

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

Bjw  
29/6/18

**SYLLABUS FOR**  
**PGDCA**  
**(Choice Based Credit System)**



**From 2018 Onwards**

# MOTHER TERESA WOMENS UNIVERSITY, KODAIKANAL

(AS PER TANSCHER RULES)

## DEPARTMENT OF COMPUTER SCIENCE

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

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

#### 2018-19 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	25	75	100
05.	PDCAP15	Office Automation Lab	6	5	25	75	100
<b>Total</b>			<b>30</b>	<b>25</b>			<b>500</b>

##### II SEMESTER

NO.	SUBJECT CODE	SUBJECT NAME	HOURS	CREDITS	INT	EXT	TOTAL
1.	PDCAT21	Software Engineering	6	5	25	75	100
2.	PDCAT22	Internet and Web Technology	6	5	25	75	100
3.	PDCAT23	Desktop Publishing (DTP)	6	5	25	75	100
4.	PDCAP24	Desktop Publishing (DTP) Lab	6	5	25	75	100
5.	PDCAP25	Web Designing using HTML Lab	6	5	25	75	100
<b>Total</b>			<b>30</b>	<b>25</b>			<b>500</b>

## **SCHEME OF EXAMINATION**

### **Theory**

#### **Internal - 25**

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

#### **External - 75**

## 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	-	----- 25

### **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
Total	-	-----	75

### **Practical (Internal – 40)**

Process	-	10
Result Verification	-	10
Viva	-	5
		-----
Total	-	25
Record	-	15
		-----
Total	-	40

### **Practical (External– 60)**

Process	-	25
Result Verification	-	25
Viva	-	10
		-----
Total	-	60
		-----

**Objectives:**

- To understand Introduction to 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 study how to implement Functions and Strings in C
- To get knowledge about the custom of Pointers in C

**UNIT – I**

**Introduction to C :** History of C -Characteristics of C - C Program Structure -Constants - Data types Variables -Keywords - Console Input/output Statements - Compilation and Execution .

**UNIT - II**

**Operators :** Arithmetic – Unary - Assignment - Relational & Logical - Conditional .  
**Branching & Looping Statements :** if Statement - Nested if Statement - else-if Ladder- switch Statement - Looping Concepts - for loop - while loop - do-while loop - Jump Statements .

**UNIT - III**

**Arrays:** Array Concepts- Rules & Restrictions - Single & Multi Dimensional Arrays  
**Functions :** Types of Functions - Functions and Array- Function Prototyping - Scope of Variables - Built-in Functions .

**UNIT - IV**

**Strings :** String Functions- String Manipulation .**Structures :** Defining New Data types , Unions, Type Casting , Enumerated Data types - Static Variables , Type Definition

**UNIT – V**

**Pointers :** Pointer Concepts , Pointers and Functions , Pointers and Arrays , Array of Pointers, Static Initialization , Pointers and Structures

**TEXT BOOKS**

1. Programming in ANSI C by E.Balagurusamy , Third Edition ,Tata McGraw-Hill Education

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

**UNIT-I**

**Office Packages:** Office activates and their software requirements, Word-processing, Spreadsheet, Presentationgraphics, Database, introduction and comparison of various office suites like MS-Office, Lotus-Office, Star-Office, Open-Office etc.  
**MS Word Basics:** Introduction to MS Office, Introduction to MS Word, Features & area of use. Working with MS Word, Menus & Commands, Toolbars & Buttons, Shortcut Menus, Wizards & Templates, Creating a NewDocument, Different Page Views and layouts, Applying various Text Enhancements, Working with -Styles, Text Attributes, Paragraph and Page Formatting, Text Editing using various features ; Bullets, Numbering, Autoformatting, Printing & various print options

**UNIT-II**

**Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers, Inserting – PageNumbers, Pictures, Files, Autotexts, Symbols etc., Working with Columns, Tabs & Indents, Creation & Working with Tables including conversion to and from text, Margins & Space management in Document, Adding Referencesand Graphics, Mail Merge, Envelops & Mailing Labels. Importing and exporting to and from various formats.

**UNIT-III**

**MS Excel:** Introduction and area of use, Working with MS Excel, Toolbars, Menus and KeyboardShortcuts, concepts of Workbook & Worksheets, Using Wizards, Various Data Types, Using differentfeatures with Data, Cell and Texts, Inserting, Removing & Resizing of Columns & Rows, Working withData & Ranges, Different Views of Worksheets, Column Freezing, Labels, Hiding, Splitting etc., Usingdifferent features with Data and Text, Cell Formatting including Borders & Shading,

**UNIT-IV**

**Advanced Features of MS Excel:** Multiple Worksheets: Concept, Creating and Using MultipleWorksheets; Use of Formulas, Calculations & Functions, Various types of Functions, Cell Referencing,Absolute and Relative Addressing, Working with Different Chart Types, Chart Wizard, Printing ofWorkbook & Worksheets with various options, Database: Creation, Sorting, Query and Filtering aDatabase; Creating and Using Macros;

## **UNIT-V**

**MS PowerPoint:** Introduction & area of use, Working with MS PowerPoint, Creating a New Presentation, Working with Presentation, Using Wizards; Slides & its different views, Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists, Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Designing & Presentation of a Slide Show, Printing Presentations, Notes, Handouts with print options.

### **TEXT BOOKS**

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

### **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 be proverbial with Networks basics architecture and topologies
- To understand Internet, Modems and Ethernet

**UNIT I**

Operating Systems Objectives and functions – Operating System and User / Computer Interface, Operating System as a Resource Manager: Evaluation of Operating Systems – Serial Processing, Sample Batch Systems, Multi Programmed Batch Systems, Time Sharing Systems.

**UNIT II**

Process Description, Process Control – Processes and Threads. Concurrency – Principles of Concurrency, Mutual Exclusion – Deadlock – Deadlock Prevention, Deadlock Detection, Deadlock Avoidance.

**UNIT III**

Introduction to Database Systems: Overview – Data Models – Database System Architecture –History of Database Systems. Entity-Relationship Model: Basic Concepts – Constraints – Keys – Design Issues –Entity Relationship Diagram – Weak Entity Sets – Design of an E-R Database Schema

**UNIT IV**

Integrity and Security: Domain Constraints – Referential Integrity – Assertions – Triggers – Security and Authorization – Authorization in SQL – Encryption and Authentication.

**UNIT V**

Introduction to networks -Network Topology - Network Architecture - OSI reference models , Example networks - Internet – Ethernet - Analog and Digital signals – Modems -A/D Conversions.

**TEXT BOOKS**

1. "Operating Systems", William Stallings, Second edition, Maxwell McMillan, International Editions, 1997.
2. "Database System Concepts", Silberschatz, Korth, Sudarshan, 4th Edition – McGraw-Hill Higher Education, International Edition 2002. Chapters: 1 to 7
3. "Computer Networks", Andrew. S. Tanenbaum, 4th Edition, PHI



## REFERENCE BOOKS

1. PC Computing by R.K. Taxali. 2. PC Software by Rachpal Singh & Gurinder Singh.
2. Computer Networks A Systems Approach, 5th Edition, by Larry Peterson Bruce Davie, publisher Morgan Kaufmann

**Objectives:**

- **To practice how to design a C program for simple obligation**
- **To understand the implementation of Operators and Arrays**
- **To study to handle Functions and the implementation of function in C**
- **To learn how to program with Strings in C**
- **To learn how to use Pointers in C for various applications**

1. Solution of a Quadratic Equation.
2. Sum of Series
3. Ascending and Descending order of numbers using Arrays Print smallest & Largest.
4. Sorting of names in Alphabetical Order.
5. Matrix Manipulation
6. Compute factorial & Print Fibonacci sequence
7. String Manipulation
8. Swapping of numbers using pointers
9. Marklist preparation
10. Payroll Generation

**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, form, reports and its manipulations in MS Access
- To learn how to use Presentation software MS-PowerPoint

**MS Word**

1. Table creation
2. Mail Merge
3. Drop cap effect
4. Picture insertion
5. To find mean and median

**MS Excel**

6. Prepare a Excel sheet for sales analysis
7. Prepare a Excel sheet for cricket scores for two teams and display the output using line chart
8. Personal data for staff members, sort out the name in alphabetical order.
9. Programs using excel database
10. Programs in Excel Macros

**MS Access**

11. database creation using Access
12. Creating queries for employee table
13. Form creation using Access
14. Creating reports using Access

**MS PowerPoint**

15. Creating a power point presentation with animation effects

**Objectives:**

- To understand the basic concepts of Software, Project Management and metrics
- To be expertise in Software Process Models and cost estimation models
- To study about System analysis, Data diagrams and data dictionary
- To know about various software, data and architecture designs
- To learn how to analyze, design and test a software

**UNIT I**

Software: Characteristics, Components, Applications, And Software Process Models: Waterfall, Spiral, Prototyping, Fourth Generation Techniques, Concepts of Project Management, Role of Metrics & Measurements.

**UNIT II**

S/W Project Planning: Objectives, Problem-based estimation, Process based estimation, Cost Estimation Models: COCOMO Model, The S/W Equation,

**UNIT III**

System Analysis: Principles of Structured Analysis, Requirement analysis, DFD, Entity Relationship diagram, Data dictionary.

**UNIT IV**

S/W Design: Objectives, Principles, Concepts- Design methodologies: Data design, Architectural Design, procedural design- Object -oriented concepts

**UNIT V**

Testing fundamentals: Objectives, principles, testability -Test cases: White box & Black box testing - Testing strategies: verification & validation, unit test, integration testing, validation testing, system testing.

**TEXT BOOKS**

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, the basic requirements and applications
- To understand the concepts of WWW , web browsers and its functions
- To learn about Search Engines and Searching techniques
- To be expertise with web publishing and website creation
- To study various HTML concepts and building HTML documents

**UNIT – I**

What Is Internet – Capabilities of Internet – How Internet Works – Learning the Ropes – Cyber Cafes – Internet Access Internet Modems Configuring Your Modem – Configuring Your System – Dial Up Scripting

**UNIT – II**

World Wide Web (WWW)History, Working, Web Browsers, Its functions, Concept of Search Engines. Searching the Web, HTTP,URLs, Web Servers, Web Protocols.

**UNIT – III**

Search Basics – Choosing the Right Search Tool and Strategy – Software Types – File Types – Downloading Files- Important Utilities-Download Sites

**UNIT – IV**

Web Publishing - Concepts, Domain name Registration, Space on Host Server for Web site, HTML, Design tools, HTMLeditors, Image editors, Issues on Web site creations & Maintenance, FTP software for upload web site.

**UNIT – V**

HTML - Concepts of Hypertext, Versions of HTML, Elements of HTML syntax, Head & Body Sections,Building HTML documents, Inserting texts, Images, Hyperlinks, Backgrounds and Colour controls,Different HTML tags, Table layout and presentation, Use of font size & Attributes, List types and itstags.

**TEXT BOOKS**

- 1 Pawel, Thomas A(2010). HTML Complete Reference. New Delhi: Tata McGraw Hill.
- 2 BPB.Web& Graphics .New Delhi: B.P.B Publisher.
- 3 Singh, Minakshi&Singh,VishnuPriya. Web Designing Course. Delhi : Asian Publisher .

**REFERENCE BOOKS**

1. Naik, Nitin K.(2014). Internet Web Technology E- Commerce. Indore : Kamal Prakashan.

**Objectives:**

- **To become skilled at various OS, Windows accessories**
- **To familiarize the emerging trends in DTP**
- **To understand the significance of word processing in DTP**
- **To study about Document typing, Composing, Designing a document**
- **To be familiar with Storing and Printing of Documents in DTP**

**UNIT I :**

Types of software Operating Systems – Introduction to DOS – DOS commands and tools – MS Windows – Using the Desktop – Setup using Control Panel – Window accessories – Introduction to Internet – Browsers – sending and receiving e-mail – file downloading and uploading .

**UNIT II:**

Document Set Up: History of printing – types of printing - Desktop publishing: Introduction –Merits & Demerits – DTP and Traditional composing – cost & estimation of DTP Unit – Word Processing using MS-Word: Basics – text formatting – setting header and footer – tables, borders and shading –Special effects and image insertion.

**UNIT III:**

Typing And Composing Pages :Typography – Managing Fonts – Measurement types for fonts, pages, lines –Proof reading – Page setup – House styles – Page Maker case study – PageComposing - different composing methods and processes – composing machines – Output devices

**UNIT IV:**

Document Designing: Graphic Reproduction – Setting tones, shadowing, highlight, contrast fo rimages - Scanning principles – Types of scanners and their use – Setting resolution – Page design – Color types – Color selection - Preparation of graphics – Book preparation – Seminar presentation – Imposition techniques

**UNIT V:**

File & Print Management: Printing – Types of printers – Different types of file formats – ICC based color management – Preparation of Project work – Binding techniques.

**TEXT BOOK:**

1. ShirishChavan, "Rapidex DTP Course", UNICORN Books Pvt. Ltd., 2007
2. Sanjay Saxena, "A First Course in Computers", Vikas Publishing House, 2005

**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.

**Objectives:**

- **To be primed of Desktop Publishing**
- **To learn various facet of editing a picture using photoshop**
- **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 and create cards and posters etc**

**PHOTO SHOP**

1. Create a Simple Photoshop page
2. Marge two picture into One Photoshop image
3. Write a name of picture on the picture
4. Create a friendship card into Photoshop
5. Convert color photo into black and white
6. Give some extra effect on the photo
7. Create a picture with background image display first

**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**

1. Web page creation using head title body, H1, H2
2. web page creation using formatting tags(Bold, Italic, Underline, etc.,)
3. Ordered List
4. Unordered list
5. Definition List
6. Marquee creation
7. Web page with images
8. Web Page creation with various font styles and body colors
9. Hyperlink
10. Tables
11. Frames
12. Forms