00
102	MEHUL	KOSHIK	BOMBAY	PGDCA	1500.00
104	MADHURI	CHANDI	PATNA	BCA	1200.00
105	PRMOD	MEHRA	NAGPUR	DCA	2000.00
106	SANDIP	DHEER	NAGPUR	PGDCA	1200.00
107	SHIVANI	VIRAR	SURAT	PGDCA	1000.00
108	KRANTI	NEHRU	DELHI	DCA	500.00
109	MINU	POWAI	BHOPAL	PGDCA	700.00
110	VINOD	SINHA	BHOPAL	BCA	800.00

Perform the following operation on above database:

- To display all records in the database
- To display records based on some conditions
- To display the structure of the database
- To display Fname and city whose course name is dca
- To delete current record
- To delete records based on some condition
- To delete all the records in current database
- To replace all BOMBAY with MUMBAI
- To give details of fname & sname having fees deposited between 1400 and 3000.
- Modify the table and add one more field "INSTITUTE\_NAME" and fill the data
- Sort/Index with City
- Sort/Index with FNAME & SNAME
- To count the number of records in the database
- To calculate the total fees deposited
- To input records and add them in the database
- Find the name of the student who deposited minimum fees
- To Display the sum of fees deposited by all DCA students
- To Display the sum of fees deposited in each course
- Add one more column "FINE" in table and insert 50 Rs in each record.
- Add one more column "TOTAL" in table and update the table as TOTAL = FEE DEPOSITED + FINE
- Delete the column "TOTAL"
- Create two tables with attribute of your choice and perform the join operation

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## SEMESTER-I

# 1DCA3(B) - DATABASE USING MS ACCESS (ELECTIVE-I)

#### UNIT-I

Introduction to database- What is a Database, Why use a Relational Database, concept of primary key relationship, Introduction to MS Access (Objects, Navigation)

#### UNIT-II

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

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, 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

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

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

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## **Practical Questions:**

Q. Create New Database name "student" (with relevant data type) and add following records:

Roll_NO	FNAME	SNAME	CITY	COURSE	FEE_DEPOSITED
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101	SUNIL	RANA	DELHI	DCA	500.00
102	MEHUL	KOSHIK	BOMBAY	PGDCA	1500.00
104	MADHURI	CHANDI	PATNA	BCA	1200.00
105	PRMOD	MEHRA	NAGPUR	DCA	2000.00
106	SANDIP	DHEER	NAGPUR	PGDCA	1200.00
107	SHIVANI	VIRAR	SURAT	PGDCA	1000.00
108	KRANTI	NEHRU	DELHI	DCA	500.00
109	MINU	POWAI	BHOPAL	PGDCA	700.00
110	VINOD	SINHA	BHOPAL	BCA	800.00

Perform the following operation on above database:

- To display all records in the database
- To display records based on some conditions
- To display the structure of the database
- To display FNAME and city whose course name is DCA
- To delete current record
- To delete records based on some condition
- To delete all the records in current database
- To replace all BOMBAY with MUMBAI
- To give details of FNAME & SNAME having fees deposited between 1400 and 3000.
- Modify the table and add one more field "INSTITUTE\_NAME" and fill the data
- Sort/Index with City
- Sort/Index with FNAME & SNAME
- To count the number of records in the database
- To calculate the total fees deposited
- To input records and add them in the database
- Find the name of the student who deposited minimum fees
- To Display the sum of fees deposited by all DCA students
- To Display the sum of fees deposited in each course
- Add one more column "FINE" in table and insert 50 Rs in each record.
- Add one more column "TOTAL" in table and update the table as TOTAL = FEE DEPOSITED + FINE
- Delete the column "TOTAL"
- Create two tables with attribute of your choice and perform the Join operation
- Create form to Input data using various controls

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## SEMESTER-II

## 2DCA1 - IT TRENDS

#### UNIT-I

Multimedia Definition and concept, need of Multimedia, areas of use, multimedia elements- Text, Images, Sound, Animation and Video, Multimedia Hardware and Software requirement. Making simple Multimedia with PowerPoint Application of multimedia in different industries- Education, Entertainment, Journalism etc., Future of Multimedia, Career in Multimedia Production

## UNIT-II

Text as a component of Multimedia, Concepts of plain & formatted text, RTF & HTML texts, Object Linking and Embedding concept, Fonts- need & types, Importance of sound in Multimedia, Mono V/S Stereo Sound, 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.

#### UNIT-III

E-governance, e-democracy, Government efforts to encourage citizen participation, PPP model, E-governance websites & services- SAMADHAN online, CM Helpline, MPonline services, mygov.in of government of India UIDI & Adhar, E-governance mobile apps like umang, Digital Locker, Digital Library, Introduction to cyber crime, types of attacks & crime – email fraud, phishing, spoofing, hacking, spyware, malware, spam mail, logic bombs, denial of service, identity theft.

## UNIT-IV

Introduction to wireless LAN, Blue tooth, WiFi, WiMax Mobile technology, 2G, 3G, 4G 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-V

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 drive, Google Doc, Google form

## Reference Books:

- Fundamentals of Information Technology By Alex Leon & Leon, Vikas Publications
- Frontiers Of Electronic Commerce, By- Kalakota, Ravi; Stone, Tom, Whinston, Andrew B, Addison Wesley Publishing Co, ISBN 8178080575
- E-Commerce An Indian Perspective (Second Edition) By Pt Joseph, S.J., Prentice-Hall Of India
- Recent Magazines of Computers and Communication
- Multimedia: Making It Work (4th Edition) By Thyvaughan, Tata Mcgraw Hills
- Multimedia in Action James E Shuman, Vikas Publishing House

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## SEMESTER-II

## 2DCA2 - INTERNET AND E-COMMERCE

#### UNIT-I

Introduction to Internet - Internet Evolution, Word Wide Web (WWW), Advantages and Disadvantages, Internet Vs Intranet, the purpose and function of an Internet Service Provider (ISP), Connectivity - Dialup, Leased line, VSAT, URLs, Portals, Internet Services, Application, E-MAIL- Basics of Sending & Receiving, Free Email services, Protocols, FTP, DNS, TCP, UDP, HTTP, IP Telnet Concept, Internet chatting- Voice chat, Text chat, Web Servers, Space on Host Server for Website, Web Portals & Web publishing concepts, Domain name registration.

## UNIT-II

Basic Operations using Internet Browser-Working with Applications of Internet, browsers, View History in Browser, Search Engines, Searching information on Wikipedia, Subscribing and reading newspapers online, Typing text in the regional language- Google input tools, 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, Create & Using Using JustDial/quikr.com/getit.co.in/sulekha.com to find online services, social sites, Client server architecture & characteristics, Telnet (Remote login concepts) & FTP its uses.

## UNIT-III

HTML- Concepts of Hypertext, Versions of HTML, Elements of HTML, HTML editors, Tags and attributes, Syntax, Head & Body Sections, Building, HTML Documents. Inserting Texts, Images, List & its type, Hyperlinks, Backgrounds And Color Controls. Table Layout and Presentation, Use of Font Size & Attributes, List Types and Its Tags, Use of Frames and Forms in, Web Pages HTML, Form and frame Design tools.

## UNIT-IV

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

#### UNIT-V

Introduction to E-Commerce, Electronic Commerce Framework, Evolution of Ecommerce, Advantages and Disadvantage of E-commerce, Introduction, organization, Electronic Payment Systems, Electronic Cash, Smart Cards and Credit Card Based, Risks, Online Banking, E-Banking, E-Wallet, E shopping, E-Marketing: The scope of E-Marketing, M-commerce- introduction, Potential Growth and Future, Mobile banking, Paytm, Bhim, UPI app etc.

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## 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. Prentice-Hall Of India
- Internet For Everyone Alexis Leon And Mathews Leon, Vikas Publishing House
   Pvt. Ltd., New Delhi
- Internet For Dummies Pustak Mahal, New Delhi
- A Beginners Guide To Html Available At:Http://Www.Ncsa.Uiuc.Edu /General /Internet /Www.htmlprimerall.html
- Introduction to Javascript Available at Www. mcu. Ac. In/Javascriptguide.pdf

## **Practical Questions:**

- Q1. How to link an image to another page in HTML,
- Q2. How to create a link that opens a new web page window or tab.
- Q3. How to create links to sections on the same page in HTML.
- Q4. Creating images as links with no borders.
- Q5. Creating a link without an underline in HTML.
- Q6. Changing link color when moving mouse over link in HTML.
- Q7. Creating a link to play a sound file in HTML.
- Q8. How to create a link that goes to top of a web page.
- Q9. Creating HTML push button link and creating an HTML back button.
- Q10. How to create a link to automatically run .exe file once downloaded.
- Q11. Creating a mail link on a web page

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## SEMESTER-II

# 2DCA3(A) - MULTIMEDIA WITH COREL DRAW (ELECTIVE-II)

#### UNIT-I

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-II

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-III

Introduction to Corel draw, 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-IV

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-V

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

## Reference Books:

- Learn Corel Draw 11 by BPB PUBLISHING
- Corel Draw the official Guide by Gray David Bouton, Corel Press
- Corel Draw Course 11, 12, X To X5 BY VISHNU P. SINGH, BPB PUBLISHING

## **Practical Questions:**

- Q. Refer the following points and Design a Birthday Party invitation card. Invitation Card should contain following:
- Size of card  $-4.5 \times 6.25$  or  $5 \times 7$  inches
- Invitation Matter (Hindi or English)
- Name of Birthday Boy/Girl. (Hindi or English)

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- Venue name & address (Hindi or English)
- Date of Birthday Party
- Host Name & address
- Card Template and colour should match with mood of occasion.
- Q. Design a cover page for a book on "Human Behaviour". Book Cover should include the following:
- Name of Book
- A picture or graphics related to theme.
- Name of author (Dr. XYZ Kumar)
- Name of Publisher and logo (Any publisher of your choice).
- Price of the book.
- Cover page of Book 6 x 9 inches.
- Insert pictures and graphics according to theme.
- Q. Design a Newspaper front page. The front page should include the following points:
- Masthead (newspaper name and logo)
- Price and Date
- Lead of story headline
- Inside stories
- Lead Story Write up
- Your front page Picture
- May include an advertisement.
- Front page of newspaper size 16.5 x 23.4 inches.
- Insert pictures and graphics according to news.

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## SEMESTER-II

# 2DCA3(B) - DTP WITH PAGEMAKER & PHOTOSHOP (ELECTIVE-II)

## UNIT-I

Introduction to Desk Top Publishing, Introduction to Desk Top Publishing (DTP), History, Definition, Need and Area of Application, Difference between a word processor and Publication Software, Use and importance of DTP in Publication & Newspaper Printing, Various DTP Softwares, Introduction to Offset Printing Technology, Printers Formatting of a text: Typography, Fonts, Point Size, Spacing, Breaks, Measurements etc., Types of Printing: Lithography, Flexography, Gravure, Screen Printing, Offset Printing. Working of offset Printing, Terms used in Offset Printing: Bleed, CMYK, Impressions, Importance of D.T.P in Publication, Advantage of D.T.P in Publication. Laser printers - Use, Types, Advantage of laser printer in publication

#### UNIT-II

Adobe Page Maker - Introduction to Page Maker, Aldus & Adobe Page Maker, Previous and current versions of Page Maker, Page Maker as a DTP Software, Attribute settings: Tools, Styles, Menus, Alignments, Grids, Guides etc., Keyboard shortcuts, Page Layouts- Margins and Page Orientations with various page sizes, Text Editing and Manipulation, Filters, Import and Export options, Placing of Text and Images, Auto flow and Story Editor, Different Layout views, Tab setting, Columns & Gutters, Use of Styles, Palettes & Colours, Find Option & Document Setup

## UNIT-III

Adobe Page Maker- Page and document setup, working with rulers, setting the unit measurement, Bullets, Column Balancing, Breaks, Text Wrapping, Widows & Orphan lines, Revert Command and its use, Using Drop Caps and various style formats, Editing of Graphics and Frames, OLE & Embedding, Plug-ins, Mathematic Equation, Table Editor and it use, Master Pages, Headers & Footers, Frame Options, Print Setup Options, Managing and Printing Publications – Tiles, multiple copies etc. Use of Page Maker in News paper and Magazines

## UNIT-IV

Introduction to Adobe Photoshop, Photoshop Documents, Various Graphic Files and Extensions- JPG, GIF, PNG, TIF, BMP, PSD, CDR, SVG etc., Graphic Files: Vector Image and Raster Images. Definition, Features, Area of application etc., Advantages and Disadvantages Vector & Raster Graphics, Bitmap Graphics, Pixels, Application Programs to work on Vector Graphics and Raster Graphics, Various Color Modes and Models: HSB, RGB, CMYK, Bitmap, Grayscale, Duotone

Image: Image Size and Resolution, Changing Image Size and Resolution, Getting Image from Input Devices, Creating New image in Photoshop, Using File Browser, Opening and Importing Selecting Image, Adjusting Pixel, Snap command, Saving and Loading Selection, Deleting Selection

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## UNIT-V

Photoshop - Introduction PSD files. Screen and Work Area Interfaces: Menu Bar, Option Bar, Palette, Active Image Area, Tool Box List etc., Opening a File, Saving a File, Closing a File, Tool: Icons, Name and usage of Each tool, Setting History Option, Photoshop Layers & Palettes: Use of Layers, Why Use Layers, Using layer palette, Creating Layers and Layer Sets, Background layer

Working with layered Image: Layer and Layer sets, Selecting Layers, Displaying Content of a Layer, Duplicating Layers, Changing Order of Layers, Linking and Aligning Layers, Renaming, Deleting Layer, Color Coding, Rasterizing Layer, Setting Opacity and Blending, Layer Effect and Style, Applying Preset Style, Creating Custom Style, Masking Layer

Filters: Using Filter Gallery, Filter Gallery Dialogue box, Applying and Blending Filters, Choosing various Filter Effects

## Reference Books:

- Adobe PageMaker 7.0 Classroom in a Book, Publisher Adobe
- The Complete Reference Getting started with Page Maker, McGraw-Hill
- Photoshop 6.0 by Sharma, Shusmit
- Photoshop CS6 All-in-One For Dummies by Barbara Obermeier, John Wiley & Sons

## **Practical Questions:**

- Q. Prepare passport size photographs to print on A4 Sheet.
  - Passport photograph size 35 x 45 mm
  - Select a photograph and resize it to  $35 \times 45$  mm in passport size photograph style.
  - Change the background of photo to plain background.
  - Insert name and date on photograph.
  - Place 20 photographs in a 4 x 5 pattern to print them on a A4 Sheet.
- Q. Colorize a black and white photograph to color.
  - Select any black white (old) photograph of your parents or relatives.
  - Scan this photograph.
  - Colorize the photograph with your imagination.
  - Try to match skin tone hair color.
  - Try to colorize dress and environment as real as possible.
  - Finally save the new image in jpeg format.

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- Q. Refer the following points and Design a Visiting Card based on following points:
  - Design a visiting card for Somesh Kumar who is a managing director of BigTech Pvt. Ltd.
  - Company works in the field of software development.
  - Visiting card should contain mobile no. 789—9889-987.
  - Visiting card should contain office address Zone II, M.P. Nagar, Bhopal.
  - Visiting card size should 3.5 x 2 inches.
  - Cards theme and colour should match the company's work profile.
  - Try to prepare at least 3 variations for visiting card.

