

**MOTHER TERESA WOMEN'S UNIVERSITY**  
**KODAIKANAL-624101**

**SYLLABUS FOR**  
**PGDCA**

**(CHOICE BASED CREDIT SYSTEM)**



**From 2021 Onwards**

# MOTHER TERESA WOMENS UNIVERSITY, KODAIKANAL

(AS PER TANSICHE RULES)

## DEPARTMENT OF COMPUTER SCIENCE

### P.G.D.C.A

#### ALLOCATION OF PAPERS AND CREDITS FOR PGDCA PROGRAMME –

#### 2021-22 ACADEMIC YEAR

##### I SEMESTER

S.NO.	SUBJECT CODE	SUBJECT NAME	HOURS	CREDITS	INT	EXT	TOTAL
01.	PDCAT11	Programming in C	6	5	25	75	100
02.	PDCAT12	Office Automation	6	5	25	75	100
03.	PDCAT13	Foundation in Computer Science	6	5	25	75	100
04.	PDCAP14	Programming in C Lab	6	5	40	60	100
05.	PDCAP15	Office Automation Lab	6	5	40	60	100
<b>Total</b>			<b>30</b>	<b>25</b>			

##### II SEMESTER

S.NO.	SUBJECT CODE	SUBJECT NAME	HOURS	CREDITS	INT	EXT	TOTAL
01.	PDCAT21	Software Engineering	6	5	25	75	100
02.	PDCAT22	Internet and Web Technology	6	5	25	75	100
03.	PDCAT23	Desktop Publishing (DTP)	6	5	25	75	100
04.	PDCAP24	Desktop Publishing (DTP) Lab	6	5	40	60	100
05.	PDCAP25	Web Designing using HTML Lab	6	5	40	60	100
<b>Total</b>			<b>30</b>	<b>25</b>			

## SCHEME OF EXAMINATION

### Theory

**Internal - 25**

Test	-	15
Seminar/Activity	-	5
Assignment	-	5
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Total	-	<b>25</b>
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**External - 75**

### Practical

**Internal - 40**

**External - 60**

## QUESTION PATTERN

### **Theory – Internal**

Part - A	-	10 X 1 MARKS = 10	
Part - B	-	2 X 3 MARKS = 6	
Part - C	-	1 X 9 MARKS = 9	
			-----
Total	-		<b>25</b>

### **Theory - External**

Part – A (OBJECTIVE TYPE)	-	10 X 1 MARKS	= 10	
Part – B (EITHER OR CHOICE)	-	5 X 4 MARKS	= 20	
Part – C (3/5)	-	3 X 15 MARKS	= 45	
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Total	-			<b>75</b>

### **Practical (Internal – 40)**

Process	-	10	
Result Verification	-	10	
Viva	-	5	
			-----
Total	-	25	
Record	-	15	
			-----
Total	-	<b>40</b>	

### **Practical (External– 60)**

Process	-	25	
Result Verification	-	25	
Viva	-	10	
			-----
Total	-	<b>60</b>	
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**Objectives:**

- **To understand the history of C and how to write a C program**
- **To be familiar with Operators, Conditional and Looping Statements in C**
- **To learn about Arrays and its applications with C**
- **To implement Functions and Strings in C**
- **To get knowledge about the usage of Pointers in C**

**UNIT I**

History of C- Importance of C- Basic Structure of C Programs- Executing a 'C' Program- Character Set-C Tokens-Keyword and Identifiers-Constants-Variables-Datatypes

**UNIT II**

Operators – Decision Making and Branching: If Statement- If...Else Statement- Nesting If...Else Statement- Else If Ladder- Switch Statement- Decision Making and Looping: While Statement-Do Statement- For Statement

**UNIT III**

Arrays- One-dimensional Arrays-Declaration and Initialization of One-dimensional Arrays-Two-dimensional Arrays-Function-Definition of Function- Function Declaration-Category of Function

**UNIT IV**

Strings- String-handling Functions- Structures- Defining a Structure- Declaring Structure Variables- Accessing Structure Members-Structure Initialization- Array of Structures- Unions

**UNIT V**

Pointers- Understanding Pointers-Accessing the Address of a Variable- Declaring Pointer Variable-Accessing a Variable through its Pointer-Chain of Pointer- Pointers and Arrays

**TEXT BOOK:**

1. E.Balagurusamy ,”Programming in ANSI C” ,Tata McGraw-Hill Education, Fourth Edition, 2008

**REFERENCE BOOKS:**

- 1 Programming with C - 2nd Edition by Byron Gottfried , Schaum Series
- 2 The C Programming Language” by Brian W Kernighan / Dennis Ritchie, Second Edition

**Objectives:**

- **To understand the basics of MS Word in Office Packages**
- **To get knowledge by comparing different office suites**
- **To study the advanced features of MS Office**
- **To explore Spreadsheet MS-Excel application and its advanced aspects**
- **To learn the usage of Presentation software MS-PowerPoint**

**UNIT I**

MS Word Basics: Introduction to MS Office, Introduction to MS Word, Features & area of use. Working with MS Word, Menus & Commands, Toolbars & Buttons, Shortcut Menus, Wizards & Templates, creating a New Document, Different Page Views and layouts, Paragraph and Page Formatting, Text Editing using various features; Bullets, Numbering, Autoformatting

**UNIT II**

Advanced Features of MS-Word: Spell Check, Thesaurus, Find & Replace; Headers & Footers, Insert Menu-Working with Columns, Tabs & Indents, Creation & Working with Tables-Margins & Space management, Adding References and Graphics, Mail Merge, Envelops & Mailing Labels.

**UNIT III**

MS Excel: Introduction - working with MS Excel, Toolbars, Menus and Keyboard Shortcuts, concepts of Workbook & Worksheets, Using Wizards, Various Data Types, using different features with Data, Cell and Texts -Working with Data & Ranges, Different Views of Worksheets.

**UNIT IV**

Advanced Features of MS Excel: Multiple Worksheets: Concept, Creating and Using Multiple Worksheets; Use of Formulas, Calculations & Functions, Various types of Functions, Working with Different Chart Types, Chart Wizard, Printing of Workbook -Database: Creation, Sorting, Query and Filtering a Database- Creating and Using Macros

**UNIT V**

MS PowerPoint: Introduction- Creating a New Presentation-Using Wizards; Slides- Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists, Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects-Apply Animation, Printing Presentations, Notes, Handouts

**TEXT BOOKS:**

1. WINDOWS XP Complete Reference. BPB Publications
2. MS OFFICE XP Complete Reference. BPB Publications

**REFERENCE BOOKS:**

1. Microsoft Office for Windows by Sheila S.Djenu
2. MS Access Complete Reference by Anderson

**Objectives:**

- **To understand the importance and use of operating systems**
- **To study the various types of operating system**
- **To learn about the Database Systems and its significance**
- **To explore the SQL commands in RDBMS**
- **To understand the concepts of Computer Network and its protocols**

**UNIT I**

Introduction to operating systems – Computer system organization, architecture – Operating system structure, operations – Process, memory, storage management – Protection – Distributed systems – Computing Environments – OS services – User operating-system interface

**UNIT II**

System calls – Types – System programs – OS structure – OS generation – System Boot – Process concept, scheduling – Operations on processes – Cooperating processes – Inter-process communication – Multithreading models – Thread Libraries – Threading issues – OS examples.

**UNIT III**

Database Systems-Database-System Applications-Purpose of Database Systems-View of Data-Database Languages-Database Design- Database Engine- Database and Application Architecture-History of Database-The Entity-Relational Model

**UNIT IV**

Structure of Relational Databases – Database Schema – Relational Query Languages – Overview of SQL – SQL Data Definition- SQL queries- Set Operations – Aggregate functions – Joins – Views

**UNIT V**

Overview: Data Communication - Network Types - TCP/IP Protocol Suite - The OSI Model - Digital Signals - Data rate limits - Performance - Line Coding - Block Coding - Transmission Media: Guided Media - Unguided Media

**TEXT BOOKS:**

1. Abraham Silberschatz, Peter B. Galvin, Greg Gagne, —Operating System Concepts Essentials, John Wiley & Sons Inc., 2010.
2. Henry F Korth, Abraham Silberschatz, S. Sudharshan, “Database System Concepts”, McGraw Hill, Sixth Edition, 2011
3. Behrouz A. Foruzan, “Data communication and Networking”, Tata McGraw-Hill, Fifth Edition, 2013

**REFERENCE BOOKS:**

1. Operating Systems, William Stallings, Second edition, Maxwell McMillan, International Editions, 1997.
2. Computer Networks A Systems Approach, 5th Edition, by Larry Peterson Bruce Davie, publisher Morgan Kaufmann

**Objectives:**

- **To practice to implement a C program**
- **To understand the implementation of Operators and Arrays**
- **To study to handle Functions and the implementation in C**
- **To learn how to program Strings in C**
- **To explore how to use Pointers in C for various applications**

**Write C Programs to implement the following,**

1. Decision Making Statements (if, if-else, nested if, switch)
2. Looping Statements (for, while and do-while)
3. One Dimensional Array
4. Two-Dimensional Array
5. Function
6. String Handling Functions
7. Structure
8. Union
9. Pointers



**Objectives:**

- **To practice implementation of Table and Mail Merge in MS-Word**
- **To learn how to handle pictures and calculations in MS-Word**
- **To develop programming skills in MS-Excel**
- **To practice creation of database in MS-Excel**
- **To learn how to use Presentation software MS-PowerPoint**

**MS WORD**

1. Prepare Bio-data using Word
2. Design a Certificate using Word
3. Prepare a business letter and forward through Mail Merge
4. Design a Invitation using Word

**MS EXCEL**

5. Prepare an Excel sheet to perform sales analysis (Use Functions and Formula)
6. Prepare an Excel sheet to display the different Charts types for the given data
7. Prepare an Excel sheet and apply Filters on the given data.
8. Create Excel Database
9. Create Excel Macros

**MS POWERPOINT**

10. Create a PowerPoint presentation with all possible animation effects on the given topic

**Objectives:**

- **To understand the basic concepts of software**
- **To be expertise in Software Process Models**
- **To study about System analysis, DFD and data dictionary**
- **To know about various software, data designs**
- **To learn how to analyse, design and test a software**

**UNIT I**

The Evolving Role of Software – Software – The changing Nature of Software – Legacy software — A generic view of process– A layered Technology – A Process Framework – The Capability Maturity Model Integration (CMMI) –Product and Process.

**UNIT II**

Process Models – The Waterfall Model – Incremental Process Models – Incremental Model – The RAD Model – Evolutionary Process Models – Prototyping – The Spiral Model – The Concurrent Development Model

**UNIT III**

System Analysis-Requirement Analysis-Analysis Modeling Principles-Elements of Analysis Model-Data Modeling-Creating a Data Flow Model-Data Dictionary

**UNIT IV**

Software Design- Design Principles- Design Concepts- Effective Modular Design-Design Heuristics for Effective Modularity-The Design Model- Software Architecture- Data Design

**UNIT V**

Software Testing fundamentals – White Box Testing- Black Box Testing – Unit Testing- Integration Testing- Validation Testing- System Testing

**TEXT BOOK:**

1. Roger. S. Pressman, Software Engineering - A Practitioner's Approach, 7th Edition, McGraw Hill, 2010

**REFERENCE BOOKS:**

1. Rajib Mall, “Fundamental of Software Engineering “, 3rd edition, PHI, 2009.
2. Naseeb Singh Gill, “Software Engineering: Software reliability, testing and quality, Khanna Book Publishing, 2011.

**Objectives:**

- **To gain knowledge of Internet and its components**
- **To learn about Search Engines and its different menu options**
- **To understand the various HTML Text formatting controls**
- **To study the Frames and Forms for effective web designing**
- **To be expertise with website creation using HTML controls**

**UNIT I**

Introduction to The Internet: Computer in Business - Networking - Internet - E-mail - Resource Sharing- Gopher - World Wide Web – Usenet- Telnet - Bulletin Board Service - Wide Area Information Service

**UNIT II**

Internet Technologies: Modem - Internet addressing - Physical connections - Telephone Lines: Leased Lines-Speed-Frame Relay-ISDN – Internet browsers - Internet Explorer - Netscape Navigator

**UNIT III**

Introduction to HTML: Designing a home page -History of HTML- HTML documents - Anchor tag - Hyper Links-Header- Title-Links- Web Page-Comment Lines-Paragraph- Images and Pictures

**UNIT IV**

Lists- Unordered Lists-Heading in a List-Ordered Lists- Nested Lists-Tables-Table creation-Width of the Table and Cell- Cell Spanning Multiple Rows/Columns-Coloring Cells- Column Specification- Frames-Frameset Definition -Frame Definition-Nested Framesets

**UNIT V**

Forms-Action Attribute-Method Attribute-Enctype Attribute-Drop Down List- DHTML and Style Sheets- Defining Styles-Elements of Styles-Linking a Style Sheet- Inline Styles-External Style Sheet-Internal Style Sheet

**TEXT BOOK:**

1. C Xavier, "World Wide Web Design with HTML", Tata McGraw Hill Publishing Company Ltd, 2000

**REFERENCE BOOKS:**

1. Pawel, Thomas A. HTML Complete Reference. New Delhi: Tata McGraw Hill,2010
2. H.M.Deital, P.J. Deital, "Internet and World Wide Web - How to Program", 4th Edition PHI Learning.

**Objectives:**

- **To familiarize the emerging trends in DTP**
- **To understand the significance of CorelDraw in designing**
- **To study the designing a document using PageMaker**
- **To design effectively using various tools in Photoshop**
- **To expose the real time applications of DTP tools**

**UNIT I**

Introduction-DTP-Letterpress Printing- Lithography and offset printing- hardware requirement- Software requirement-Text editors-Word Processors-Vector Illustration Applications-Bitmap Image Editing Applications- Page Layout Applications-Generic Process in Desktop Publishing

**UNIT II**

CorelDraw-Introduction- Opening – Dialog Box-Status Bar-Cartesian Coordinates-The Property Bar - Creating a Text File- Basic Terms-Toolbox-Page and Pasteboard- Standard Tool Bar-Handling Shapes using Property Bar

**UNIT III**

CorelDraw-Rotating Objects-Lines and Arrows-Page and Document Setup- Rulers, Guidelines and Grid- Using Dockers Windows- Using Text- Artistic Text-Paragraph Text-Formatting Text-Printing a Drawing- Arrangement of Objects

**UNIT IV**

Photoshop-Introduction-Opening-Saving-Closing an image-Creating a new image-using toolbox-Tool Option Bar-Using Layers-Fascinating colour -Inserting Text in images- Printing Images-Filters to improve the images

**UNIT V**

PageMaker-Creating a new publication- The Dialog Box- Text Blocks-Handling Pages-Using Tool Bar-Importing Text and Pictures- Wrapping Text around Pictures- Character-level formatting-Paragraph-level formatting-Using Story Editor- Using Styles

**TEXT BOOK:**

1. ShirishChavan, “Rapidex Desktop Publishing Course”, UNICORN Books Pvt. Ltd., 2007

**REFERENCE BOOKS:**

1. Learning Desk Top Publishing ,Bangia, Ramesh (2011).. Delhi : Khanna Book Publishing.
2. Comdex Desk Top Publishing, Gupta, Vikas (2004)..Delhi : Dream tech Press.
3. Sanjay Saxena,“A First Course in Computers”, Vikas Publishing House, 2005

**Objectives:**

- **To be primed of Desktop Publishing**
- **To learn various facet of editing a picture using Coral Draw**
- **To practice designing and formatting images using Photoshop**
- **To practice about the designing and editing of books using page makers**
- **To learn how to design a Cards, Certificates and Pamphlet**

**PHOTO SHOP**

1. Create a Simple Photoshop page
2. Merge two picture into One Photoshop image
3. Write a name of picture on the picture
4. Apply additional effect on the photo

**CORAL DRAW**

5. Create a Brochures
6. Design a Friendship/ Business Card
7. Create a Logo

**PAGE MAKER**

8. Make an attractive visiting card of any titles (Subject) having size of 2" X 3.5" in Tall without layer.
9. Create an attractive book title of any given subject having size of 8" X 6" in Tall without layer.
10. Create an attractive poster of any given subject having size of 8" X 6" in Wide without layer.

**Objectives:**

- **To be prepared of Web Designing**
- **To understand various aspects of designing a web page**
- **To practice creation of website with list and marquees**
- **To know how to create frames and forms in webpage**
- **To learn how to incorporate all elements in a webpage**

**Design a Web Page by applying the following HTML Controls**

1. head, title, body, H1, H2
2. Text formatting tags (Bold, Italic, Underline, etc..)
3. Ordered List
4. Unordered list
5. Definition List
6. Marquee on Images
7. Font styles and body colors
8. Hyperlink
9. Tables
10. Frames
11. Forms
12. Style Sheets